Section 5—Final Envir onmental Impact Statement

# APPENDIX F FI | AL WETLAND TECH NICAL REPORT

# I-69 EVANSVILLE TO INDIANAPOLIS Tier 2 Studies Final Wetland Technical Report Section 5, SR 37 south of Bloomington to SR 39 March 2013



Prepared for

Federal Highway Administration and Indiana Department of Transportation



**Final Wetland Technical Report, Section 5** 

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# 1.0 INTRODUCTION

# 1.1 Purpose of the Study

This Wetland Technical Report is a support document to the Final Environmental Impact Statement (FEIS), and is intended to present detailed information regarding the identification, characterization and evaluation of wetland resources within the Section 5 corridor. This document also describes measures that have been utilized throughout project development to avoid, minimize and mitigate impacts to wetlands. Finally, this document describes the unavoidable impacts to wetlands associated with the Alternatives in the FEIS.

This report is intended to be the primary tool for facilitating discussion of proposed wetland impacts in Section 5 with State and Federal regulatory agencies and documenting compliance with regulatory requirements to avoid, minimize and mitigate wetland impacts.

# 1.2 The Study Corridor

# 1.2.1 General Description

The Section 5 EIS Study Corridor is a 22-mile section of the Preferred Alternative 3C Corridor selected during Tier 1 environmental studies for the proposed I-69 project from Evansville, Indiana to Indianapolis, Indiana. The Section 5 EIS Study Corridor is a 2,000-foot wide area centered on existing State Route 37 (SR 37) from southwest of Bloomington in Monroe County, Indiana to just south of Martinsville in Morgan County, Indiana. As proposed, I-69 will follow SR 37 from the Section 4 Interchange located south of Bloomington, north to the State Route 39 (SR 39) interchange in Martinsville. The proposed I-69 alignment will involve upgrading the existing four-lane, divided highway to interstate design standards. Each of the Alternatives Carried Forward for Detailed Analysis differ in regards to the location and configuration of additional travel lanes, interchanges, frontage roads, and other connector routes. **Figure 1** and **Figure 2** depict the relationship of the Alternatives on United States Geological Survey (USGS) topographic maps and aerial photographs, respectively.

In general, land uses within the Study Corridor are more urbanized in and near the Cities of Bloomington and Martinsville. Land uses adjacent to SR 37 between Bloomington and Martinsville are agricultural, public and institutional (Morgan-Monroe State Forest) with scattered residential and commercial development. Within the Study Corridor the predominant land use includes upland; transportation, communication, or utilities; agriculture; and single family residential.

Since early settlement, agricultural land in Indiana has been, and continues to be, one of the most valuable natural resources within the state. Indiana ranks second (in the U.S.) in the percent of land that is considered prime farmland (55%). The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) uses soils information to identify areas of prime farmland. Prime farmland soils account for 20% of the total land area in Monroe County, and 59% of the total land area in Morgan County (USDA NRCS, 2007). The Study

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Corridor traverses large tracts in agricultural use in the Beanblossom area of Monroe County and the Liberty Church area of Morgan County.

Most wetlands in the Section 5 corridor are found along rivers and streams and within their associated floodplains. Major wetland areas affected by the Alternatives include resources associated with Beanblossom Creek, Bryant Creek and Indian Creek.

Several other smaller wetland complexes exist in the project corridor as well as along unnamed streams and in isolated depressional areas. Refer to **Figure 1** for depictions of the Section 5 Corridor and Alternatives on U.S. Geological Survey Base Mapping. Refer to **Figure 2** for depictions of Alternatives with Labeled Wetlands and Ponds on 2010 aerial photographs.



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# 2.0 Regulatory Definitions

### 2.1 Waters of the U.S. and Wetlands

Waters of the U.S. include navigable waterways and their tributaries, but also special aquatic sites such as wetlands. Wetlands are jointly defined by the U.S. Environmental Protection Agency (USEPA) and U.S. Army Corps of Engineers (USACE) as:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3).

### 2.2 Waters of the State and Isolated Wetlands

Waters of the State are generally defined as "the accumulations of water, surface and underground, natural and artificial, public and private, or a part of the accumulations of water that are wholly or partially within, flowing through, or border upon Indiana," and include streams and wetlands that fall under the jurisdiction of the USACE (IC 13-11-2-265). "Isolated" wetlands do not have a direct connection to a navigable waterway, and are not subject to regulation under Section 404 of the Clean Water Act. The state of Indiana regulates isolated wetlands through the Indiana Department of Environmental Management (IDEM) Isolated Wetlands Regulatory Program (IC 13-18-22).

As part of this program, isolated wetlands are grouped into one of three Classes based upon wetland quality (IC 13-18-22).

- Class I isolated wetlands are low quality resources where anthropogenic activities have altered greater than 50 percent of the area, and support only the minimal aquatic/hydrologic functionality.
- Class II isolated wetlands are wetlands that fall into one of the 18 rare and ecologically important wetland types, but have been significantly disturbed or altered by anthropogenic activities.
- Class III isolated wetlands are high quality resources representing one of 18 rare and ecologically important wetland types, have been minimally impacted by anthropogenic activities, and support more than the minimal aquatic/hydrologic functionality.

Different wetland classes have different mitigation requirements.



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# 2.3 Wetland Identification

Wetlands are ecosystems that include swamps, bogs, marshes, mires, fens and other wet areas. Wetlands are often transitional areas between upland and deepwater habitats. There are a number of definitions for wetlands; however, all definitions have three common criteria.

- 1. Hydrophytic vegetation plants that are adapted to a wet environment;
- 2. Hydric soils soils that are characterized by anaerobic conditions, and;
- 3. Hydrology an area that is inundated or saturated to the surface for at least 5% of the growing season in most years.

Several sources of information were consulted to identify potential wetlands and wetland soil units within the Section 5 corridor. These included the U.S. Fish and Wildlife Service's (USFWS's) *National Wetland Inventory* (NWI) and the Natural Resources Conservation Service's (NRCS) *Soil Survey* for Morgan and Monroe counties. These maps identified potential wetland areas within the corridor.

The delineation of wetlands and other "waters of the U.S." within the preferred alternative were based on the methodology described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (Environmental Laboratory, 2010) as required by current Corps policy that was in effect during the time this survey was completed.

Prior to the fieldwork, the background information was reviewed to establish the probability and approximate location of wetlands. Next, a general reconnaissance of the project area was conducted to determine site conditions. The alternatives carried forward for detailed analysis were then walked with the specific intent of determining wetland boundaries. Data stations were established at locations within and near the wetland areas to document soil characteristics, evidence of hydrology, and dominant vegetation. Although a full soil profile was not examined to confirm soil series designations, soils were examined to a depth of at least 16 inches to assess soil characteristics and site hydrology. Complete descriptions of typical soil series can be found in the soil survey for Morgan and Monroe counties. The I-69 Evansville to Indianapolis Section 5 field survey of surface water resources was completed during 2005, 2006, 2011, 2012, and 2013.

# 2.4 Wetland Types

Wetlands are important ecologically, socially, and economically to the health of Indiana's environment. Some ecological functions of wetlands are:

- Nutrient primary production and transport
- Habitat and sanctuary for animals
- Hydrological support for adjacent communities
- Shoreline protection
- Storm/flood water storage and peak flow reduction



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- Groundwater recharge
- Water purification
- Water supply
- Affect climatic conditions (temperature, oxygen, and carbon dioxide cycles)
- Support isolated genetic population pools
- Species reproduction and development

In addition, wetlands support many human activities. Some activities are as follows:

- Commercial fisheries
- Recreation (hunting, fishing, boating, and swimming)
- Forestry products
- Agricultural products
- Aesthetics
- Educational centers
- Peat mining

Short descriptions of the types of wetlands and open water systems that occur within the Section 5 Corridor are detailed below.

# 2.4.1 Palustrine Emergent Wetlands (PEM)

Palustrine emergent wetlands (PEM) are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens (Cowardin et al., 1979). The vegetation in emergent wetlands is present for most of the growing season in most years, and is typically dominated by perennial plant species. All water regimes are included except subtidal and irregularly exposed (Cowardin et al., 1979). Characteristic plant species include cattails



(*Typha* spp.), sedges and rushes (*Carex* spp., *Scripus* spp., and *Eleocharis* spp.), and wetland grass species including rice cutgrass (*Leersia oryzoides*), and the invasive non-native reed canary grass (*Phalaris arundinacea*). An example of an emergent wetland found within the Study Corridor is shown on the right.

### 2.4.2 Palustrine Scrub/Shrub Wetlands



Palustrine scrub/shrub wetlands (PSS) are dominated by woody vegetation less than 20 feet (6 meters) tall, including shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions (Cowardin et al., 1979). All water regimes, except subtidal, are possible (Cowardin et al., 1979). Plant species associated with scrub/shrub wetlands include willows (*Salix* spp.),



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buttonbush (*Cephalanthus occidentalis*), and swamp rose (*Rosa palustris*). The photo above is a typical scrub/shrub wetland identified within the Study Corridor.

### 2.4.3 Palustrine Forested Wetlands

Palustrine forested wetlands (PFO) are typically located within stream floodplains, and consist of canopy tree species such as red maple (*Acer rubrum*), eastern cottonwood (*Populus deltoides*), American elm (*Ulmus americana*), and ash (*Fraxinus* spp.). Dominant shrubs and saplings in these resources include box elder (*Acer negundo*), and common elderberry (*Sambucus canadensis*). The herbaceous layer often includes nettles (*Urtica* spp.) poison ivy (*Toxicodendron radicans*), and jewelweed (*Impatiens* 



capensis). Palustrine forested wetlands within the project area are generally ranked high for wildlife habitat using the InWRAP methodology (see Section 3.2.2). Many of these, because of their location within the floodplain, also score high for flood and storm water storage. An example of a palustine forested wetland within the Study Corridor is shown in the photo on the right.

### 2.4.4 Aquatic Bed



The palustrine aquatic bed (PAB) classification type includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Water regimes include subtidal, irregularly exposed, regularly flooded, permanently flooded, intermittently exposed, semipermanently flooded, and seasonally flooded. Aquatic bed wetlands represent a diverse group of plant communities that require surface water for optimum growth and reproduction. They are best developed in

relatively permanent water or under conditions of repeated flooding. The plants are either attached to the substrate or float freely in the water above the bottom or on the surface (Cowardin et al., 1979). This resource type is considered significant to wildlife habitat, particularly amphibian habitat. Aquatic bed resources also provide flood storage and attenuation, and water quality protection. The top left photo represents an example of an aquatic bed community located in the Beanblossom/Griffy Creek floodplain.

### 2.4.5 Lakes and Ponds

Lacustrine systems are described as deepwater or wetland habitat including permanently flooded lakes and reservoirs, intermittent lakes, and tidal lakes with salinity below 0.5% (Cowardin et al.,



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1979). Lacustrine resources are situated in a depression or dammed river channel and have less than 30% aerial coverage by vegetation. The total area of lacustrine systems is greater than 8 ha (20 acres); however, smaller systems are included if an active wave formed or bedrock shoreline features make up all or part of the boundary, or if water depth exceeds 2 m (6.6 feet) in the deepest part of the system during periods of low water (Cowardin et al., 1979). No major lakes were identified within the Study Corridor.

Cowardin et al. (1979) designates ponds as palustrine unconsolidated bottom (PUB) features. This resource type includes aquatic habitats with at least 25% cover of particles smaller than stones and a vegetative cover less than 30%. Water regimes are restricted to subtidal. permanently flooded. intermittently exposed, and semipermanently flooded. Unconsolidated bottoms are characterized by the lack of large stable surfaces for plant and animal attachment (Cowardin et al.,



1979). An example of a typical pond within the Study Corridor is shown in the photo on the right.

### 2.4.6 Farmed Wetlands

Sections 401 and 404 of the Clean Water Act also regulate wetlands that have been temporarily converted for active agricultural use; these wetlands are termed "farmed wetlands." The USDA National Food Security Act Manual, 3rd Edition, September 2000 (NFSAM) defines these as "Wetlands that were drained, dredged, filled, leveled, or otherwise manipulated before December 23, 1985, for the purpose of, or to have the effect of, making the production of an agricultural commodity possible, and continue to meet specific wetland hydrology criteria." The Swampbuster provisions of the 1996 Farm Bill allow for the continuation of agricultural activities on certified wetlands and are enforced through local county Natural Resource Conservation Service (NRCS) offices. Any change in the status of the farmed wetlands, including changing drainage or depositing fill, requires a Section 404 Department of the Army Permit from the USACE and a Section 401 Water Quality Certificate from IDEM.

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# 3.0 Methodology

# 3.1 Study Corridor Wetland Investigations

# 3.1.1 Background Information

An office review of available resources was conducted to better predict where wetlands might occur within the Study Corridor. Resources reviewed included the data generated from the I-69 Tier 1 environmental studies, USGS Topographic Quadrangle maps (including the Bloomington, Clear Creek, Hindustan, Martinsville, and Modesto quads), large-scale aerial photography and planimetric project mapping, NWI data, the Indiana hydric soils list, and soil surveys for Monroe and Morgan Counties. Following the review of this information, potential wetland areas, including NWI wetlands and farmed wetland locations, were identified on field maps.

### 3.1.2 Field Reconnaissance

Field surveys were conducted in September 2004 and in June 2005 at each potential wetland location within the Study Corridor. Additional surveys were conducted at specific locations in May 2006 following the development of preliminary alternatives. Field studies were completed for Alternative 8 in October 2011 and April 2012 with additional field studies for the "Refined Preferred Alternative 8" (RPA 8) completed in February 2013. These studies were conducted to re-evaluate previously identified resources within the corridor, as well as to conduct wetland delineations in accordance with new regulatory guidance. The delineation of wetlands and other "waters of the U.S." within the preferred alternative were based on the methodology described in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (Environmental Laboratory, 2010).

Plant species were identified with the Manual of Vascular Plants of Northeastern United States and Adjacent Canada, 2nd Edition (Gleason and Cronquist, 1991). The wetland indicator status of the observed vegetation was taken from the National List of Plant Species that Occur in Wetlands: Region 5– Midwest (USFWS, 1988). Soil color was identified with Munsell Soil Color Charts (Munsell, 2000). Soil series and taxonomy was determined with the USDA, Soil Survey of Monroe County, Indiana (USDA SCS, 1981), and Soil Survey of Morgan County, Indiana (USDA SCS, 1981).

# 3.1.3 Approximate Boundary Determination and Field Mapping

The approximate boundaries of wetlands within the Study Corridor were transferred onto planimetric project mapping. Wetland boundaries extending beyond the Study Corridor were approximated from NWI maps to calculate total wetland size.

### 3.1.4 Classification

All wetlands identified within the Study Corridor have been classified following the Cowardin et al. Classification System (Cowardin et al, 1979). Cowardin classification divides wetlands into five major systems. Each wetland system is further categorized into Class and Subclass by



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vegetation type and/or substrate. The classification also describes the water regime of the wetland, including any modifications to its hydrology (Table 1).

The wetlands identified within the Study Corridor are palustrine wetland systems, which include all non-tidal wetlands with persistent vegetation and some small, shallow ponds (Cowardin et al., 1979). Examples of the palustrine wetland classes found within the Study Corridor include emergent wetlands (PEM) characterized by erect, rooted, herbaceous vegetation; scrub-shrub wetlands (PSS) characterized by woody vegetation less than six meters tall; forested wetlands (PFO) characterized by woody vegetation that is six meters tall or taller; and unconsolidated bottom wetlands (PUB), or open water ponds, characterized by lack of large, stable surfaces for plants to attach (Cowardin et al., 1979).

| Table 1: Cowardi                | in et al. Clas                 | sification Sy                           | vstem, Water Ro      | egime, and Special             | Modifiers                    |
|---------------------------------|--------------------------------|---|----------------------|--------------------------------|------------------------------|
| SYSTEM                          |                                | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |                      | STRINE                         |                              |
| CLASS                           | UB-<br>UNCONSO<br>BOTTOM       | LIDATED                                 | EM-<br>EMERGENT      | SS-SCRUB-<br>SHRUB             | FO-FORESTED                  |
|                                 | 1-Cobble/Gr                    | ravel                                   | 1-Persistent         | 1-Broad-Leaved<br>Deciduous    | 1-Broad-Leaved<br>Deciduous  |
|                                 | 2-Sand                         |   | 2-Non-<br>persistent | 2-Needle-Leaved<br>Deciduous   | 2-Needle-Leaved<br>Deciduous |
| Subclass                        | 3-Mud                          |   |                      | 3-Broad-Leaved<br>Evergreen    | 3-Broad-Leaved<br>Evergreeen |
|                                 | 4-Organic                      |   |                      | 4-Needle-Leaved<br>Evergreen   | 4-Needle-Leaved<br>Evergreen |
|                                 |                                |   |                      | 5-Dead                         | 5-Dead                       |
|                                 |                                |   |                      | 6-Deciduous                    | 6-Deciduous                  |
|                                 |                                |   |                      | 7-Evergreen                    | 7-Evergreen                  |
| WATER REGIME                    |                                | _                                       |                      | SPECIAL MODI                   | FIERS                        |
| A-Temporarily Flood             | ed                             | H-Permaner                              | ntly Flooded         | b-Beaver                       | h-Diked/Impounded            |
| B-Saturated                     |                                | J-Intermitte                            | ntly Flooded         | d-Partially<br>Drained/Ditched | r-Artificial Substrate       |
| C-Seasonally Flooded<br>Drained | d/Well                         | K-Artificial                            | ly Flooded           | f-Farmed                       | s-Spoil                      |
| D-Seasonally Flooded<br>Drained | d/Well                         | W-Intermitt<br>Flooded/Te               |                      |                                | x-Excavated                  |
| E-Seasonally Flooded            | E-Seasonally Flooded/Saturated |   | /Semipermanent/      |                                |                              |
| F-Semipermanently F             | Flooded                        | Z-Intermitte<br>Exposed/Pe              |                      |                                |                              |
| G-Intermittently Expo           | osed                           | U-Unknown                               | 1                    |                                |                              |

### 3.1.5 Farmed Wetlands

Investigations for farmed wetlands and farmed wetland pastures, as defined by NFSAM, were conducted within the Study Corridor following NRCS guidance for farmed wetland determinations. According to NRCS guidelines, all four of the following criteria must be met in determining a farmed wetland:

1. The area must have been manipulated prior to December 23, 1985.



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- 2. An agricultural commodity must have been produced once before December 23, 1985.
- 3. The area must meet the required hydrology criteria for farmed wetlands.
- 4. The site must not have been abandoned.

After coordination with the Farm Service Agency (FSA), aerial slides taken from 1980 to 1985 and from 1989 to 1992 were examined to identify hydrology signatures present on high wetland potential agricultural lands within the Study Corridor. The results of this review are provided in Section 4.3.

# 3.2 Detailed Wetland Analysis

### 3.2.1 Wetland Delineations

For purposes of this report, Preferred Alternative 8 that was identified in the Draft Wetland Technical Report will be referred to as "Alternative 8". The Preferred Alternative for the Final Wetland Technical Report will be referred to as the "Refined Preferred Alternative 8" and abbreviated "RPA 8" throughout this document.

The wetland data collected during the field reconnaissance (conducted in September 2004, June 2005, May 2006, October 2011, April 2012, and February 2013) was used to identify wetlands located within the preliminary construction limits of each Alternative Carried Forward for Detailed Analysis (identified as Alternative 4, 5, 6, 7, 8 and RPA 8). Field investigations conducted in October 2011, April 2012, and February 2013 included assessing the wetlands potentially impacted by RPA 8 in accordance with the procedure outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (Environmental Laboratory, 2010).

# 3.2.2 Wetland Quality Assessment

During wetland investigations conducted in June 2005, May 2006, October 2011, April 2012, and February 2013 Version 2.51 of the Indiana Wetland Rapid Assessment Protocol (InWRAP) was used to assess the quality of palustrine wetlands identified within the preliminary construction limits of Alternatives 4, 5, 6, 7, 8, and RPA 8. InWRAP was not performed on wetlands classified as palustrine unconsolidated bottom (PUB) systems because they are generally open water systems, and do have a predominant vegetation component.

The InWRAP methodology was specifically required for the I-69 project to allow for standardized analysis of wetland quality across all section of the project corridor. InWRAP was developed by Taylor University Environmental Research Group (TERG), and provides a methodology for assessing the quality of wetlands of Indiana (TERG, 2005). This methodology consists of an analysis of NWI polygons (as well as wetlands that were not listed by NWI, but located during field investigations) to rank various wetland functions and values using a worksheet based approach.

InWRAP has three tiers of assessment: Overview, Preliminary Assessment, and Rapid Indicators.

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- Tier 1 is an assessment overview that records site identification and critical map data, the site assessment conditions, and the landscape setting. Tier 1 may involve a single wetland polygon or a complex of adjoining wetland polygons (TERG, 2005).
- Tier 2 is a preliminary overall assessment of hydrology, soil type, community type, degree of disturbance, and "red flag" indicators for a single wetland polygon. The Tier 2 assessment concludes with an initial rating of polygon quality (TERG, 2005).
- Tier 3 provides further specific documentation of wetland quality by evaluating hydrological features, wetland plant community health, and the wildlife potential of each wetland polygon (TERG, 2005).



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# 4.0 Results and Discussion

# 4.1 Study Corridor Wetlands

Wetlands and open water systems are dispersed throughout the Section 5 corridor. The majority of these resources are found along rivers and streams and within their associated floodplains. Forested wetlands are the predominant wetland type within the Section 5 corridor. Emergent wetlands are the second most common type within the corridor. Open water systems within the corridor consist of unconsolidated bottom (pond) features. Using the classification of Cowardin et al. (1979), a total of 64 wetland polygons and 43 open water systems were identified within the Section 5 corridor. The general location of the Study Corridor wetlands in relation to the topography is shown in **Figure 1** and **Figure 2**. NWI wetlands are shown in **Figure 3**.

Generally speaking, NWI wetlands are identified by aerial mapping and are not field-verified. Because of this, wetlands are sometimes erroneously identified, missed, or misidentified. In addition, the criteria used in identifying these wetlands were different from those currently used by the Corps To determine whether the project would impact wetlands in the corridor, it is necessary to verify the accuracy of the NWI data in the field and to conduct alignment area field reconnaissance for any wetlands not included in the NWI data set. Therefore, for the Tier 2 study in Section 5, wetland resources within the 2,000-foot-wide study corridor were identified through a combination of field reconnaissance surveys and GIS mapping.

NWI data indicated the presence of 55 palustrine wetland systems (PEM, PSS, PFO, and PUB) totaling approximately 88.25 acres in the Section 5 corridor. However, the field reconnaissance resulted in the identification and assessment of a total of 107 wetlands in the corridor. Of these, 36 wetlands were identified as palustrine emergent (PEM), 5 as palustrine scrub-shrub (PSS), 21 as palustrine forested (PFO), 43 as open water (PUB,) and 2 as palustrine aquatic bed (PAB). **Table 2** shows the amount and acreage of NWI mapped wetlands and field verified wetlands in the Section 5 corridor.

| Table 2: Wetlands in Section              | n 5 Corridor                  |                            |   |                                      |
|---|-------------------------------|----------------------------|---|--------------------------------------|
| Wetland Type                              | Number of<br>NWI<br>Wetlands* | NWI<br>Wetland<br>Acreage* | Number of<br>Field Verified<br>Wetlands | Field Verified<br>Wetland<br>Acreage |
| Palustrine Emergent (PEM)                 | 7                             | 3.53                       | 36                                      | 10.34                                |
| Palustrine Forested (PFO)                 | 20                            | 59.10                      | 21                                      | 37.52                                |
| Palustrine Scrub-Shrub (PSS)              | 2                             | 5.99                       | 7                                       | 3.41                                 |
| Palustrine Unconsolidated<br>Bottom (PUB) | 26                            | 19.63                      | 43                                      | 29.68                                |
| Palustrine Aquatic Bed (PAB)              | 0                             | 0.00                       | 2                                       | 2.23                                 |
| Total                                     | 55                            | 88.25                      | 107                                     | 83.18                                |

<sup>\*</sup> Information obtained from U.S. Fish & Wildlife Service, National Wetlands Inventory, (http://www.nwi.fws.gov/)



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The field reconnaissance identified wetlands within the corridor ranging in size from less than one tenth of an acre to approximately 10.29 acres. The total area of all forested wetlands within the Section 5 corridor is approximately 37.52 acres. The total area of all scrub/shrub wetlands within the Section 5 corridor is approximately 3.41 acres. The total area of all emergent wetlands within the Section 5 corridor is approximately 10.34 acres. The total area of the open water within the corridor is approximately 29.68 acres. The total area of aquatic bed within the corridor is approximately 2.23 acres.

# 4.2 Alternatives Carried Forward for Detailed Analysis Wetlands

The following provides a description of each wetland or wetland complex that would be impacted by any of the Alternatives. Wetlands were determined to be either jurisdictional or non-jurisdictional.

As used in this report, the term "wetland" refers to an area on the landscape that meets the COE criteria and consists of a single wetland type (such as palustrine emergent). The term "wetland complex" consists of two or more contiguous or adjoining wetland community types represented as individual polygons. Each polygon within a complex was numbered according to wetland type (emergent, forested, scrub shrub or aquatic bed) to allow for quantification of impacts to each wetland type.

The appendices contain the reference information for each of these descriptions.

- Appendix A contains the Wetland Site Forms that provide an overall description of each wetland or complex including mapping and photographic documentation.
- Appendix B contains the Wetland Quality Assessment Profile which generates a rating for three wetland functions, animal habitat, botanical and hydrologic, based on the InWRAP summary data generated during the Tier 2 studies.
- Appendix C contains the Wetland Matrix for I-69 Alternatives Carried Forward for Detailed Analysis which summarizes the assessment results.
- Appendix D includes the InWRAP field data sheets, which document the base data collected for each complex, including the major plant communities, soils, hydrology, topography, and component functions and values of the resource.
- Appendix E contains the Routine Wetland Determination Forms for wetlands impacted by Refined Preferred Alternative 8.

Refer to Figure 2 for depictions of the Alternatives with labeled wetlands and ponds.



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### 4.2.1 Wetland Resources within Alternatives

The following sections include references to preliminary jurisdiction wetland determinations only. Final jurisdictional wetlands determinations will be made a later date by the USACE.

### S5W007

This site is classified as a wet meadow wetland, 0.03 acres in size. Alternatives 4, 6, 7, 8 and RPA 8 would avoid this wetland. Alternative 5 would impact 0.03 acres of this wetland. The area showed 75-100% vegetative cover. Cattail dominates the herbaceous species. Hydrology is likely due to roadway runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to its hydrologic connectivity to a tributary of Clear Creek.

### S5W011

This site is classified as a wet meadow wetland, 0.01 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact the entire 0.01 acre of this depressional wetland. The area showed 75-100% vegetative cover. Cattail and reed canary grass dominate the herbaceous species. Hydrology is likely due to roadway runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland is apparently isolated. This wetland therefore falls solely under the jurisdiction of IDEM.

### S5W021

This site is classified as a seasonally flooded basin, 0.13 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact the entire 0.013 acre of this depressional wetland. The area showed 75-100% vegetative cover. Cattail and reed canary grass dominate the herbaceous species. Hydrology is likely due to roadway runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W024

This wetland complex consists of three wetland polygons totaling 0.24 acres. Polygon 24a is classified as a shrub-carr wetland, 0.02 acres in size. Polygon 24b is classified as a shallow marsh, 0.14 acre in size. Polygon 24c is classified as a shrub-carr wetland 0.08 acre in size. Alternatives 4 and 5 impact approximately 0.01 acre of Polygon 24a and 0.02 acre of Polygon 24b. Alternatives 6, 7, 8 and RPA 8 would not impact any of the wetland polygons for this complex. The area showed 75-100% vegetative cover. Black willow and silky dogwood dominate the shrub-carr polygons 24a and 24c. Cattails dominate the herbaceous species in polygon 24b. Hydrology is likely due to its depressional nature, frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, for each of the polygons in the complex based on InWRAP



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summaries for the site. This wetland complex falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Clear Creek.

### S5W062

This wetland complex consists of two wetland polygons totaling 3.25 acres. Polygon 62a is classified as a deep marsh, 1.47 acres in size. Polygon 62b is classified as a floodplain forest, 1.78 acres in size. Alternatives 4, 5, 6, 8 and RPA 8 would impact between 0.02 and 0.20 acres of the deep marsh polygon of this floodplain wetland complex. Alternative 7 would avoid impacts to the deep marsh polygon of this complex. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts would range from 0.11 acre to 0.33 acre of the floodplain forest polygon. Polygon 62a showed less than 25% herbaceous cover. Duckweed and moneywort dominate the deep marsh polygon herbaceous species. Polygon 62b showed between 75-100% herbaceous cover. Moneywort and Canadian woodnettle dominate the floodplain forest polygon herbaceous species. Box elder and American elm are the dominant shrub species in polygon 62b, with green ash and silver maple dominating the tree species within this polygon. Hydrology is likely due to Beanblossom Creek flooding, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are ranked as fair, fair and fair, respectively, based on InWRAP summaries for the deep marsh polygon and fair, poor and good for the floodplain forest polygon within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W063

This wetland complex consists of two wetland polygons totaling 2.04 acres. Polygon 63a is classified as a sedge meadow, 1.44 acres in size. Polygon 63b is classified as a floodplain forest, 0.60 acre in size. Alternatives 5, 6, 7 and 8 would impact from 0.58 acre to 1.22 acres of the sedge meadow polygon of this floodplain wetland complex. Alternatives 5, 6, 7, and 8 impacts would range from 0.18 acre to 0.60 acre of the floodplain forest polygon. Alternatives 4 and RPA 8 would avoid impacts to both the sedge meadow and floodplain forest polygons of this complex. Polygon 63a showed between 75-100% herbaceous cover. Carex and cattail dominate the sedge meadow polygon herbaceous species. Polygon 63b showed between 50-75% woody plant cover. Green ash and silver maple are the dominant shrub and tree species in polygon 63b. Hydrology is likely due to Beanblossom Creek flooding, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are ranked as fair, poor and good, respectively, based on InWRAP summaries for the sedge meadow polygon, and fair, poor and good for the floodplain forest polygon within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W065

This site is classified as a swamp forest, 0.71 acres in size. Alternatives 4, 5, 6, 7, and 8 impacts would range from 0.18 acre to 0.71 acre of this floodplain wetland. RPA 8 would avoid impacting this wetland. The area showed 25-50% herbaceous cover and 50-75% woody plant cover. Sedges dominate the herbaceous species in this wetland and silver maple, spicebush, and



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black walnut dominate the shrub species in this wetland. Silver maple and sycamore are the dominant tree species in this wetland. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W066

This site is classified as a seasonally flooded basin, 0.15 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts would range from 0.08 acre to 0.15 acre of this floodplain wetland. The area showed 75-100% herbaceous cover. This wetland is dominated by softstem bullrush. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W068

This site is classified as a wet meadow, 0.16 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts would range from 0.01 acre to 0.16 acre of this floodplain wetland. The area showed 50-75% herbaceous cover. Dominant herbaceous species for this wetland include reed canarygrass, broadleaf cattail, common rush, Canada goldenrod, and Pennsylvania smartweed. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W069

This wetland complex consists of six wetland polygons totaling 3.52 acres. Polygon 69a is classified as a seasonally flooded basin 0.72 acre in size. Polygon 69b is classified as a floodplain forest, 1.67 acres in size. Polygons 69e and 69f are classified as shallow marshes, 0.02 acre and 0.07 acres respectively. Polygon 69g is classified as shallow open water, 0.76 acres in size; and, Polygon 69i is classified as a deep marsh, 0.28 acre in size. and 7 would impact from 0.01 acre to 0.02 acres of Polygon 69a. Alternatives 4, 5, 8 and RPA 8 would avoid impacts to Polygon 69a. Alternative 6 would impact 0.05 acre of the floodplain forest polygon (69b) of this complex. Alternatives 4, 5, 7, 8 and RPA 8 would avoid impacts to the floodplain forest polygon. The shallow marsh polygon 69e would be entirely impacted by all of the alternatives. The shallow marsh polygon 69f would be entirely impacted by alternatives 4, 5, 6, 7, and 8. Alternatives 4, 5, 6, 7, and 8 would each impact 0.07 acre of Polygon 69f. RPA 8 would impact 0.04 acre of polygon 69f. The shallow open water polygon (69g) impacts would range from 0.06 acre to 0.20 acres for Alternatives 4, 5, 6, and 8. Alternatives 7 and RPA 8 would avoid impacts to the shallow open water polygon. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact from 0.27 acre to 0.28 acre of the deep marsh polygon. Polygon 69a showed between 75-100% herbaceous cover with dominant species including bulrush and cattails.



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Polygon 69b showed between 25-50% woody plant cover, with green ash and red maple as the dominant tree species. Polygon 69e showed between 75-100% herbaceous cover with rice cutgrass and arrowleaf tearthumb as the dominant herbaceous species. Polygon 69f showed between 25-50% herbaceous cover with rice cutgrass and arrowleaf tearthumb as the dominant herbaceous species. Dominant shrub species for Polygon 69f included sandbar willow and buttonbush. Polygon 69g showed less than 25% herbaceous and woody plant cover, with duckweed as the dominant herbaceous species. Polygon 69i showed between 50-75% herbaceous cover and less than 25%woody plant cover. Dominant herbaceous species included rice cutgrass, reed canarygrass, and spikerush. Dominant woody species included green ash and black willow. Hydrology is likely due to Beanblossom Creek flooding, local runoff, and poorly drained soils. Botanical diversity is rated as poor for Polygons 69b and 69e, and fair for Polygons 69a, 69f, 69g, and 69i. Animal habitat is rated as poor for Polygons 69a, 69g, and 69i, fair for Polygons 69e and 69f, and good for Polygon 69b. Hydrologic function is rated as fair for Polygons 69e, 69g and 69i and good for Polygons 69a, 69b and 69f. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W070

This wetland complex consists of three wetland polygons totaling 10.92 acres. Polygon 70a is classified as a shallow marsh, 0.54 acre in size; Polygon 70b is classified as a swamp forest, 10.29 acres in size; and, Polygon 70c is classified as a shallow marsh 0.09 acres in size. Alternatives 4, 5, 6, 8 and RPA 8 would impact between 0.05 and 0.40 acres of Polygon 70a. Alternatives 4, 5, 6, and 8 would impact between 0.08 and 0.09 acre of Polygon 70c. Alternative 7 would avoid impacts to the two shallow marsh polygons (70a and 70b). RPA 8 would avoid impacts to polygon 70c. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts to the swamp forest polygon would range from 0.02 acre to 3.76 acres. Polygons 70a and 70c showed between 75-100% herbaceous cover. Cattails, soft rush, rice cutgrass, and sedges were the dominant herbaceous species for both of these polygons. Polygon 70b showed between 50-75% woody plant cover. Spicebush and sweet gum were the dominant shrub species for 70b, with red maple and pin oak as dominant tree species. Hydrology is likely due to its floodplain nature of the wetland, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are ranked as fair, poor and good, respectively, based on InWRAP summaries for the shallow marsh polygons and good, poor and good for the swamp forest polygon within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W071

This site is classified as a floodplain forest, 31.75 acres in size. Alternatives 4, 5, and 6 impacts would range from 0.02 acre to 0.05 acre of this floodplain wetland. Alternative 7, 8 and RPA 8 would avoid this wetland. The area showed 25-50% herbaceous cover and 50-75% woody plant cover. Dominant herbaceous species for this wetland include moneywort, goldenrod, and snakeroot. Dominant woody species included boxelder and spicebush for shrub species, and green ash, silver maple, and sycamore for tree species. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and



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hydrologic function are rated as good, fair and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W080

This site is classified as a floodplain forest, 0.56 acres in size. Alternatives 4, 5, 7, 8 and RPA 8 would avoid impacting this wetland. Alternative 6 would impact 0.01 acre of this wetland. The area showed 50-75% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include moneywort. Dominant woody species included boxelder and spicebush for shrub species, and green ash, sycamore, and silver maple for tree species. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W091

This site is classified as a seasonally flooded basin, 0.88 acres in size. All six alternatives would impact this entire wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include reed canarygrass, goldenrod, sedges, and cattail. Dominant woody species included black willow, sycamore and cottonwood. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.

### S5W095

This site is classified as a floodplain forest, 0.19 acres in size. Alternative 7 would impact 0.01 acre of this floodplain forest. Alternatives 4, 5, 6, 8 and RPA 8 would avoid impacting this wetland. This wetland showed less than 25% herbaceous cover and between 50-75% woody plant cover. Dominant herbaceous species for this wetland include jewelweed and wingstem. Dominant woody species included sycamore. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.

### S5W104

This site is classified as a sedge meadow, 0.40 acres in size. Alternatives 4 and 5 would impact 0.25 acre of this depressional wetland. Alternatives 6, 7, 8, and RPA 8 would avoid impacting this wetland. This wetland showed between 75-100% herbaceous cover. Dominant herbaceous species for this wetland include knotweed, reed canarygrass, sedges, and woolgrass. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, fair and good respectively, based



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on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Little Indian Creek.

### S5W109

This site is classified as a shrub-carr, 1.01 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts range from 0.12 acre to 0.38 acre of this floodplain wetland. The area showed 75-100% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include reed canarygrass and knotweed. Dominant woody species included black willow and sycamore. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Indian Creek.

### S5W119

This site is classified as a seasonally flooded basin, 0.05 acres in size. All six alternatives would impact this entire wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include cattail, sedges, bulrush, and ladysthumb. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and poor respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.

### S5W120

This site is classified as a seasonally flooded basin, 0.20 acres in size. All six alternatives would impact from 0.02 acre to 0.06 acre of this emergent wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include cattail and joe pye weed. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.

### S5W121

This site is classified as a seasonally flooded basin, 0.04 acres in size. All six alternatives would impact this entire wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include rushes, beggarticks and asters. Hydrology is likely due to local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Little Indian Creek.



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### S5W122

This site is classified as a wet meadow, 0.28 acres in size. Alternatives 4 and 5 would impact this entire depressional wetland. Alternatives 6, 7, 8, and RPA 8 would impact 0.01 acre of this emergent wetland. This wetland showed between 75-100% herbaceous cover. Dominant herbaceous species for this wetland include reed canarygrass, beggarticks, nutsedge and knotweed. Hydrology is likely due to local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Indian Creek.

### S5W123

This site is classified as a wet meadow, 0.18 acres in size. Alternatives 4, 5, 6, and 8 impacts would range from 0.01 acre to 0.12 acre of this floodplain wetland. Alternatives 7 and RPA 8 would avoid impacting this wetland. The area showed 75-100% herbaceous cover. Dominant herbaceous species include sedges, and moneywort. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W124

This site is classified as a wet meadow, 0.14 acres in size. Alternatives 4 and 5 impacts would range from 0.11 acre to 0.13 acre of this floodplain wetland. Alternatives 6, 7, 8 and RPA 8 would avoid impacting this wetland. The area showed 75-100% herbaceous cover. Dominant herbaceous species include soft rush, sedges, and moneywort. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W125

This wetland complex consists of four wetland polygons totaling 7.40 acres. Polygon 125a is classified as a wet meadow, 3.75 acres in size; Polygon 125d is classified as a wet meadow, 1.03 acres in size; Polygon 125e is classified as a floodplain forest, 0.33 acres in size, and Polygon 125f is classified as a floodplain forest 2.29 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact from 0.43 acre to 1.07 acres of Polygon 125a. Alternatives 6, 7, 8 and RPA 8 would avoid impacts to Polygons 125d and 125e. Alternatives 4 and 5 impacts to Polygon 125d would range from 0.21 to 0.23 acres. Alternatives 4 and 5 impacts to Polygon 125e would range from 0.31 to 0.32 acre. Alternatives 4, 5, 6, 7, 8, and RPA 8 would impact from 0.05 to 0.87 acres of Polygon 125f. Polygons 125a showed between 75-100% herbaceous cover and Polygon 125d showed between 50-75% herbaceous cover. Soft rush, sedges, asters, and knotweed were the dominant herbaceous species for both of these polygons. Polygon 125e showed between 25-50% cover for both the herbaceous and woody species. Dominant



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herbaceous species for Polygon 125e include sensitive fern. Spicebush and swamp rose are the dominant shrub species, and green ash and sweet gum are the dominant tree species for Polygon 125e. Polygon 125f showed between 25-50% woody cover and less than 25% herbaceous cover. Sedges are the dominant herbaceous species and spicebush and swamp rose are the dominant shrub species for Polygon 125f. Dominant tree species for Polygon 125f include green ash, red maple, and sweet gum. Hydrology is likely due to frequent flooding, local runoff, and poorly drained soils. Animal habitat is ranked as poor for the wet meadow polygons and good for the floodplain forest polygons. Botanical diversity is ranked as poor for the wet meadow polygons and fair for the floodplain forest polygons. Hydraulic functions are ranked as fair for polygon 125a and good for the remaining polygons. These values are based on the InWRAP summaries for each of the polygons within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W126

This site is classified as a floodplain forest, 5.00 acres in size. Alternatives 4 and 5 would impact 1.37 acres of this floodplain wetland. Alternatives 6, 7, 8 and RPA 8 would avoid impacting this wetland. This wetland showed 75-100% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include sedges. Dominant woody plant species include sweetgum, swamp rose, and green ash. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W127

This site is classified as a floodplain forest, 1.16 acres in size. Alternatives 4 and 5 would impact 0.44 acres of this floodplain wetland. Alternatives 6 and 8 would impact 0.35 acre of this wetland, Alternative 7 would impact 0.16 acre; and RPA 8 would impact 0.10 acre. This wetland showed 75-100% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include sedges and moneywort. Dominant woody plant species include swamp rose, spicebush, red maple and pin oak. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W128

This site is classified as a floodplain forest, 2.65 acres in size. Alternative 6 would avoid impacting this wetland. Alternatives 4 and 5 would impact 0.32 acres if this floodplain forest. Alternatives 7, 8, and RPA 8 would impact 0.21 acres of this forested wetland. This wetland showed less than 25% herbaceous cover and between 50-75% woody plant cover. Dominant herbaceous species for this wetland include moneywort. Dominant woody species included box elder, green ash, and sycamore. Hydrology is likely due to frequent flooding, local runoff and



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poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.

### S5W145

This site is classified as a wet meadow, 0.06 acres in size. Alternatives 4, 5, 6, 8, and RPA 8 would impact this entire wetland. Alternative 7 would impact 0.01 acre of this emergent wetland. This wetland showed between 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include sedges, smartweeds, lady's thumb, and touch-me-nots. Dominant woody species included silky willow. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Fox Hollow.

### S5W146

This site is classified as a floodplain forest, 0.14 acres in size. Alternatives 4, 5, and 8 would impact this entire wetland. Alternatives 6 and RPA 8 would impact 0.01 acre of this emergent wetland and Alternative 7 would impact 0.11 acre of this wetland. This wetland showed between 25-50% herbaceous cover and between 50-75% woody plant cover. Dominant herbaceous species for this wetland include reed canarygrass. Dominant woody species include green ash, American elm, red maple and swamp white oak. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are each rated as fair, poor and fair based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W147

This site is classified as a floodplain forest, 0.23 acres in size. Alternatives 6 would avoid impacting this depressional wetland; while alternatives 4, 5, 7, 8 and RPA 8 would impact from 0.06 acre to 0.23 acres. This wetland showed between 25-50% herbaceous cover and between 50-75% woody plant cover. Dominant herbaceous species for this wetland include needle spikerush. Dominant woody species included black willow, silky dogwood, green ash, and American elm. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and good based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Clear Creek.

### S5W148

This site is classified as a sedge meadow, 0.09 acres in size. All of the alternatives would impact 0.08 acres of this wetland. This wetland showed between 50-75% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include cattails and



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reed canarygrass. Hydrology is likely due to local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair, respectively based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Clear Creek.

### S5W149

This wetland complex consists of three wetland polygons totaling 1.27 acres. Polygon 149a and 149b are classified as sedge meadows 0.40 acre and 0.11 acre in size, respectively. Polygon 149c is classified as a swamp forest, 0.76 acre in size. Impacts to polygon 149a range from 0.25 acre to 0.39 acre for alternatives 4, 5, 6, 7, 8 and RPA 8. All six alternatives would impact the entire 0.11 acre of Polygon 149b. Alternative 4, 5, 7, 8 and RPA 8 would avoid impacting Polygon 149c, while Alternative 6 would impact 0.04 acre of this polygon. Polygon 149a and 149b showed between 75-100% herbaceous cover with dominant species including sedges and knotweed. Polygon 149c showed between 25-50% woody plant cover, with green ash, red maple, and silver maple as the dominant tree species. Hydrology is likely due to frequent flooding, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, fair and good for Polygon 149a and 149b, and good, poor and fair for Polygon 149c, based on InWRAP summaries for the site This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.

### S5W150

This site is classified as a wet meadow, 0.07 acres in size. Alternative 4 would impact this entire wetland. Alternatives 5, 6, 7, 8 and RPA 8 would avoid impacting this wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include ricecut grass, touch-me-nots, sedges and false nettle. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.

# 4.3 Farmed Wetlands Analysis

The farmed wetland review for Monroe County was conducted on June 8, 2005 at the Monroe County FSA in Bloomington, Indiana. The FSA had incomplete slide sets for years 1980 through 1985 and years 1989 to 1990. A review of the available slides covering the Study Corridor for all the above years was conducted for wetland signatures, and it was determined that no farmed wetlands were located within the Monroe County portion of the Study Corridor.

On June 9, 2006, the farmed wetland review for Morgan County was conducted at the Morgan County FSA in Martinsville, Indiana. The FSA had incomplete slide sets for the years 1982 to 1985, and complete sets for years 1989 to 1992. Available slides covering the Study Corridor



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were examined for the above years for wetland signatures, and it was determined that no farmed wetlands were located within the portion of the Study Corridor located in Morgan County.

# 4.4 Project Impacts

Each of the Alternatives would involve direct impacts to Section 404/401 jurisdictional wetlands, as well as isolated features subject to IDEM authority. Collectively, 33 wetland complexes (each comprised of one or more community type polygons) and 10 palustrine unconsolidated bottom (PUB) feature (i.e. ponds) were located within at least one of the Alternatives. Thirty-two (32) of the wetland complexes and eight (8) of the ponds were assessed as Waters of the U.S. subject to USACE jurisdiction. The remaining one (1) wetland and two (2) ponds were determined to be "isolated" and therefore considered to be Waters of the State under the jurisdiction of IDEM only.

Alternative 4 would result in impacts to 29 wetland complexes (excluding PUB ponds) totaling 11.70 acres. Of this, 11.69 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 5 would result in impacts to 30 wetland complexes (excluding PUB ponds) totaling 16.06 acres. Of this, 16.05 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 6 would result in impacts to 24 wetland complexes (excluding PUB ponds) totaling 10.96 acres. Of this, 10.95 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 7 would result in impacts to 24 wetland complexes (excluding PUB ponds) totaling 5.18 acres. Of these, 5.17 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 8 would result in impacts to 24 wetland complexes (excluding PUB ponds) totaling 9.96 acres. Of this 9.95 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Refined Preferred Alternative 8 would result in impacts to 21 wetland complexes (excluding PUB ponds) totaling 3.43 acres. Of this 3.42 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction.

A total of 10 palustrine unconsolidated bottom (PUB) features (i.e. ponds) were also located within the collective construction limits of the alternative alignments. For determining pond acreage impacts in this assessment, if any portion of the pond was impacted, the entire acreage of the pond was considered an impact due to the possibility of loss of hydrology. Alternative 4 would impact 5 ponds totaling 1.40 acres. Of these, 4 are Waters of the U.S. totaling 0.69 acres. The remaining pond totals 0.71 acre and is isolated, falling under IDEM jurisdiction. Alternative 5 would impact 5 ponds totaling 4.18 acres. Of these, 4 are Waters of the U.S. totaling 3.47 acres. The remaining isolated pond is 0.71 acres and would fall under IDEM jurisdiction or would be considered as "exempt isolated wetlands". Alternative 6 would impact 3 ponds totaling 5.38 acres. All three ponds are Waters of the U.S. Alternative 7 would impact 3 ponds totaling 9.45 acres. Of these, 2 are Waters of the U.S. totaling 9.40 acres. The remaining isolated pond is 0.05 acre and would fall under IDEM jurisdiction. Alternative 8 would impact 2 ponds totaling 2.50 acres. Both of these ponds are Waters of the U.S. Refined Preferred Alternative 8 would impact one pond totaling 7.27 acres. This pond is a Waters of the U.S.



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**Table 3** through **Table 8** lists the anticipated impacts by resource type for the Alternatives. In locations where wetlands of different type area located in a wetland complex, they are assessed according to wetland type. Refer to the matrix table in Appendix D for a summary of key characteristics, jurisdictional status, functions and values ratings and area of impact for each wetland affected by the Alternatives.

# 4.4.1 Potential Impacts for Alternative 4

Alternative 4 would result in impacts to 29 wetland complexes (excluding PUB ponds) totaling 11.70 acres. Of this, 11.69 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 4 would impact 5 ponds totaling 1.40 acres. Of these, 4 are Waters of the U.S. totaling 0.69 acres. The remaining pond totals 0.71 acre and is isolated, falling under IDEM jurisdiction. **Table 3** provides a summary of wetlands and ponds potentially impacted by the construction limits for Alternative 4.

| Table 3: W    | Table 3: Wetlands and Ponds Identified for Alternative 4 |                           |             |             |             |              |             |               |  |  |  |  |
|---------------|--|---------------------------|-------------|-------------|-------------|--------------|-------------|---------------|--|--|--|--|
|               | Jurisd   | liction                   | C           | owardin et  | al. (1979)  | Classificati | on          | Total (acres) |  |  |  |  |
| Wetland<br>ID | Waters of the U.S.                                       | Waters<br>of the<br>State | PUB (acres) | PAB (acres) | PEM (acres) | PSS (acres)  | PFO (acres) |               |  |  |  |  |
| S5W010        | X  | X                         | 0.05        |             |             |              |             | 0.05          |  |  |  |  |
| S5W011        |  | X                         |             |             | 0.01        |              |             | 0.01          |  |  |  |  |
| S5W021        | X  | X                         |             |             | 0.13        |              |             | 0.13          |  |  |  |  |
| S5W024        | X  | X                         |             |             | 0.02        | 0.01         |             | 0.03          |  |  |  |  |
| S5W053        |  | X                         | 0.71        |             |             |              |             | 0.71          |  |  |  |  |
| S5W061        | X  | X                         | 0.08        |             |             |              |             | 0.08          |  |  |  |  |
| S5W062        | X  | X                         |             | 0.03        |             |              | 0.19        | 0.22          |  |  |  |  |
| S5W065        | X  | X                         |             |             |             |              | 0.36        | 0.36          |  |  |  |  |
| S5W066        | X  | X                         |             |             | 0.15        |              |             | 0.15          |  |  |  |  |
| S5W068        | X  | X                         |             |             | 0.16        |              |             | 0.16          |  |  |  |  |
| S5W069        | X  | X                         |             | 0.17        | 0.29        | 0.07         |             | 0.53          |  |  |  |  |
| S5W070        | X  | X                         |             |             | 0.14        |              | 2.44        | 2.58          |  |  |  |  |
| S5W071        | X  | X                         |             |             |             |              | 0.05        | 0.05          |  |  |  |  |
| S5W079        | X  | X                         | 0.46        |             |             |              |             | 0.46          |  |  |  |  |
| S5W091        | X  | X                         |             |             |             | 0.88         |             | 0.88          |  |  |  |  |
| S5W102        | X  | X                         | 0.10        |             |             |              |             | 0.10          |  |  |  |  |
| S5W104        | X  | X                         |             |             | 0.25        |              |             | 0.25          |  |  |  |  |
| S5W109        | X  | X                         |             |             |             | 0.37         |             | 0.37          |  |  |  |  |
| S5W119        | X  | X                         |             |             | 0.05        |              |             | 0.05          |  |  |  |  |
| S5W120        | X  | X                         |             |             | 0.02        |              |             | 0.02          |  |  |  |  |
| S5W121        | X  | X                         |             |             | 0.04        |              |             | 0.04          |  |  |  |  |



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| Table 3: Wetlands and Ponds Identified for Alternative 4 |                                   |                           |             |             |              |              |             |               |  |  |
|--|-----------------------------------|---------------------------|-------------|-------------|--------------|--------------|-------------|---------------|--|--|
|  | Jurisd                            | liction                   | C           | owardin et  | al. (1979)   | Classificati | on          |               |  |  |
| Wetland<br>ID  | Waters of the U.S.                | Waters<br>of the<br>State | PUB (acres) | PAB (acres) | PEM (acres)  | PSS (acres)  | PFO (acres) | Total (acres) |  |  |
| S5W122   | X                                 | X                         |             |             | 0.28         |              |             | 0.28          |  |  |
| S5W123   | X                                 | X                         |             |             | 0.10         |              |             | 0.10          |  |  |
| S5W124   | X                                 | X                         |             |             | 0.11         |              |             | 0.11          |  |  |
| S5W125   | X                                 | X                         |             |             | 1.28         |              | 1.19        | 2.47          |  |  |
| S5W126   | X                                 | X                         |             |             |              |              | 1.37        | 1.37          |  |  |
| S5W127   | X                                 | X                         |             |             |              |              | 0.44        | 0.44          |  |  |
| S5W128   | X                                 | X                         |             |             |              |              | 0.32        | 0.32          |  |  |
| S5W145   | X                                 | X                         |             |             | 0.06         |              |             | 0.06          |  |  |
| S5W146   | X                                 | X                         |             |             |              |              | 0.14        | 0.14          |  |  |
| S5W147   | X                                 | X                         |             |             |              |              | 0.06        | 0.06          |  |  |
| S5W148   | X                                 | X                         |             |             | 0.08         |              |             | 0.08          |  |  |
| S5W149   | X                                 | X                         |             |             | 0.37         |              |             | 0.37          |  |  |
| S5W150   | X                                 | X                         |             |             | 0.07         |              |             | 0.07          |  |  |
|  |                                   |                           |             | Wa          | ters of the  | US Wetlan    | d Impacts   | 11.69         |  |  |
|  |                                   |                           |             |             | Waters of t  | the US Pon   | d Impacts   | 0.69          |  |  |
|  |                                   |                           |             | ,           | Waters of t  | he US Tota   | al Impacts  | 12.38         |  |  |
|  |                                   |                           |             | Water       | rs of the St | ate Wetlan   | d Impacts   | 11.70         |  |  |
|  | Waters of the State Pond Impacts  |                           |             |             |              |              |             |               |  |  |
|  | Waters of the State Total Impacts |                           |             |             |              |              |             |               |  |  |

# 4.4.2 Potential Impacts for Alternative 5

Alternative 5 would result in impacts to 30 wetland complexes (excluding PUB ponds) totaling 16.06 acres. Of this, 16.05 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 5 would impact 5 ponds totaling 4.18 acres. Of these, 4 are Waters of the U.S. totaling 3.47 acres. The remaining isolated pond is 0.71 acres and would fall under IDEM jurisdiction or would be considered as "exempt isolated wetlands". **Table 4** provides a summary of wetlands and ponds potentially impacted by the construction limits for Alternative 5.



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|            | Jurisdiction       |                           | Co          | wardin et   | al. (1979)  | Classificat | ion         |                  |
|------------|--------------------|---------------------------|-------------|-------------|-------------|-------------|-------------|------------------|
| Wetland ID | Waters of the U.S. | Waters<br>of the<br>State | PUB (acres) | PAB (acres) | PEM (acres) | PSS (acres) | PFO (acres) | Total<br>(acres) |
| S5W007     | X                  | X                         |             |             | 0.03        |             |             | 0.03             |
| S5W010     | X                  | X                         | 0.05        |             |             |             |             | 0.05             |
| S5W011     |                    | X                         |             |             | 0.01        |             |             | 0.01             |
| S5W021     | X                  | X                         |             |             | 0.13        |             |             | 0.13             |
| S5W024     | X                  | X                         |             |             | 0.02        | 0.01        |             | 0.03             |
| S5W053     |                    | X                         | 0.71        |             |             |             |             | 0.71             |
| S5W061     | X                  | Х                         | 0.08        |             |             |             |             | 0.08             |
| S5W062     | X                  | Х                         |             | 0.20        |             |             | 0.33        | 0.53             |
| S5W063     | X                  | X                         |             |             | 1.22        |             | 0.60        | 1.82             |
| S5W065     | X                  | Х                         |             |             |             |             | 0.71        | 0.71             |
| S5W066     | X                  | X                         |             |             | 0.15        |             |             | 0.15             |
| S5W067     | X                  | X                         | 2.88        |             |             |             |             | 2.88             |
| S5W068     | X                  | X                         |             |             | 0.16        |             |             | 0.16             |
| S5W069     | X                  | Х                         |             | 0.20        | 0.29        | 0.07        |             | 0.56             |
| S5W070     | X                  | Х                         |             |             | 0.49        |             | 3.76        | 4.25             |
| S5W071     | X                  | X                         |             |             |             |             | 0.05        | 0.05             |
| S5W079     | X                  | Х                         | 0.46        |             |             |             |             | 0.46             |
| S5W091     | X                  | Х                         |             |             |             | 0.88        |             | 0.88             |
| S5W104     | X                  | Х                         |             |             | 0.25        |             |             | 0.25             |
| S5W109     | X                  | X                         |             |             |             | 0.38        |             | 0.38             |
| S5W119     | X                  | Х                         |             |             | 0.05        |             |             | 0.05             |
| S5W120     | X                  | Х                         |             |             | 0.02        |             |             | 0.02             |
| S5W121     | X                  | X                         |             |             | 0.04        |             |             | 0.04             |
| S5W122     | X                  | X                         |             |             | 0.28        |             |             | 0.28             |
| S5W123     | X                  | Х                         |             |             | 0.12        |             |             | 0.12             |
| S5W124     | X                  | X                         |             |             | 0.13        |             |             | 0.13             |
| S5W125     | X                  | X                         |             |             | 1.30        |             | 1.17        | 2.47             |
| S5W126     | X                  | Х                         |             |             |             |             | 1.37        | 1.37             |
| S5W127     | X                  | X                         |             |             |             |             | 0.44        | 0.44             |
| S5W128     | X                  | X                         |             |             |             |             | 0.32        | 0.32             |
| S5W145     | X                  | X                         |             |             | 0.06        |             |             | 0.06             |



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| Table 4: Wetlands and Ponds Identified for Alternative 5 |                    |                           |             |             |              |             |             |               |  |  |
|--|--------------------|---------------------------|-------------|-------------|--------------|-------------|-------------|---------------|--|--|
|  | Jurisdiction       |                           | Co          |             |              |             |             |               |  |  |
| Wetland ID   | Waters of the U.S. | Waters<br>of the<br>State | PUB (acres) | PAB (acres) | PEM (acres)  | PSS (acres) | PFO (acres) | Total (acres) |  |  |
| S5W146   | X                  | X                         |             |             |              |             | 0.14        | 0.14          |  |  |
| S5W147   | X                  | X                         |             |             |              |             | 0.23        | 0.23          |  |  |
| S5W148   | X                  | X                         |             |             | 0.08         |             |             | 0.08          |  |  |
| S5W149   | X                  | X                         |             |             | 0.37         |             |             | 0.37          |  |  |
|  |                    |                           |             | Wate        | ers of the U | S Wetland   | d Impacts   | 16.05         |  |  |
|  |                    |                           |             | W           | aters of th  | ne US Pono  | d Impacts   | 3.47          |  |  |
|  |                    |                           |             | W           | aters of th  | e US Tota   | l Impacts   | 19.52         |  |  |
|  |                    |                           |             | Waters      | of the Sta   | te Wetland  | d Impacts   | 16.06         |  |  |
| Waters of the State Pond Impacts                         |                    |                           |             |             |              |             |             | 4.18          |  |  |
|  |                    |                           |             | Wat         | ters of the  | State Tota  | l Impacts   | 20.24         |  |  |

# 4.4.3 Potential Impacts for Alternative 6

Alternative 6 would result in impacts to 24 wetland complexes (excluding PUB ponds) totaling 10.96 acres. Of this, 10.95 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 6 would impact 3 ponds totaling 5.38 acres. All three ponds are Waters of the U.S. **Table 5** provides a summary of wetlands and ponds potentially impacted by the construction limits for Alternative 6.

| Table 5: W    | etlands and        | Ponds Iden                | tified for A | lternative  | 6           |             |             |                  |
|---------------|--------------------|---------------------------|--------------|-------------|-------------|-------------|-------------|------------------|
|               | Jurisdiction       |                           | C            |             |             |             |             |                  |
| Wetland<br>ID | Waters of the U.S. | Waters<br>of the<br>State | PUB (acres)  | PAB (acres) | PEM (acres) | PSS (acres) | PFO (acres) | Total<br>(acres) |
| S5W011        |                    | X                         |              |             | 0.01        |             |             | 0.01             |
| S5W021        | X                  | X                         |              |             | 0.13        |             |             | 0.13             |
| S5W062        | X                  | X                         |              | 0.06        |             |             | 0.13        | 0.19             |
| S5W063        | X                  | X                         |              |             | 1.22        |             | 0.60        | 1.82             |
| S5W065        | X                  | X                         |              |             |             |             | 0.71        | 0.71             |
| S5W066        | X                  | X                         |              |             | 0.12        |             |             | 0.12             |
| S5W067        | X                  | X                         | 2.88         |             |             |             |             | 2.88             |
| S5W068        | X                  | X                         |              |             | 0.16        |             |             | 0.16             |
| S5W069        | X                  | X                         |              | 0.11        | 0.30        | 0.09        | 0.05        | 0.55             |
| S5W070        | X                  | X                         |              |             | 0.49        |             | 3.63        | 4.12             |
| S5W071        | X                  | X                         |              |             |             |             | 0.02        | 0.02             |



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|               | Jurisdiction       |                           | C           | Cowardin et al. (1979) Classification |              |             |             |               |  |
|---------------|--------------------|---------------------------|-------------|---------------------------------------|--------------|-------------|-------------|---------------|--|
| Wetland<br>ID | Waters of the U.S. | Waters<br>of the<br>State | PUB (acres) | PAB (acres)                           | PEM (acres)  | PSS (acres) | PFO (acres) | Total (acres) |  |
| S5W072        | X                  | X                         | 0.37        |                                       |              |             |             | 0.37          |  |
| S5W080        | X                  | X                         |             |                                       |              |             | 0.01        | 0.01          |  |
| S5W088        | X                  | X                         | 2.13        |                                       |              |             |             | 2.13          |  |
| S5W091        | X                  | X                         |             |                                       |              | 0.88        |             | 0.88          |  |
| S5W109        | X                  | X                         |             |                                       |              | 0.12        |             | 0.12          |  |
| S5W119        | X                  | X                         |             |                                       | 0.05         |             |             | 0.05          |  |
| S5W120        | X                  | X                         |             |                                       | 0.06         |             |             | 0.06          |  |
| S5W121        | X                  | X                         |             |                                       | 0.04         |             |             | 0.04          |  |
| S5W122        | X                  | X                         |             |                                       | 0.01         |             |             | 0.01          |  |
| S5W123        | X                  | X                         |             |                                       | 0.02         |             |             | 0.02          |  |
| S5W125        | X                  | X                         |             |                                       | 0.69         |             | 0.21        | 0.9           |  |
| S5W127        | X                  | X                         |             |                                       |              |             | 0.35        | 0.35          |  |
| S5W145        | X                  | X                         |             |                                       | 0.06         |             |             | 0.06          |  |
| S5W146        | X                  | X                         |             |                                       |              |             | 0.01        | 0.01          |  |
| S5W148        | X                  | X                         |             |                                       | 0.08         |             |             | 0.08          |  |
| S5W149        | X                  | X                         |             |                                       | 0.50         |             | 0.04        | 0.54          |  |
|               |                    |                           |             | Wa                                    | ters of the  | US Wetlan   | d Impacts   | 10.95         |  |
|               |                    |                           |             |                                       | Waters of t  | the US Pon  | d Impacts   | 5.38          |  |
|               |                    |                           |             | ,                                     | Waters of t  | he US Tota  | al Impacts  | 16.33         |  |
|               |                    |                           |             | Water                                 | rs of the St | ate Wetlan  | d Impacts   | 10.96         |  |
|               |                    |                           |             | W                                     | aters of the | e State Pon | d Impacts   | 5.38          |  |
|               |                    |                           |             | W                                     | aters of the | State Tota  | al Impacts  | 16.34         |  |

# 4.4.4 Potential Impacts for Alternative 7

Alternative 7 would result in impacts to 24 wetland complexes (excluding PUB ponds) totaling 5.18 acres. Of these, 5.17 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 7 would impact 3 ponds totaling 9.45 acres. Of these, 2 are Waters of the U.S. totaling 9.40 acres. The remaining isolated pond is 0.05 acre and would fall under IDEM jurisdiction. **Table 6** provides a summary of wetlands and ponds potentially impacted by the construction limits for Alternative 7.



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| Table 6: Wetlands and Ponds Identified for Alternative 7 |                                  |                           |             |             |              |              |             |                  |  |  |
|--|----------------------------------|---------------------------|-------------|-------------|--------------|--------------|-------------|------------------|--|--|
|  | Jurisd                           | liction                   | C           | owardin et  | al. (1979)   | Classificati | on          |                  |  |  |
| Wetland<br>ID  | Waters of the U.S.               | Waters<br>of the<br>State | PUB (acres) | PAB (acres) | PEM (acres)  | PSS (acres)  | PFO (acres) | Total<br>(acres) |  |  |
| S5W011   |                                  | X                         |             |             | 0.01         |              |             | 0.01             |  |  |
| S5W014b  | X                                | X                         | 7.27        |             |              |              |             | 7.27             |  |  |
| S5W021   | X                                | X                         |             |             | 0.13         |              |             | 0.13             |  |  |
| S5W062   | X                                | X                         |             |             |              |              | 0.11        | 0.11             |  |  |
| S5W063   | X                                | X                         |             |             | 0.58         |              | 0.18        | 0.76             |  |  |
| S5W065   | X                                | X                         |             |             |              |              | 0.18        | 0.18             |  |  |
| S5W066   | X                                | X                         |             |             | 0.08         |              |             | 0.08             |  |  |
| S5W068   | X                                | X                         |             |             | 0.08         |              |             | 0.08             |  |  |
| S5W069   | X                                | X                         |             |             | 0.30         | 0.08         |             | 0.38             |  |  |
| S5W070   | X                                | X                         |             |             |              |              | 0.48        | 0.48             |  |  |
| S5W088   | X                                | X                         | 2.13        |             |              |              |             | 2.13             |  |  |
| S5W091   | X                                | X                         |             |             |              | 0.88         |             | 0.88             |  |  |
| S5W095   | X                                | X                         |             |             |              |              | 0.01        | 0.01             |  |  |
| S5W097   |                                  | X                         | 0.05        |             |              |              |             | 0.05             |  |  |
| S5W109   | X                                | X                         |             |             |              | 0.15         |             | 0.15             |  |  |
| S5W119   | X                                | X                         |             |             | 0.05         |              |             | 0.05             |  |  |
| S5W120   | X                                | X                         |             |             | 0.06         |              |             | 0.06             |  |  |
| S5W121   | X                                | X                         |             |             | 0.04         |              |             | 0.04             |  |  |
| S5W122   | X                                | X                         |             |             | 0.01         |              |             | 0.01             |  |  |
| S5W125   | X                                | X                         |             |             | 0.62         |              | 0.09        | 0.71             |  |  |
| S5W127   | X                                | X                         |             |             |              |              | 0.16        | 0.16             |  |  |
| S5W128   | X                                | X                         |             |             |              |              | 0.21        | 0.21             |  |  |
| S5W145   | X                                | X                         |             |             | 0.01         |              |             | 0.01             |  |  |
| S5W146   | X                                | X                         |             |             |              |              | 0.11        | 0.11             |  |  |
| S5W147   | X                                | X                         |             |             |              |              | 0.11        | 0.11             |  |  |
| S5W148   | X                                | X                         |             |             | 0.08         |              |             | 0.08             |  |  |
| S5W149   | X                                | X                         |             |             | 0.38         |              |             | 0.38             |  |  |
| Waters of the US Wetland Impacts                         |                                  |                           |             |             |              |              |             |                  |  |  |
| Waters of the US Pond Impacts                            |                                  |                           |             |             |              |              |             |                  |  |  |
| Waters of the US Total Impacts                           |                                  |                           |             |             |              |              |             |                  |  |  |
| Waters of the State Wetland Impacts                      |                                  |                           |             |             |              |              |             |                  |  |  |
|  | Waters of the State Pond Impacts |                           |             |             |              |              |             |                  |  |  |
|  |                                  |                           |             | W           | aters of the | State Tota   | al Impacts  | 14.63            |  |  |



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## 4.4.5 Potential Impacts for Alternative 8

Alternative 8 would result in impacts to 24 wetland complexes (excluding PUB ponds) totaling 9.96 acres. Of this 9.95 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Alternative 8 would impact 2 ponds totaling 2.50 acres. Both of these ponds are Waters of the U.S. **Table 7** provides a summary of wetlands and ponds potentially impacted by the construction limits for Alternative 8.

| Table 7: W    |                          |                           |             | Alternative<br>owardin et |             |             |             |                  |
|---------------|--------------------------|---------------------------|-------------|---------------------------|-------------|-------------|-------------|------------------|
| XX7 /1 1      | Jurisd                   |                           | C           |                           |             |             |             |                  |
| Wetland<br>ID | Waters<br>of the<br>U.S. | Waters<br>of the<br>State | PUB (acres) | PAB (acres)               | PEM (acres) | PSS (acres) | PFO (acres) | Total<br>(acres) |
| S5W011        |                          | X                         |             |                           | 0.01        |             |             | 0.01             |
| S5W021        | X                        | X                         |             |                           | 0.13        |             |             | 0.13             |
| S5W062        | X                        | X                         |             | 0.08                      |             |             | 0.19        | 0.27             |
| S5W063        | X                        | X                         |             |                           | 1.17        |             | 0.60        | 1.77             |
| S5W065        | X                        | X                         |             |                           |             |             | 0.71        | 0.71             |
| S5W066        | X                        | X                         |             |                           | 0.15        |             |             | 0.15             |
| S5W068        | X                        | X                         |             |                           | 0.01        |             |             | 0.01             |
| S5W069        | X                        | X                         |             | 0.06                      | 0.29        | 0.07        |             | 0.42             |
| S5W070        | X                        | X                         |             |                           | 0.39        |             | 2.79        | 3.18             |
| S5W072        | X                        | X                         | 0.37        |                           |             |             |             | 0.37             |
| S5W088        | X                        | X                         | 2.13        |                           |             |             |             | 2.13             |
| S5W091        | X                        | X                         |             |                           |             | 0.88        |             | 0.88             |
| S5W109        | X                        | X                         |             |                           |             | 0.12        |             | 0.12             |
| S5W119        | X                        | X                         |             |                           | 0.05        |             |             | 0.05             |
| S5W120        | X                        | X                         |             |                           | 0.04        |             |             | 0.04             |
| S5W121        | X                        | X                         |             |                           | 0.04        |             |             | 0.04             |
| S5W122        | X                        | X                         |             |                           | 0.01        |             |             | 0.01             |
| S5W123        | X                        | X                         |             |                           | 0.01        |             |             | 0.01             |
| S5W125        | X                        | X                         |             |                           | 0.68        |             | 0.21        | 0.89             |
| S5W127        | X                        | X                         |             |                           |             |             | 0.35        | 0.35             |
| S5W128        | X                        | X                         |             |                           |             |             | 0.21        | 0.21             |
| S5W145        | X                        | X                         |             |                           | 0.06        |             |             | 0.06             |
| S5W146        | X                        | X                         |             |                           |             |             | 0.14        | 0.14             |
| S5W147        | X                        | X                         |             |                           |             |             | 0.07        | 0.07             |
| S5W148        | X                        | X                         |             |                           | 0.08        |             |             | 0.08             |
| S5W149        | X                        | X                         |             |                           | 0.36        |             |             | 0.36             |



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| Table 7: Wetlands and Ponds Identified for Alternative 8 |                    |                           |             |                                       |             |             |             |                  |  |  |  |
|--|--------------------|---------------------------|-------------|---------------------------------------|-------------|-------------|-------------|------------------|--|--|--|
| Wetland<br>ID  | Jurisd             | liction                   | C           | Cowardin et al. (1979) Classification |             |             |             |                  |  |  |  |
|  | Waters of the U.S. | Waters<br>of the<br>State | PUB (acres) | PAB (acres)                           | PEM (acres) | PSS (acres) | PFO (acres) | Total<br>(acres) |  |  |  |
| Waters of the US Wetland Impacts                         |                    |                           |             |                                       |             |             |             | 9.95             |  |  |  |
| Waters of the US Pond Impacts                            |                    |                           |             |                                       |             |             |             | 2.50             |  |  |  |
| Waters of the US Total Impacts                           |                    |                           |             |                                       |             |             | 12.45       |                  |  |  |  |
| Waters of the State Wetland Impacts                      |                    |                           |             |                                       |             |             |             | 9.96             |  |  |  |
| Waters of the State Pond Impacts                         |                    |                           |             |                                       |             |             |             | 2.50             |  |  |  |
| Waters of the State Total Impacts                        |                    |                           |             |                                       |             |             |             |                  |  |  |  |

## 4.4.6 Potential Impacts for Refined Preferred Alternative 8

Refined Alternative 8 would result in impacts to 21 wetland complexes (excluding PUB ponds) totaling 3.43 acres. Of this 3.42 acres are Waters of the U.S. under USACE jurisdiction, with the remaining 0.01 acre solely under IDEM jurisdiction. Refined Preferred Alternative 8 would impact 1 pond totaling 7.27 acres. This pond is a Waters of the U.S. **Table 8** provides a summary of wetlands and ponds potentially impacted by the construction limits for Refined Preferred Alternative 8.

| Table 8: Wetlands and Ponds Identified for Refined Preferred Alternative 8 |                    |                     |                |                |                |                |                |                  |  |  |
|--|--------------------|---------------------|----------------|----------------|----------------|----------------|----------------|------------------|--|--|
|  | Jurisd             | iction              |                |                |                |                |                |                  |  |  |
| Wetland ID   | Waters of the U.S. | Waters of the State | PUB<br>(acres) | PAB<br>(acres) | PEM<br>(acres) | PSS<br>(acres) | PFO<br>(acres) | Total<br>(acres) |  |  |
| S5W011   |                    | X                   |                |                | 0.01           |                |                | 0.01             |  |  |
| S5W014   | X                  | X                   | 7.27           |                |                |                |                | 7.27             |  |  |
| S5W021   | X                  | X                   |                |                | 0.13           |                |                | 0.13             |  |  |
| S5W062   | X                  | X                   |                | 0.02           |                |                | 0.13           | 0.15             |  |  |
| S5W066   | X                  | X                   |                |                | 0.12           |                |                | 0.12             |  |  |
| S5W068   | X                  | X                   |                |                | 0.01           |                |                | 0.01             |  |  |
| S5W069   | X                  | X                   |                |                | 0.29           | 0.04           |                | 0.33             |  |  |
| S5W070   | X                  | X                   |                |                | 0.14           |                | 0.02           | 0.16             |  |  |
| S5W091   | X                  | X                   |                |                |                | 0.88           |                | 0.88             |  |  |
| S5W109   | X                  | X                   |                |                |                | 0.12           |                | 0.12             |  |  |
| S5W119   | X                  | X                   |                |                | 0.05           |                |                | 0.05             |  |  |
| S5W120   | X                  | X                   |                |                | 0.06           |                |                | 0.06             |  |  |
| S5W121   | X                  | X                   |                |                | 0.04           |                |                | 0.04             |  |  |
| S5W122   | X                  | X                   |                |                | 0.01           |                |                | 0.01             |  |  |



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| Table 8: Wetlands and Ponds Identified for Refined Preferred Alternative 8 |                    |                     |                |                |                |                |                |                  |  |  |
|--|--------------------|---------------------|----------------|----------------|----------------|----------------|----------------|------------------|--|--|
|  | Jurisd             | iction              |                |                |                |                |                |                  |  |  |
| Wetland ID   | Waters of the U.S. | Waters of the State | PUB<br>(acres) | PAB<br>(acres) | PEM<br>(acres) | PSS<br>(acres) | PFO<br>(acres) | Total<br>(acres) |  |  |
| S5W125   | X                  | X                   |                |                | 0.43           |                | 0.05           | 0.48             |  |  |
| S5W127   | X                  | X                   |                |                |                |                | 0.10           | 0.10             |  |  |
| S5W128   | X                  | X                   |                |                |                |                | 0.21           | 0.21             |  |  |
| S5W145   | X                  | X                   |                |                | 0.06           |                |                | 0.06             |  |  |
| S5W146   | X                  | X                   |                |                |                |                | 0.01           | 0.01             |  |  |
| S5W147   | X                  | X                   |                |                |                |                | 0.07           | 0.07             |  |  |
| S5W148   | X                  | X                   |                |                | 0.08           |                |                | 0.08             |  |  |
| S5W149   | X                  | X                   |                |                | 0.35           |                |                | 0.35             |  |  |
|  |                    |                     |                | Wa             | ters of the    | US Wetland     | d Impacts      | 3.42             |  |  |
|  |                    |                     |                |                | Water of       | the US Pon     | d Impacts      | 7.27             |  |  |
| Waters of the US Total Impacts   |                    |                     |                |                |                |                |                | 10.69            |  |  |
| Waters of the State Wetland Impacts  |                    |                     |                |                |                |                |                |                  |  |  |
|  |                    |                     |                | W              | aters of th    | e State Pon    | d Impacts      | 7.27             |  |  |
| Waters of the State Total Impacts  |                    |                     |                |                |                |                |                |                  |  |  |

#### 4.5 Wetland Avoidance and Minimization Measures

Surface water avoidance and minimization measures were implemented during the I-69 Tier 1 study, which culminated in the selection of the Preferred Alternative 3C Corridor. The Preferred Alternative 3C Corridor is centered on the existing SR 37 alignment between Bloomington and Indianapolis, which includes the entire Section 5 Study Corridor. The Study Corridor is located within an area that has already been impacted by a transportation facility (SR 37), and avoids high quality wetlands, including those within the Beanblossom Bottoms Nature Preserve (located west of the Study Corridor).

All of the alternatives include a six-lane urban and four-lane rural facility utilizing the existing SR 37 right-of-way and significant portions of the existing 4-lane SR 37 pavement, grade, and structures. The use of existing SR 37 and the presence of linear wetlands located both on and adjacent to existing INDOT right-of-way limits opportunities for avoidance of wetlands impacts in the Section 5 corridor. In order to evaluate proposed access to the proposed interstate highway, detailed traffic studies were used to determine the location and types of interchanges and frontage roads necessary to maintain local travel patterns. Wetland avoidance and minimization measures conducted in Tier 2 included using the wetland determinations and quality evaluations to assist in determining the locations of minor mainline shifts, types of travel lane upgrades, and locations and types of interchanges and frontage roads.



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In general, the Alternatives Carried Forward for Detailed Analysis resulted in relatively small impacts on small and disjunct wetlands that are located in areas that could not be successfully farmed within the Beanblossom Creek, Bryant Creek, and Indian Creek floodplains.

The highest concentration of Study Corridor wetlands are located in the Beanblossom Creek floodplain, and include disjunct forested/emergent wetland complexes ranging from 2 to 30 acres in size. Due to existing and projected travel patterns, an overpass or interchange and frontage roads were proposed for the existing Walnut Street interchange location during the DEIS. In determining avoidance and minimization for wetland impacts, a partial interchange at Walnut Street was evaluated. FHWA approved an interchange justification for use of a partial interchange at Walnut Street. In doing so, the frontage roads and interchange were modified to reduce impacts to wetlands within the Beanblossom floodplain. Refined Preferred Alternative 8 was a result of this change. Where practicable, large forested wetland complexes were either avoided, or if avoidance was not possible, the interchange/frontage road configurations were designed to impact the edges rather than the centers of the wetland complexes.



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## 5.0 Summary

Thirty-three (33) wetland complexes (each comprised of one or more community type polygons) and 10 PUB features (i.e. ponds) were located within the construction limits of the Alternatives. Thirty-two (32) of the wetland complexes and eight (8) of the ponds were assessed as Waters of the U.S. subject to USACE jurisdiction. The remaining one (1) wetland and two (2) ponds were determined to be "isolated" and therefore considered to be Waters of the State under the jurisdiction of IDEM only.

No alternative impacts all 43 wetland complexes and open water features found within the construction limits. The number of wetland and open water features impacted by the alternatives vary ranging from 22 to 35. The total area of wetland and open water impacts range from approximately 10.70 acres to 20.24 acres (Refined Preferred Alternative 8 and Alternative 5, respectively). Total impacts for Refined Preferred Alternative 8 are 10.70 acres. The majority of the acreage impacts for the Refined Preferred Alternative 8 are to open water (PUB). Impacts to Waters of the U.S. for the alternatives range from 10.69 acres (Refined Preferred Alternative 8) to 19.52 acres (Alternative 5). Impacts to isolated waters range from 0.01 acre (Alternative 6, 7, 8 and Refined Preferred Alternative 8) to 0.72 acre (Alternatives 4 and 5).

For each Alternative, a summary of wetland impacts by resource type and jurisdiction is provided in **Table 9**. The Waters of the State column includes both Waters of the U.S. and isolated wetlands/ponds under IDEM authority. As such, the difference between the acreage reported for the Waters of the State and the acreage reported for the Waters of U.S. for each alternative and each wetland class, represents the acreage that is only under IDEM authority.

| Table 0.  | Cummony    | of Inviadiational | Wotlands on    | d Dand Impacts  | Identified with   | in the Alternatives |
|-----------|------------|-------------------|----------------|-----------------|-------------------|---------------------|
| i anie 9: | Siimmary ( | n Jurisaletional  | i vvetianas an | ia Pona Imnacis | i identitied with | in the Alternatives |

| A.V                                   | PUB (              | PUB (acres) PA            |                    | PAB (acres) PE            |                    | PEM (acres) PSS           |                    | PSS (acres)               |                    | PFO (acres)               |                    | Total (acres)             |  |
|---------------------------------------|--------------------|---------------------------|--------------------|---------------------------|--------------------|---------------------------|--------------------|---------------------------|--------------------|---------------------------|--------------------|---------------------------|--|
| Alternative                           | Waters of the U.S. | Waters<br>of the<br>State |  |
| Alternative 4                         | 0.69               | 1.40                      | 0.20               | 0.20                      | 3.60               | 3.61                      | 1.33               | 1.33                      | 6.56               | 6.56                      | 12.38              | 13.10                     |  |
| Alternative 5                         | 3.47               | 4.18                      | 0.40               | 0.40                      | 5.19               | 5.20                      | 1.34               | 1.34                      | 9.12               | 9.12                      | 19.52              | 20.24                     |  |
| Alternative 6                         | 5.38               | 5.38                      | 0.17               | 0.17                      | 3.93               | 3.94                      | 1.09               | 1.09                      | 5.76               | 5.76                      | 16.33              | 16.34                     |  |
| Alternative 7                         | 9.40               | 9.45                      | 0                  | 0                         | 2.42               | 2.43                      | 1.11               | 1.11                      | 1.64               | 1.64                      | 14.57              | 14.63                     |  |
| Alternative 8                         | 2.50               | 2.50                      | 0.14               | 0.14                      | 3.47               | 3.48                      | 1.07               | 1.07                      | 5.27               | 5.27                      | 12.45              | 12.46                     |  |
| Refined<br>Preferred<br>Alternative 8 | 7.27               | 7.27                      | 0.02               | 0.02                      | 1.77               | 1.78                      | 1.04               | 1.04                      | 0.59               | 0.59                      | 10.69              | 10.70                     |  |



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#### 7.0 APPENDICES

Appendix A – Wetland Site Forms

Appendix B – I-69 Wetland Quality Assessment Profile Sheets

Appendix C – Wetland Matrix for I-69 Alternatives Carried Forward For Further Consideration

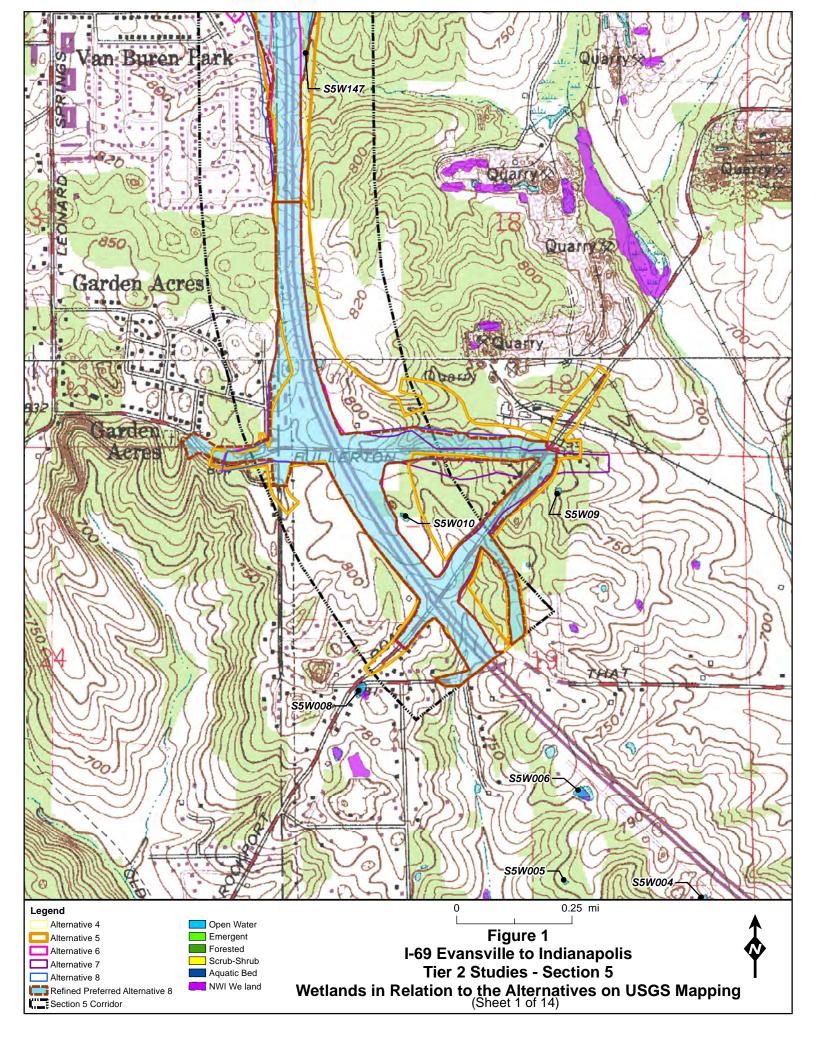
Appendix D – InWRAP Data Sheets

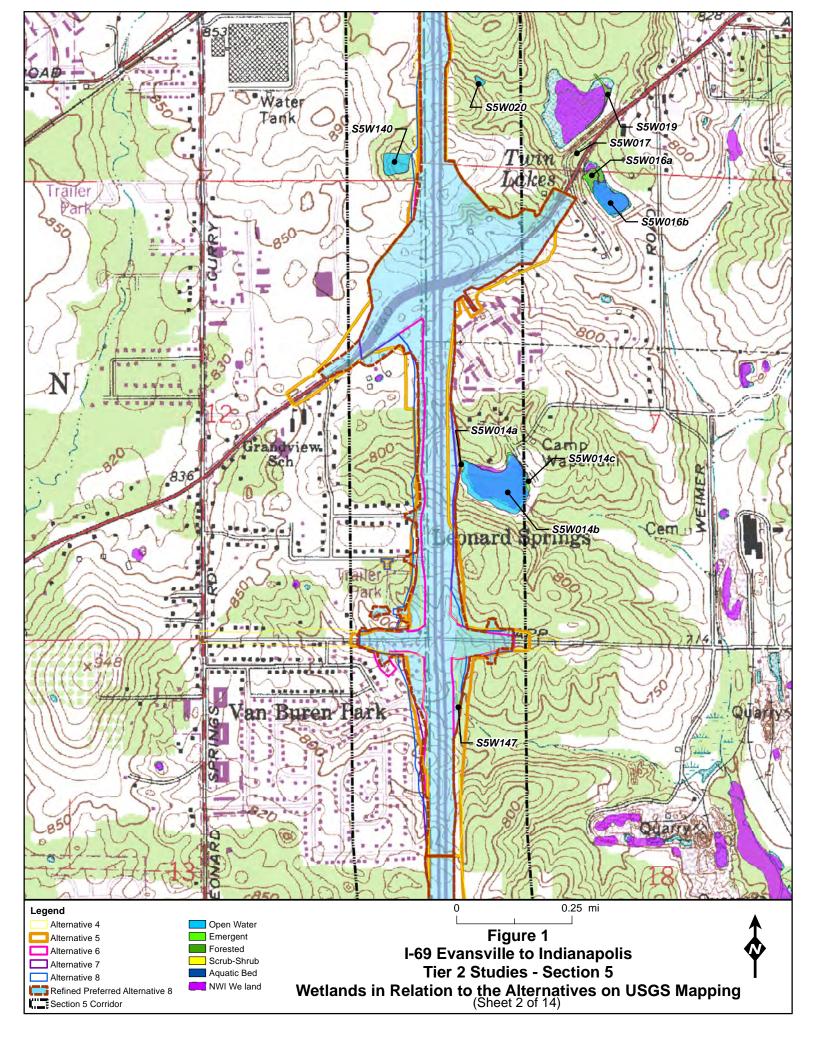
Appendix E - Wetland Determination Data Forms

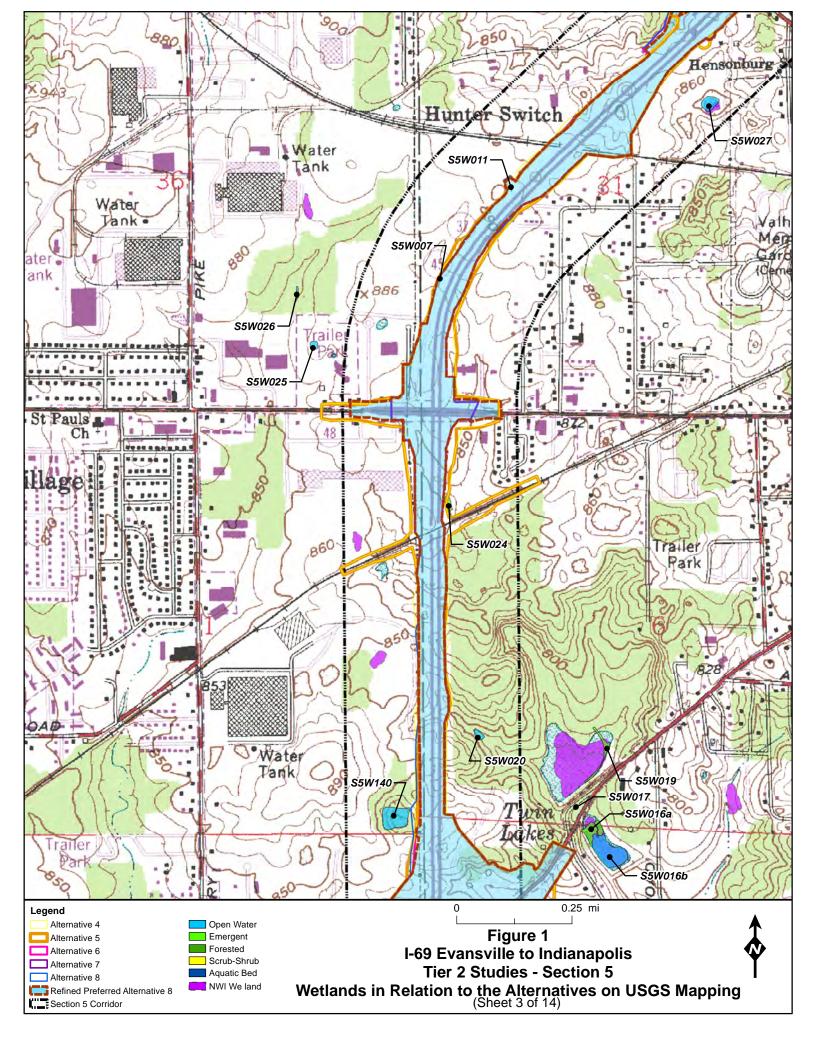
# I-69 EVANSVILLE TO INDIANAPOLIS TIER 2 STUDIES Wetland Technical Report, Section 5

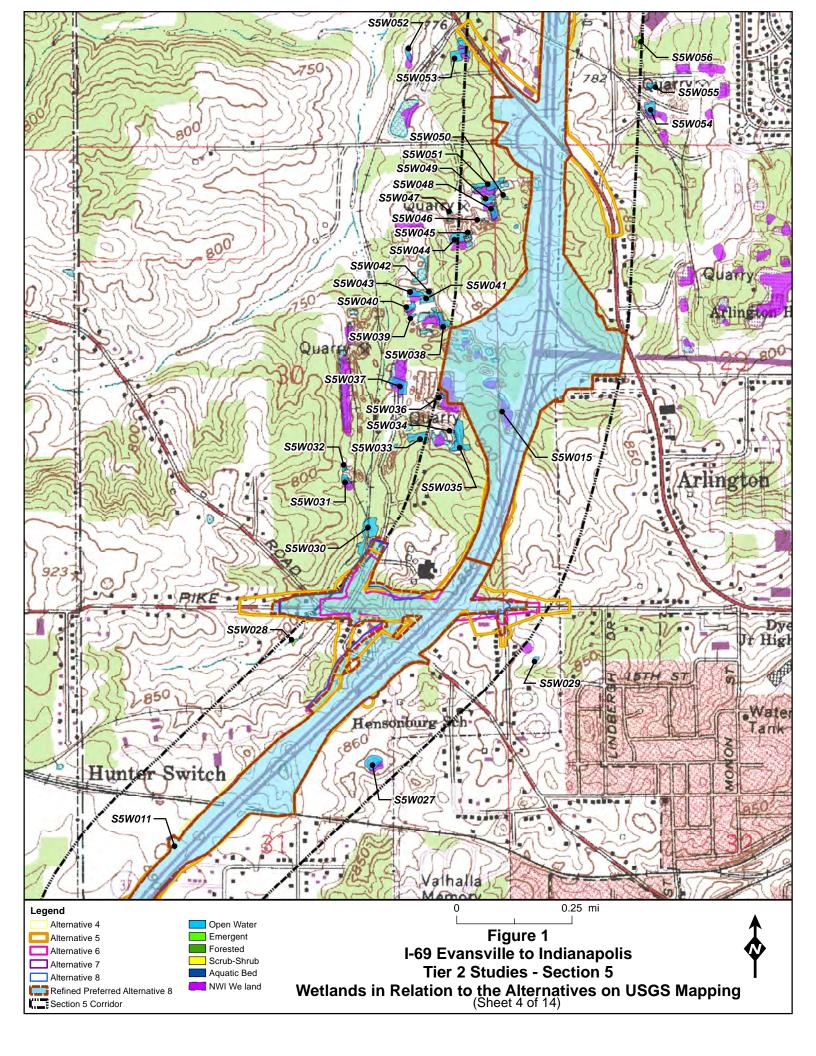


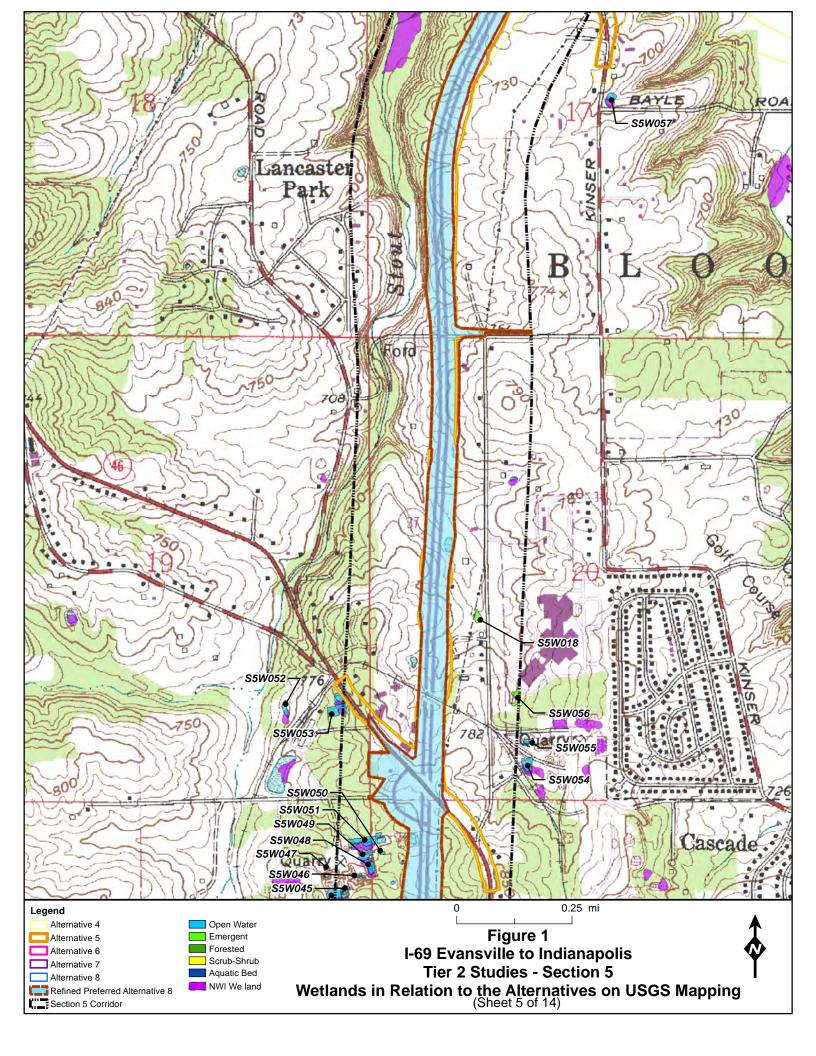
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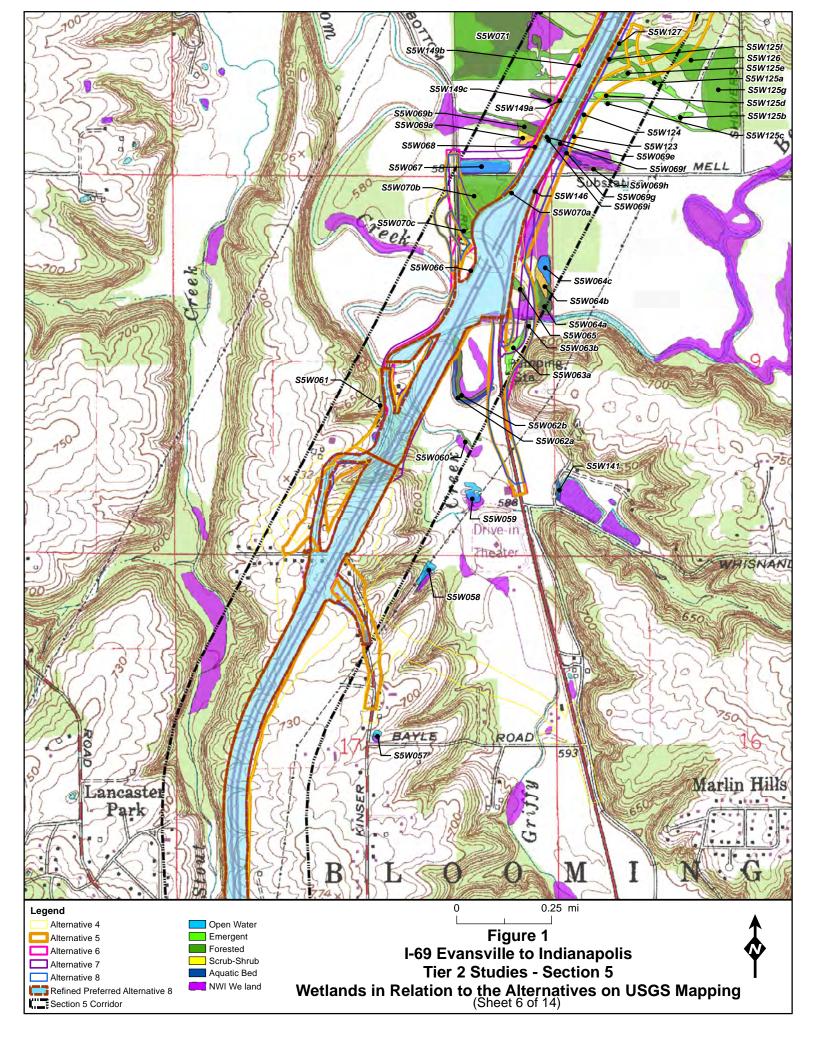


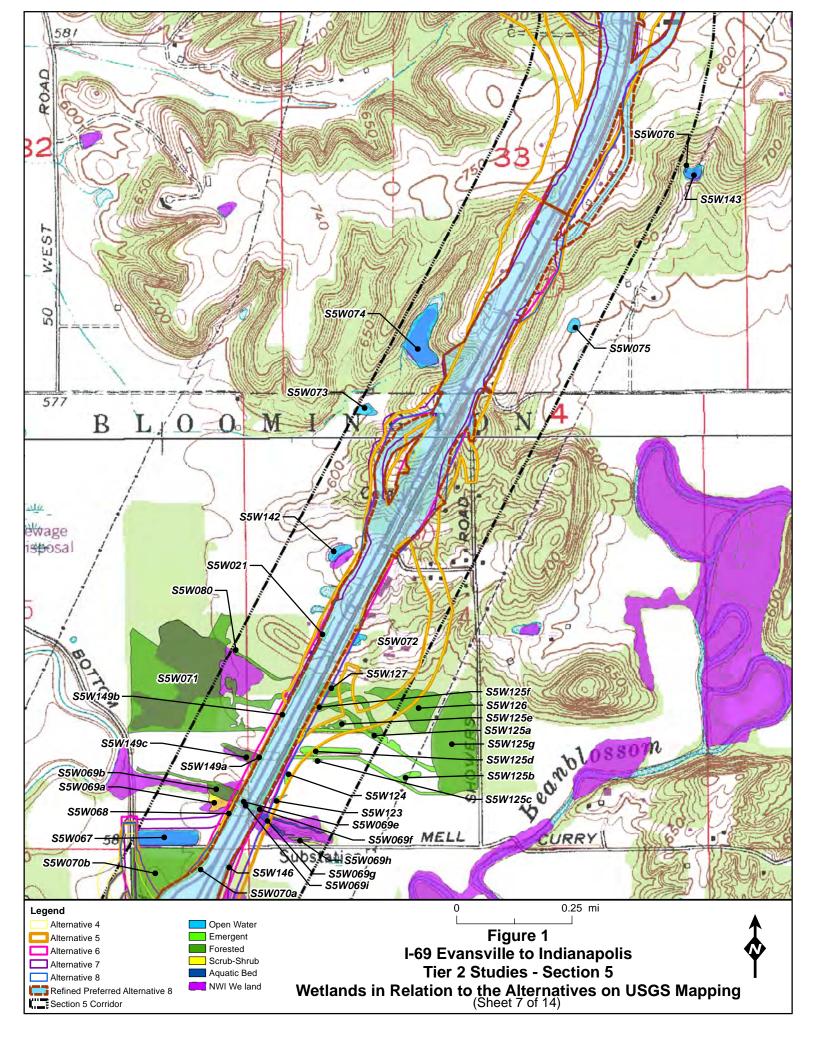


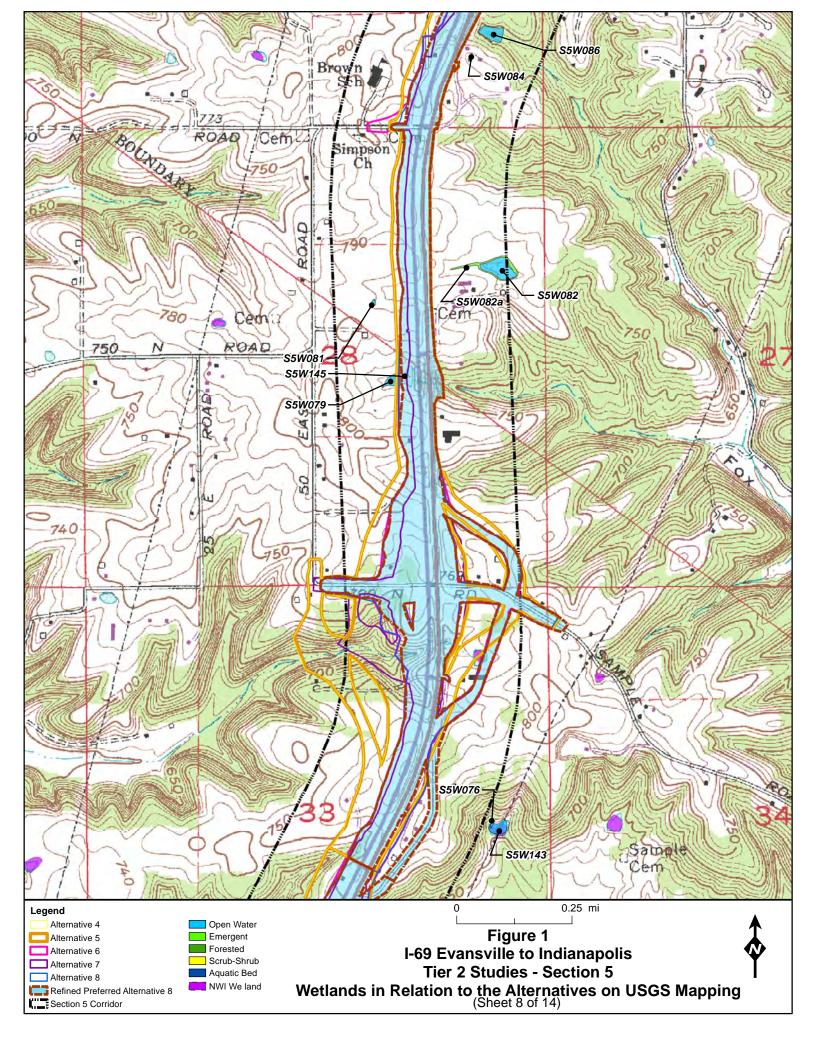


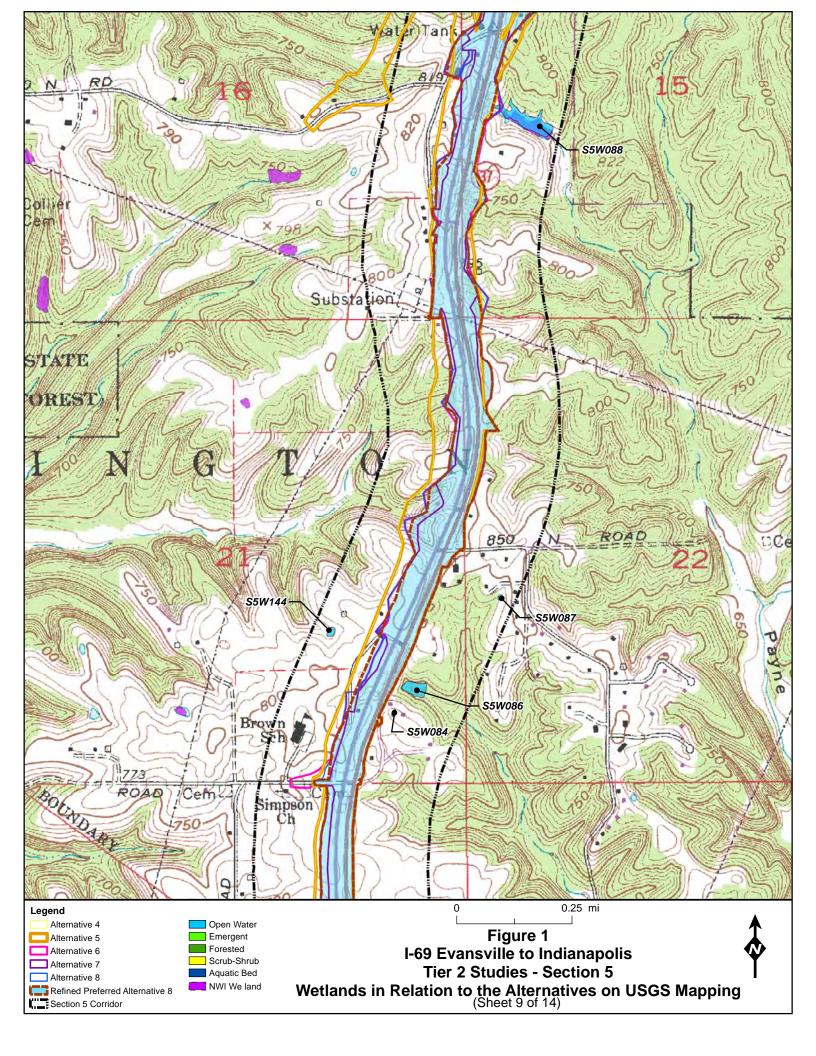


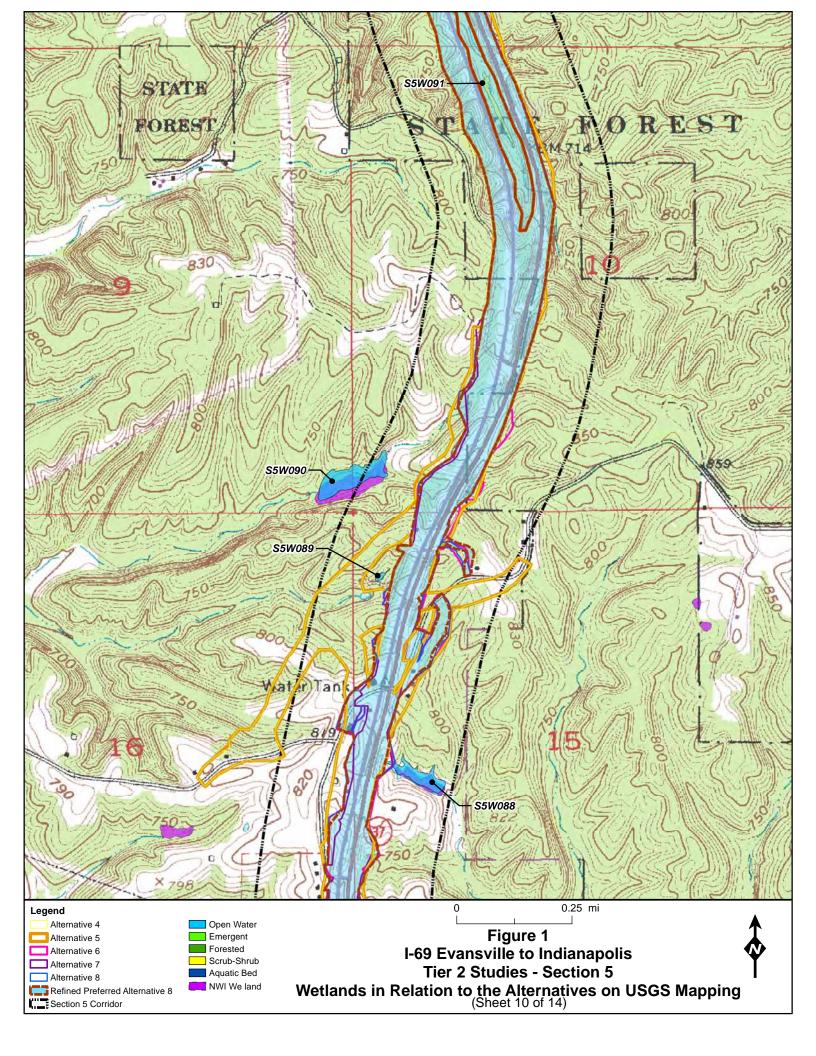


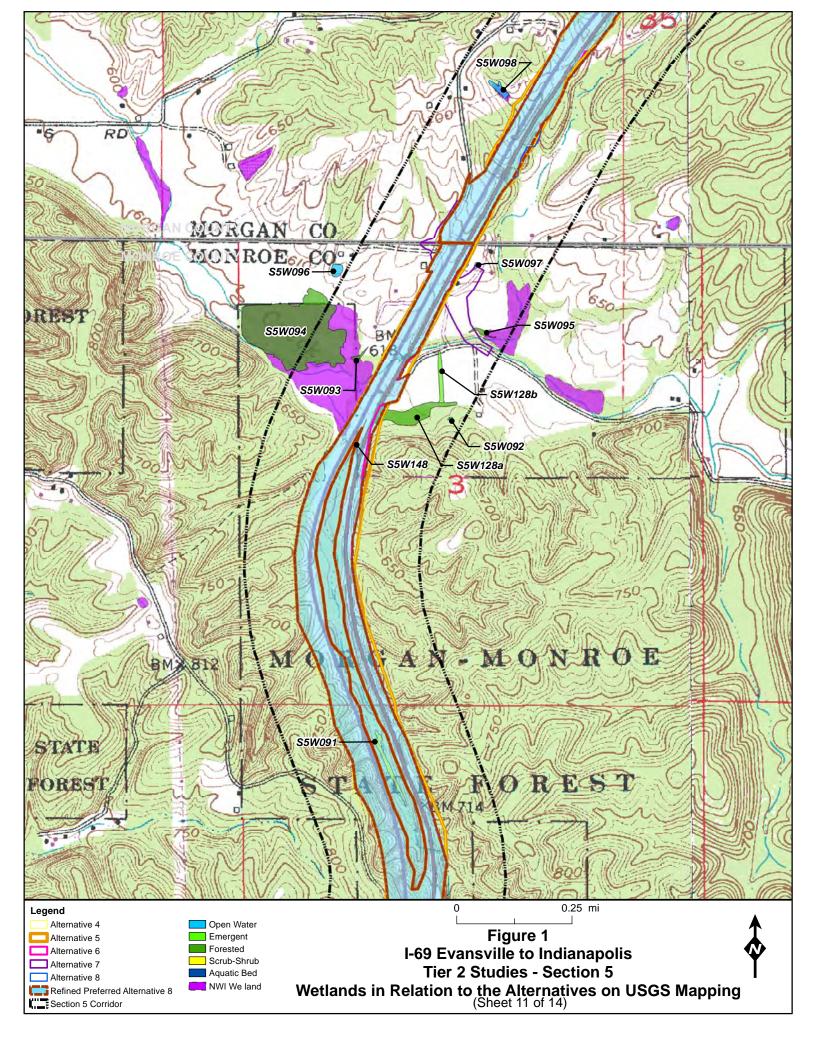


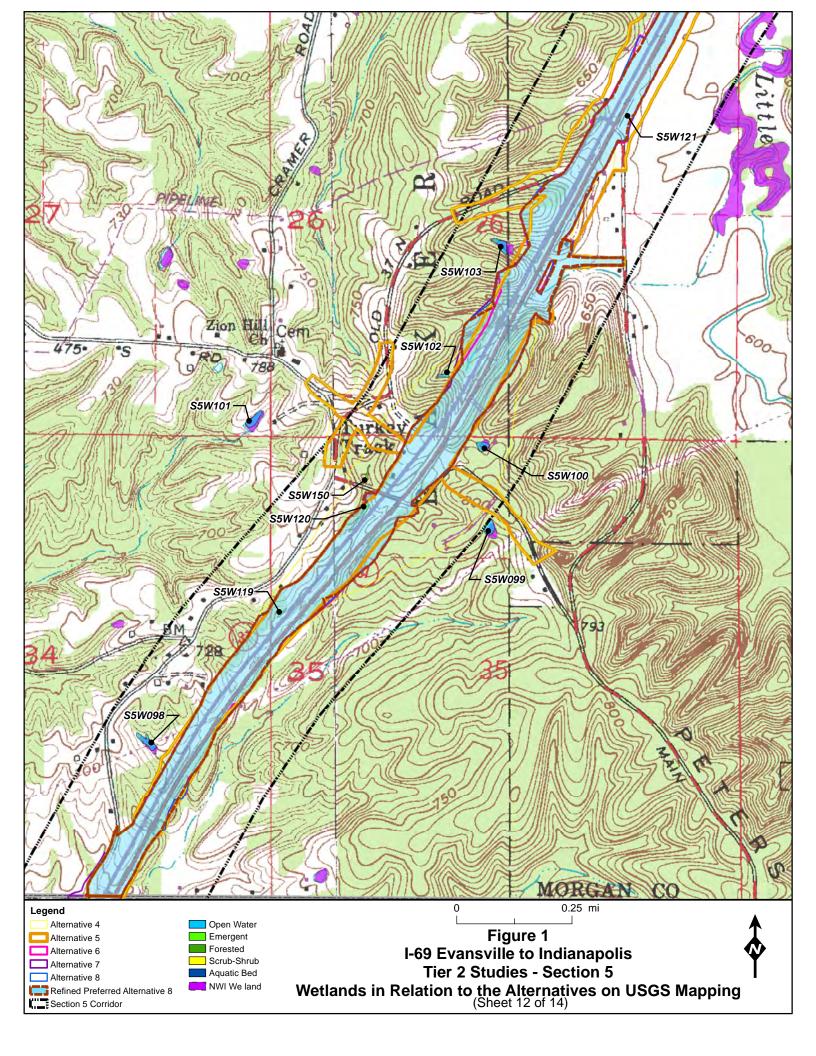


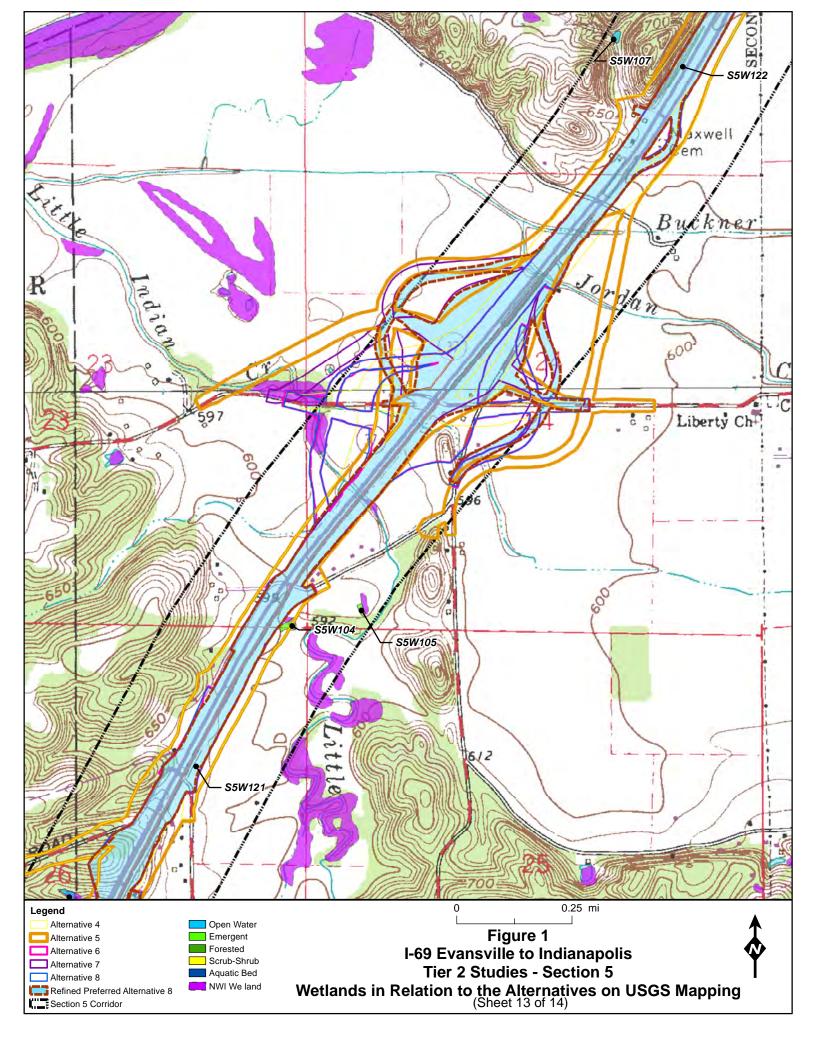


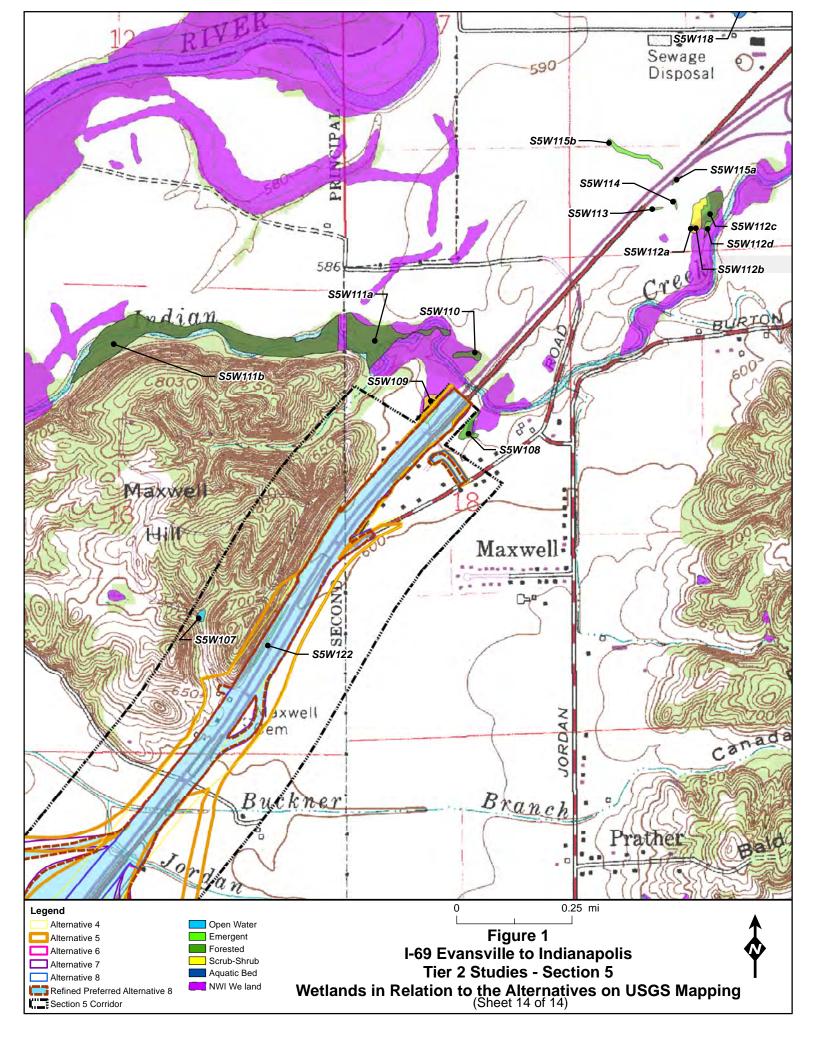


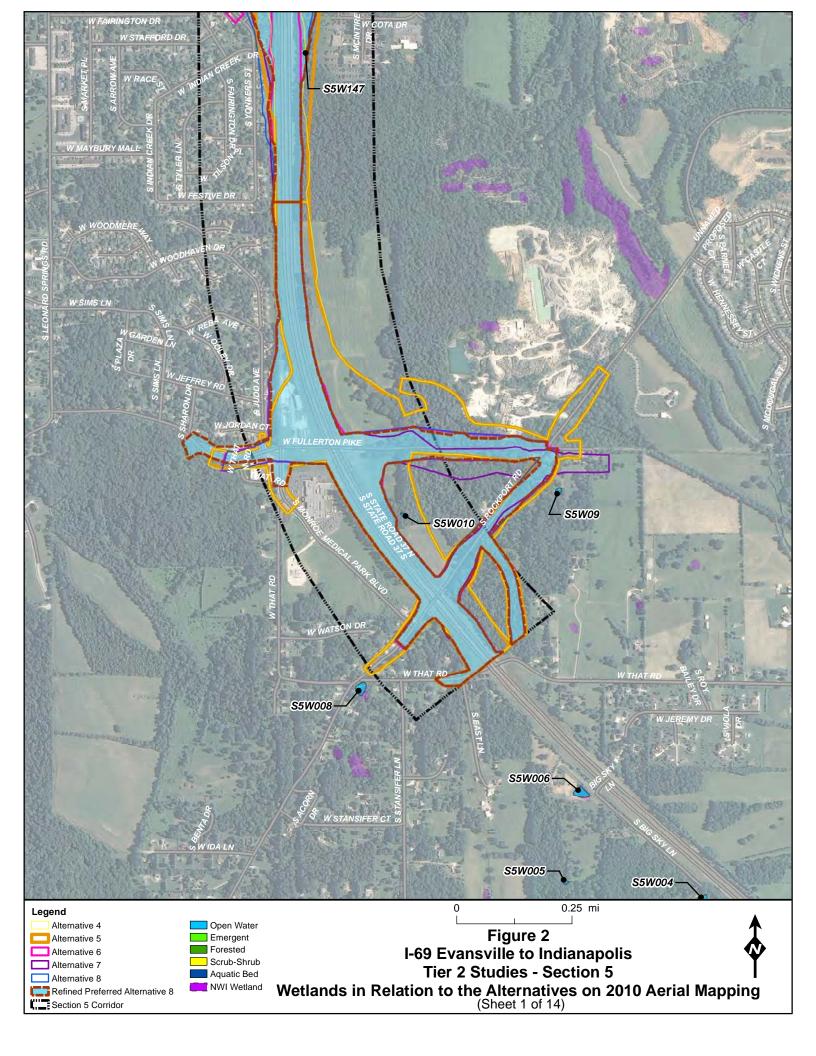


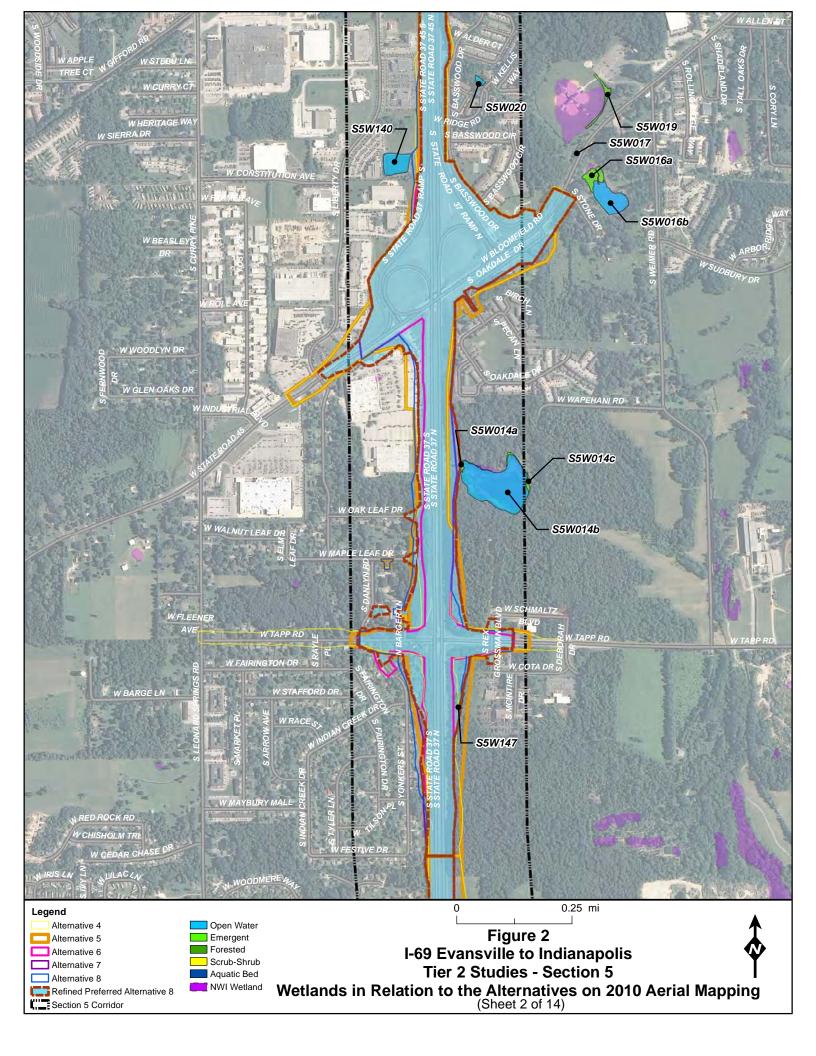


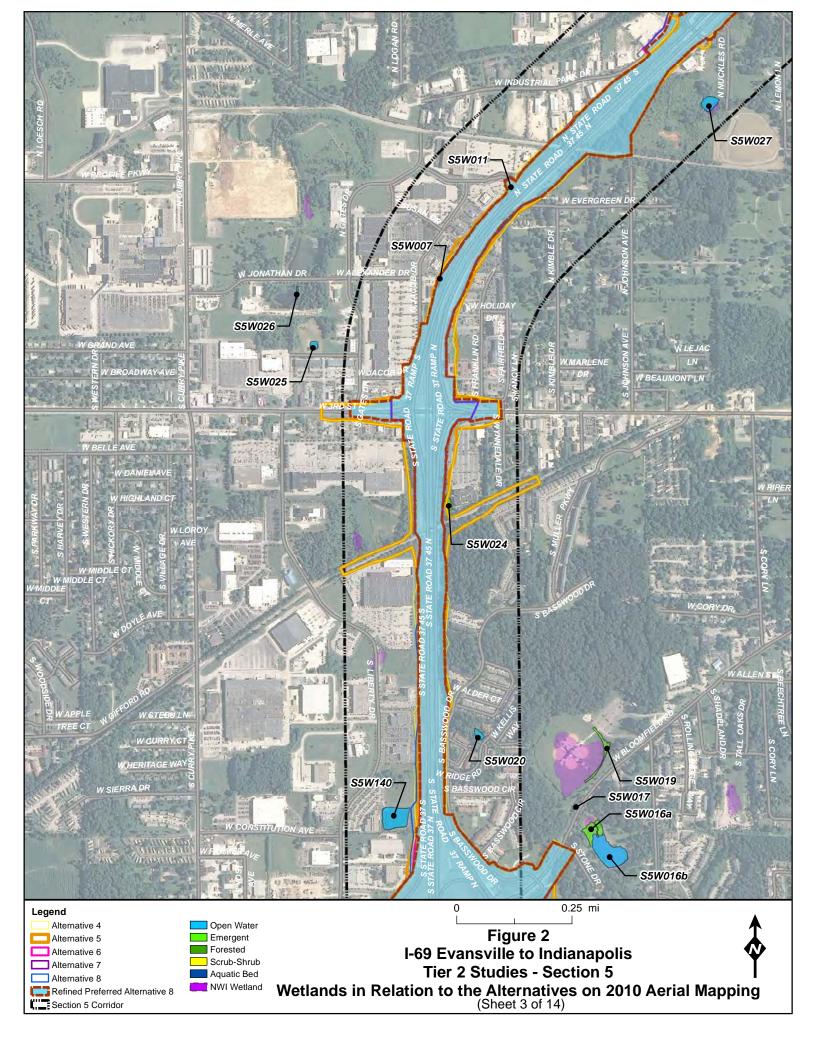


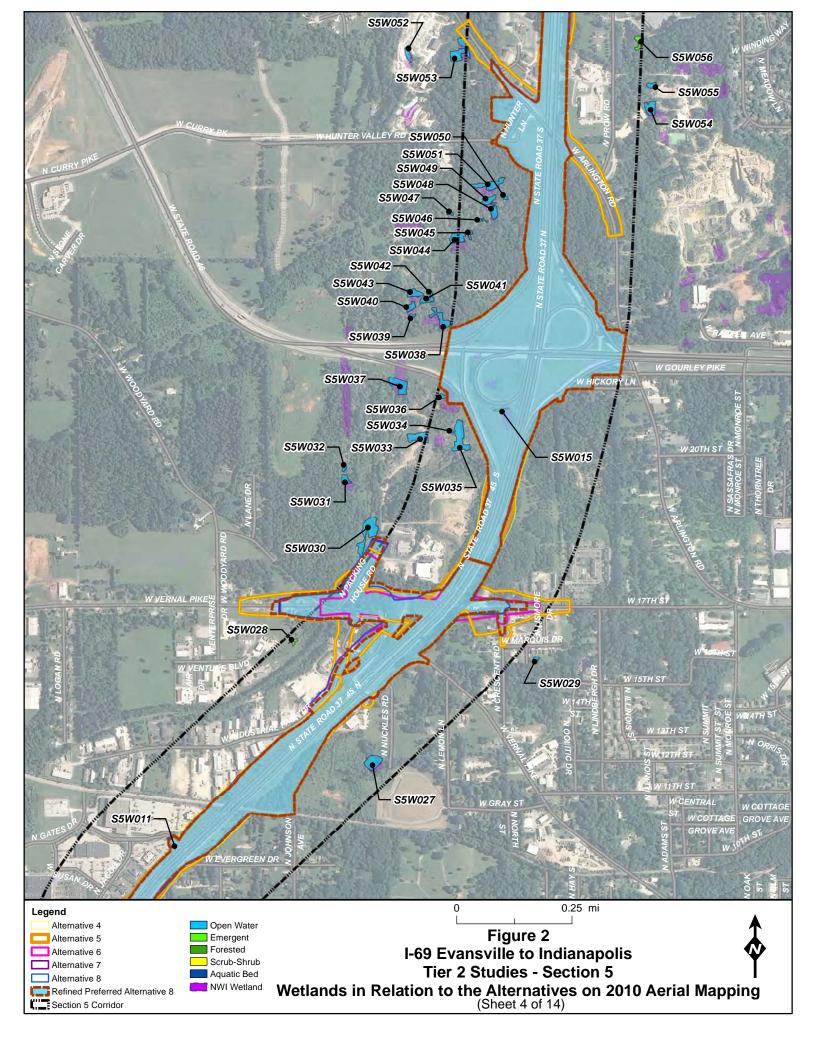


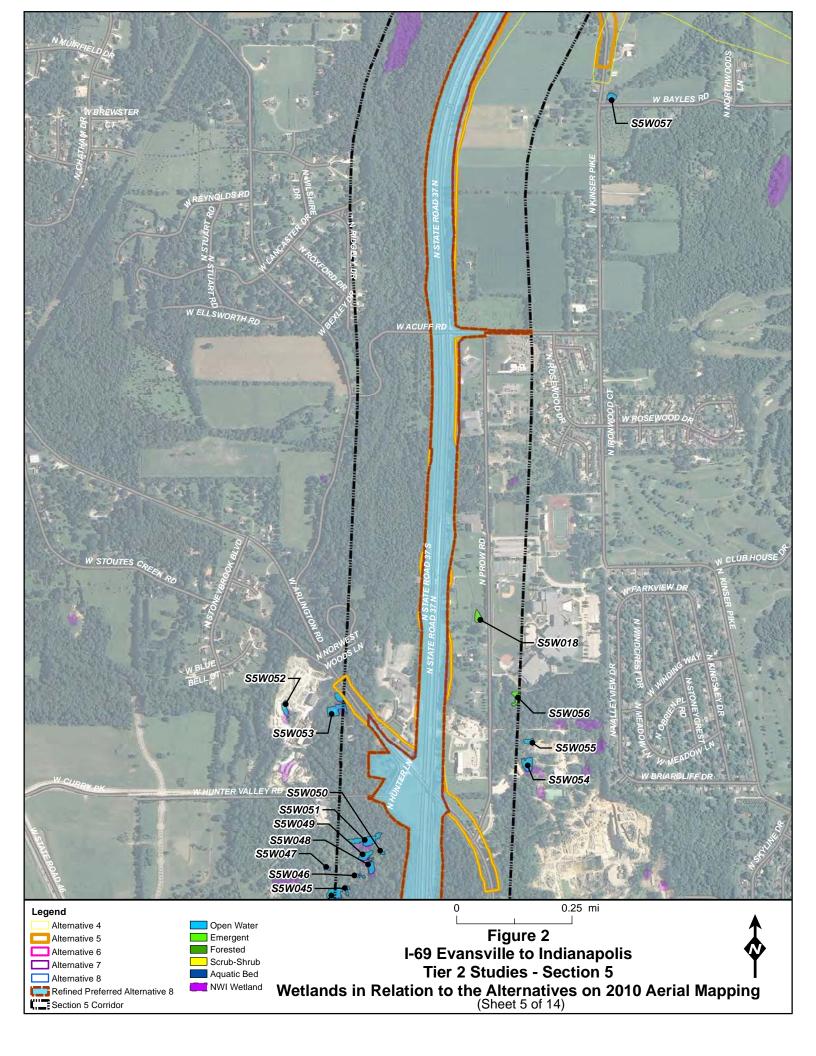


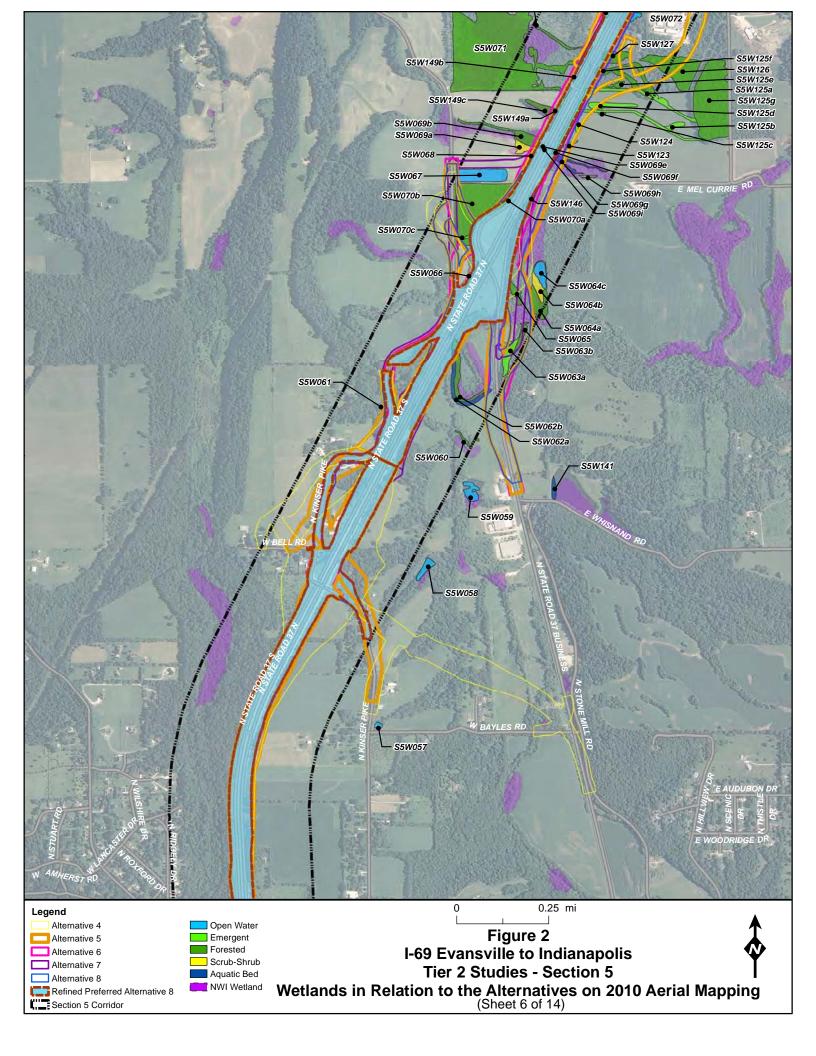


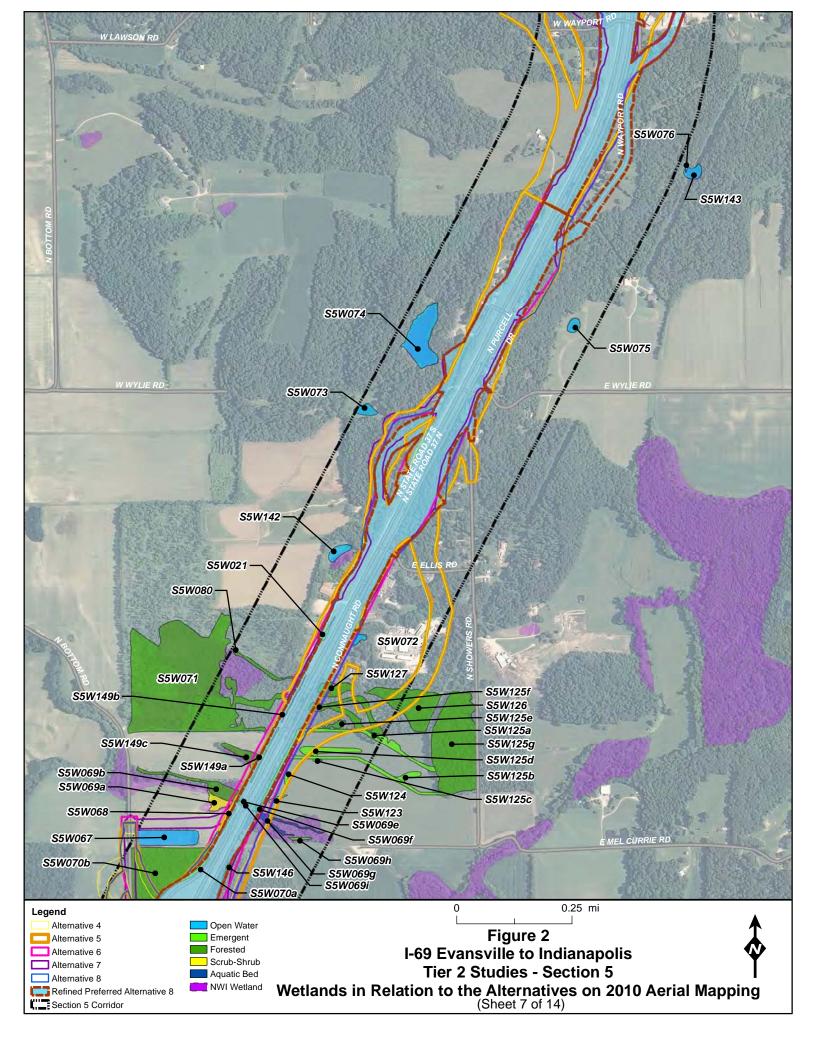


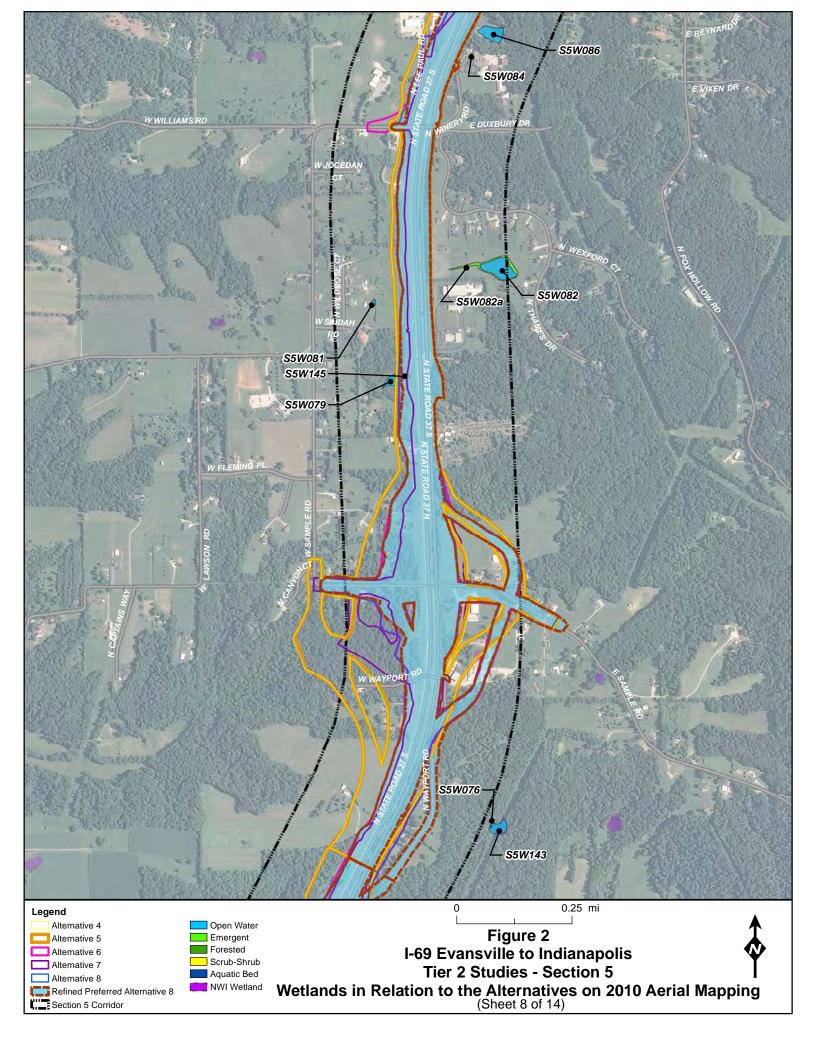


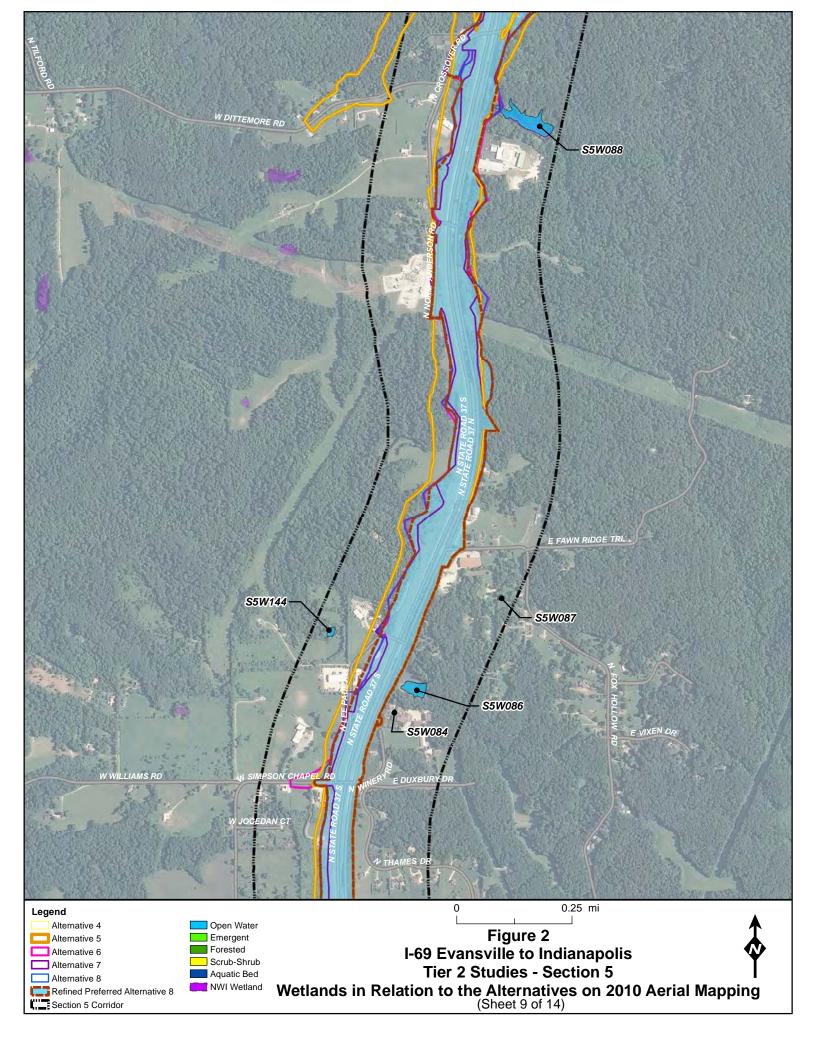


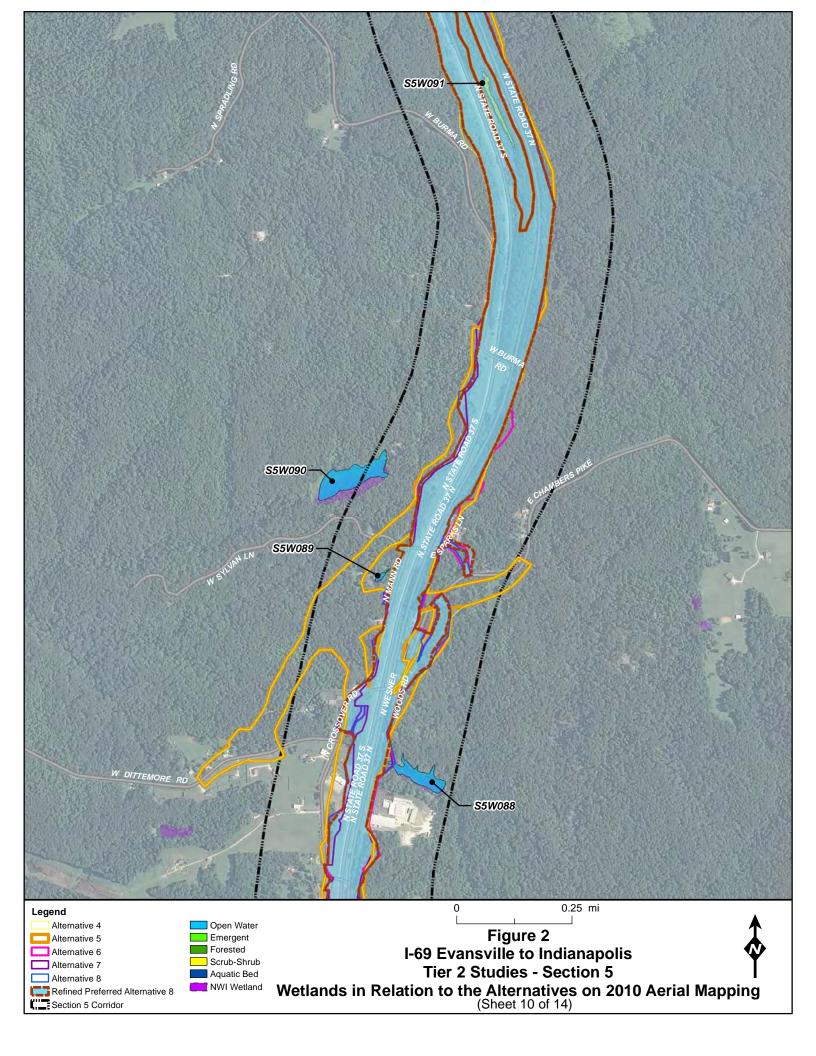


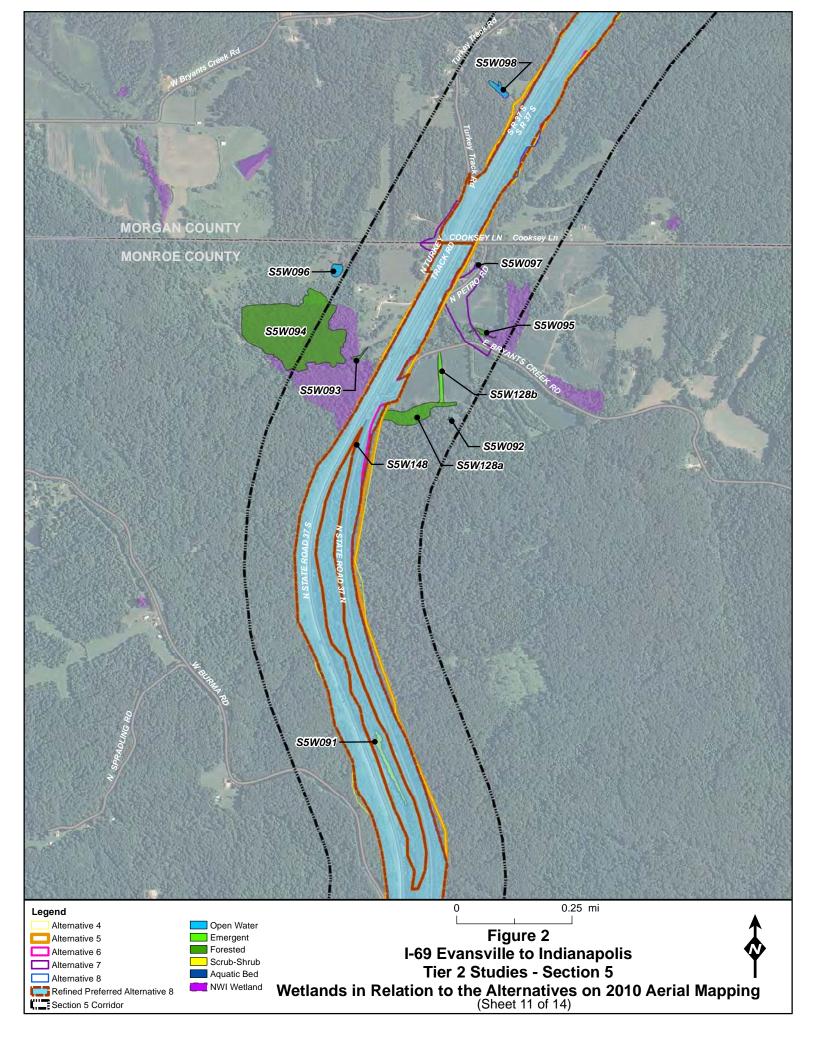


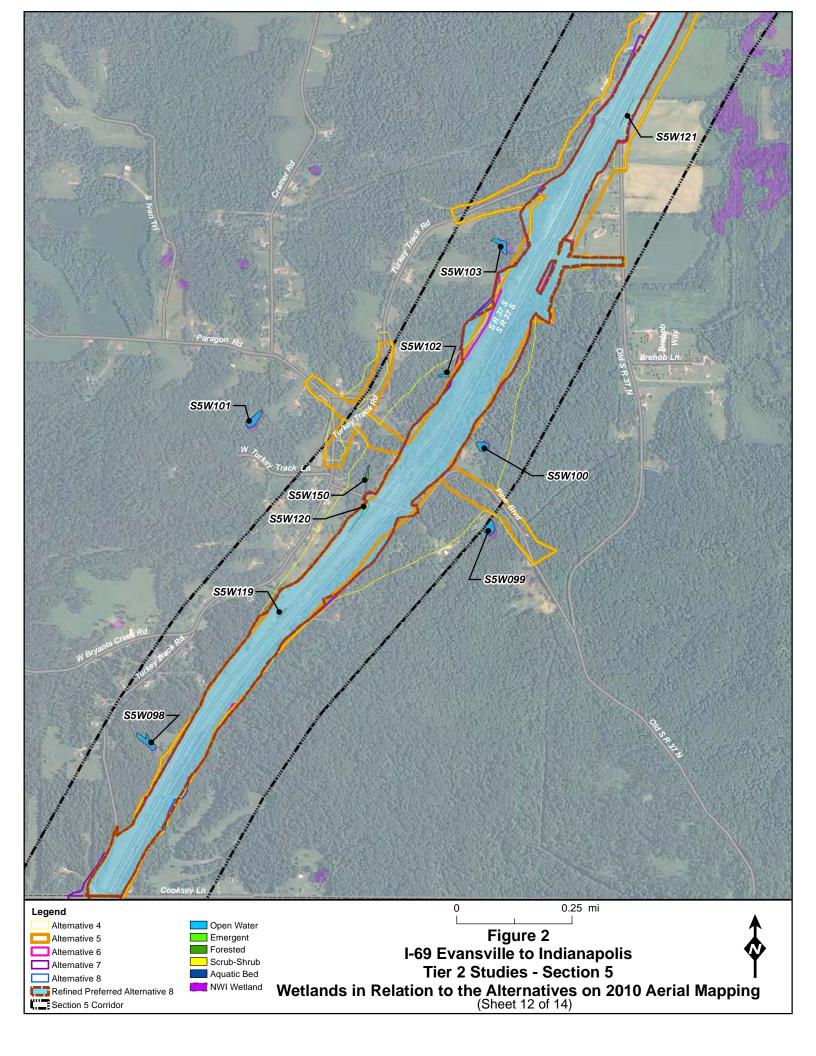


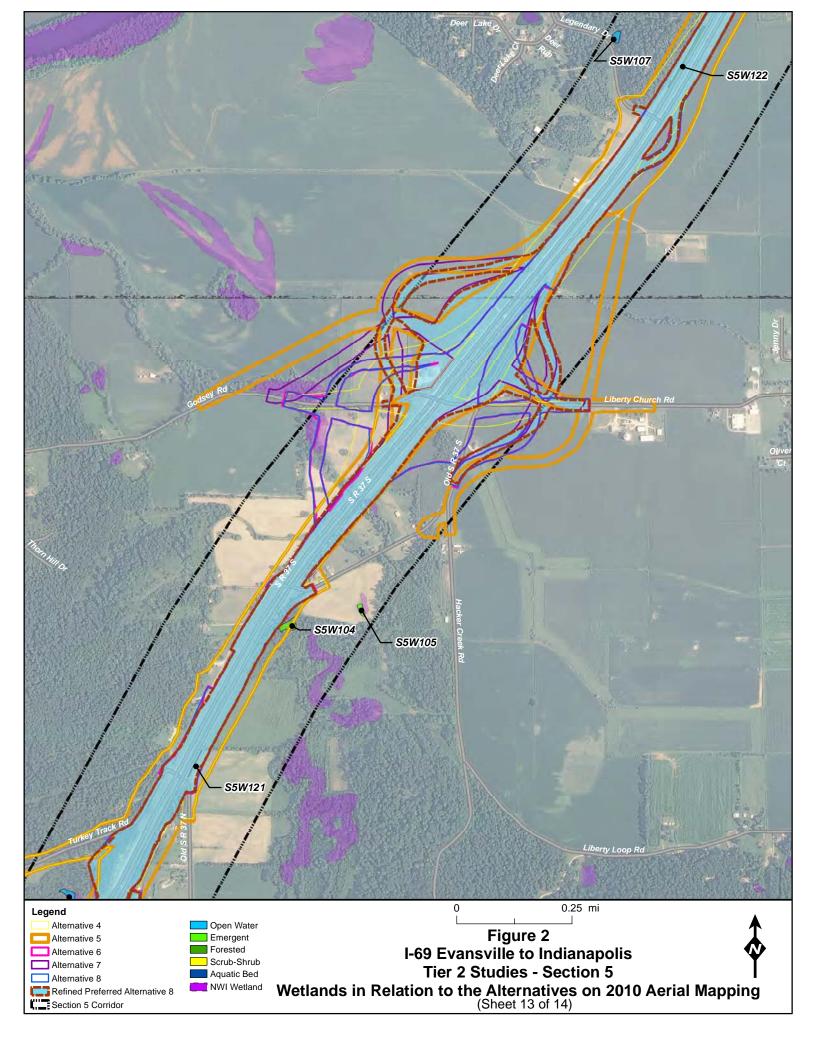


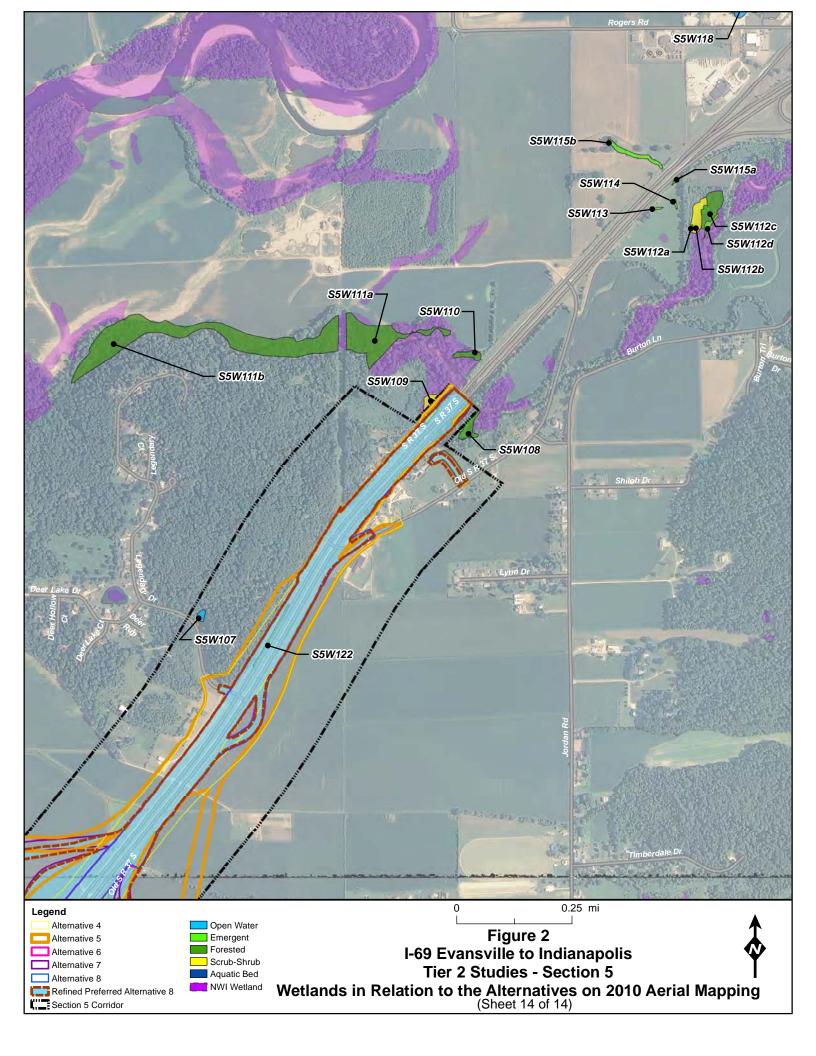


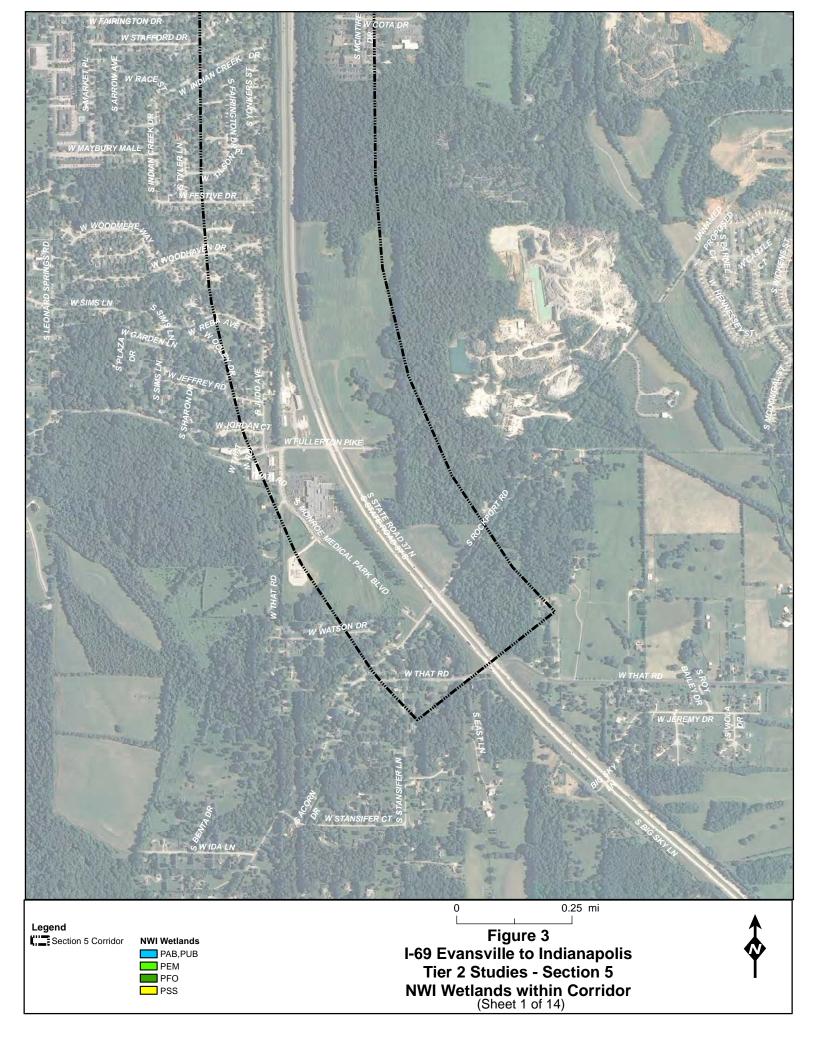


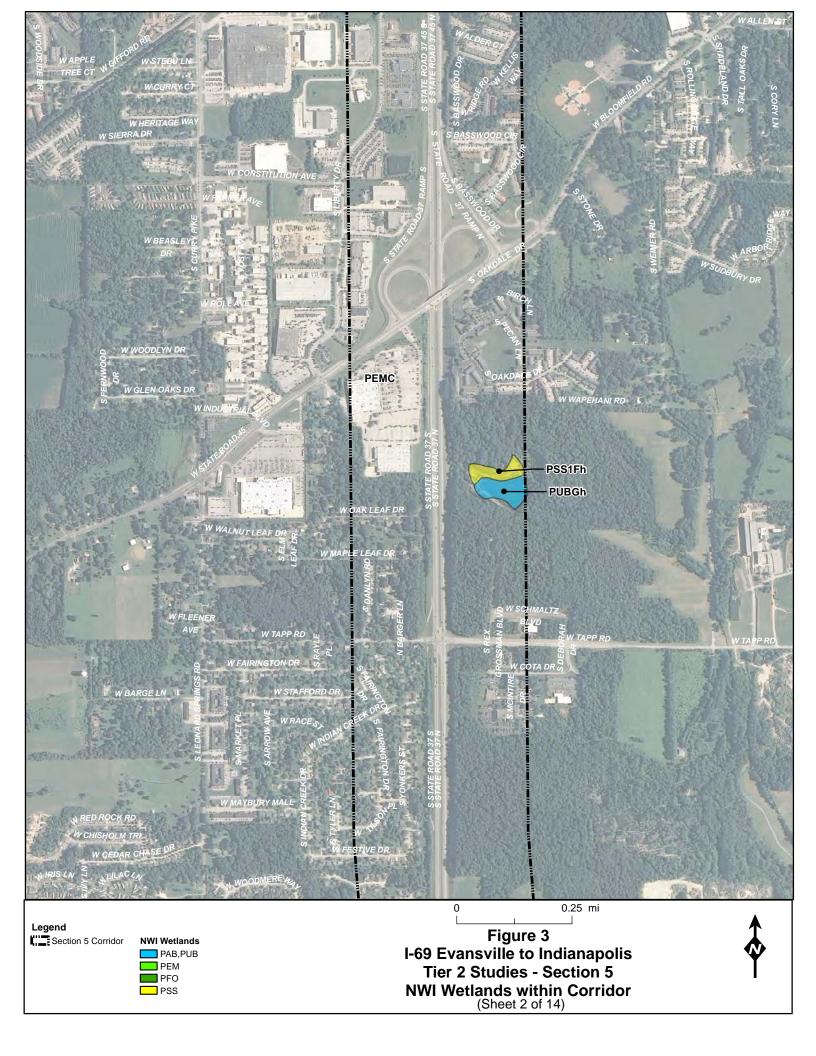


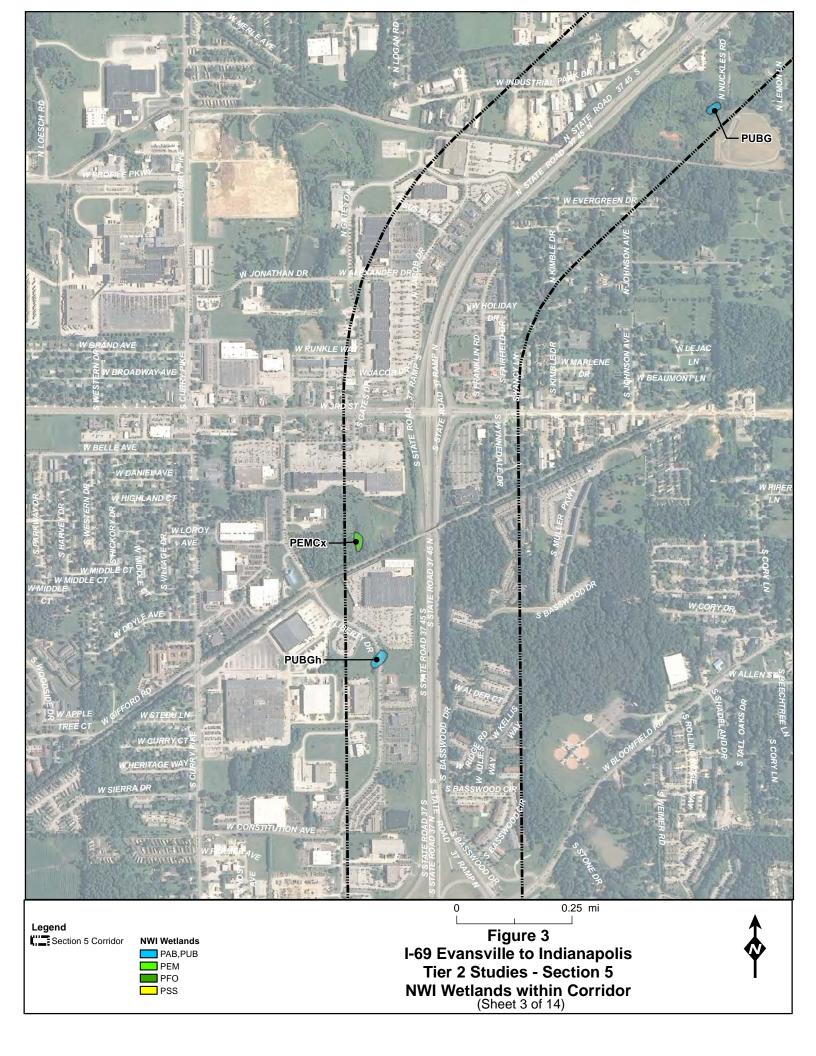


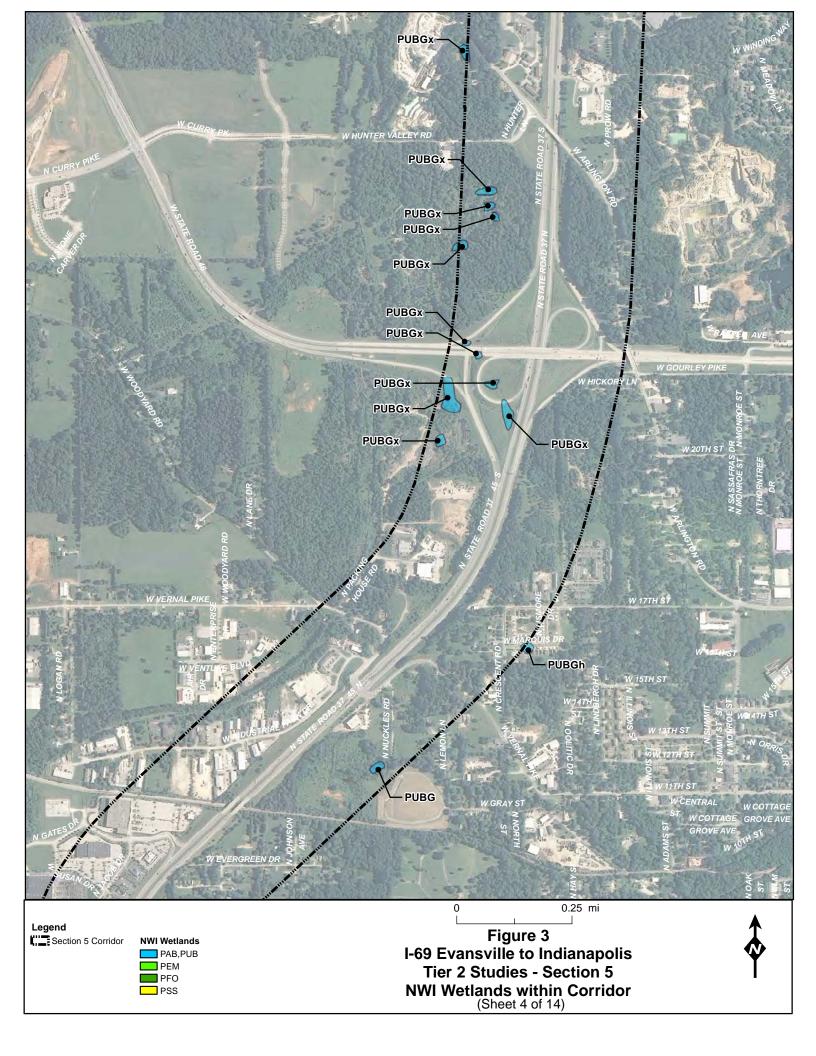


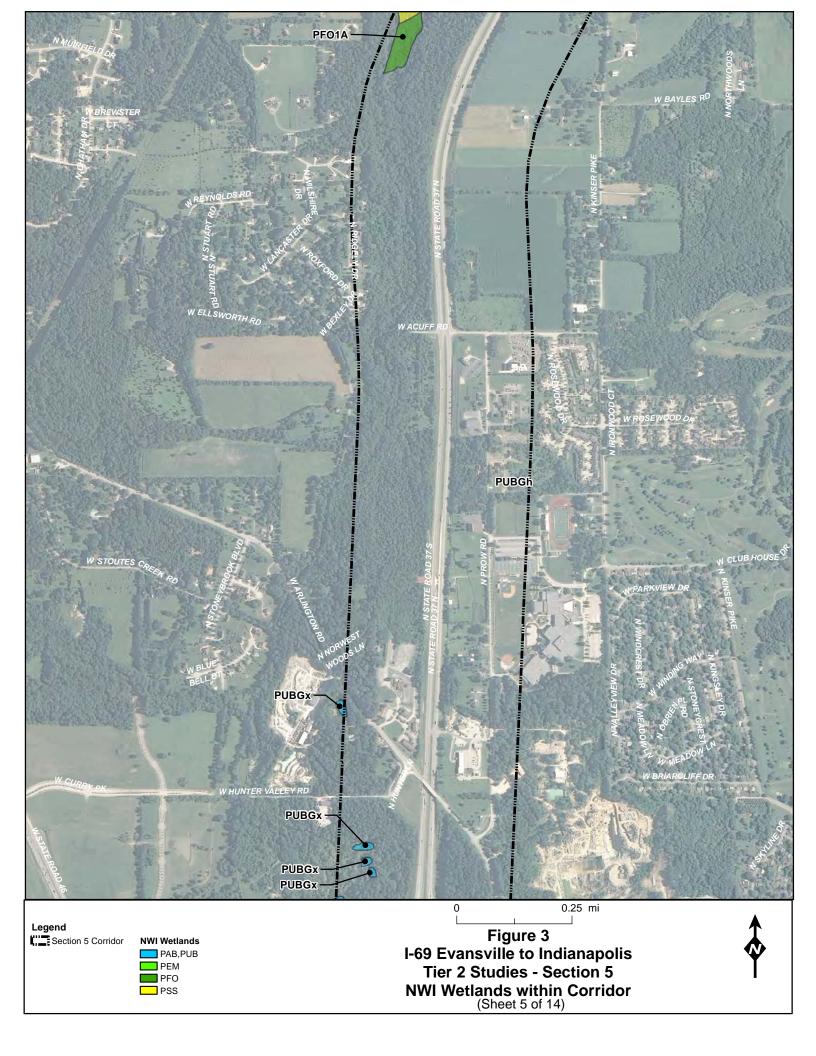


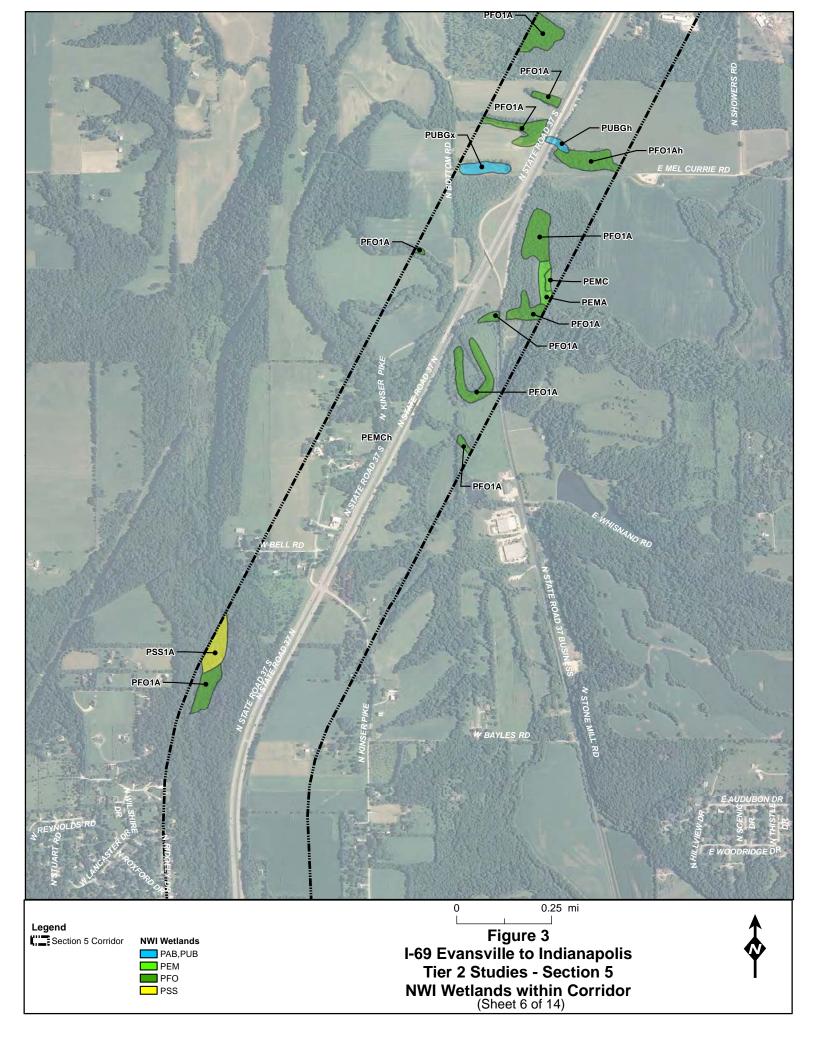


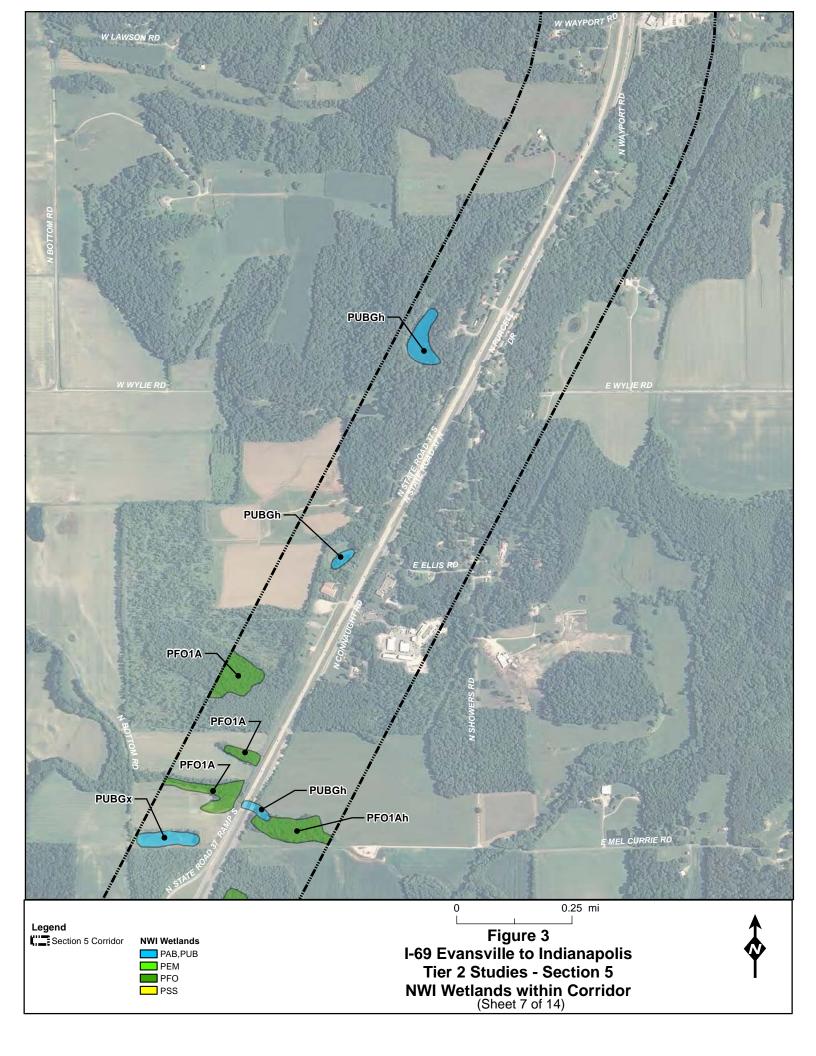


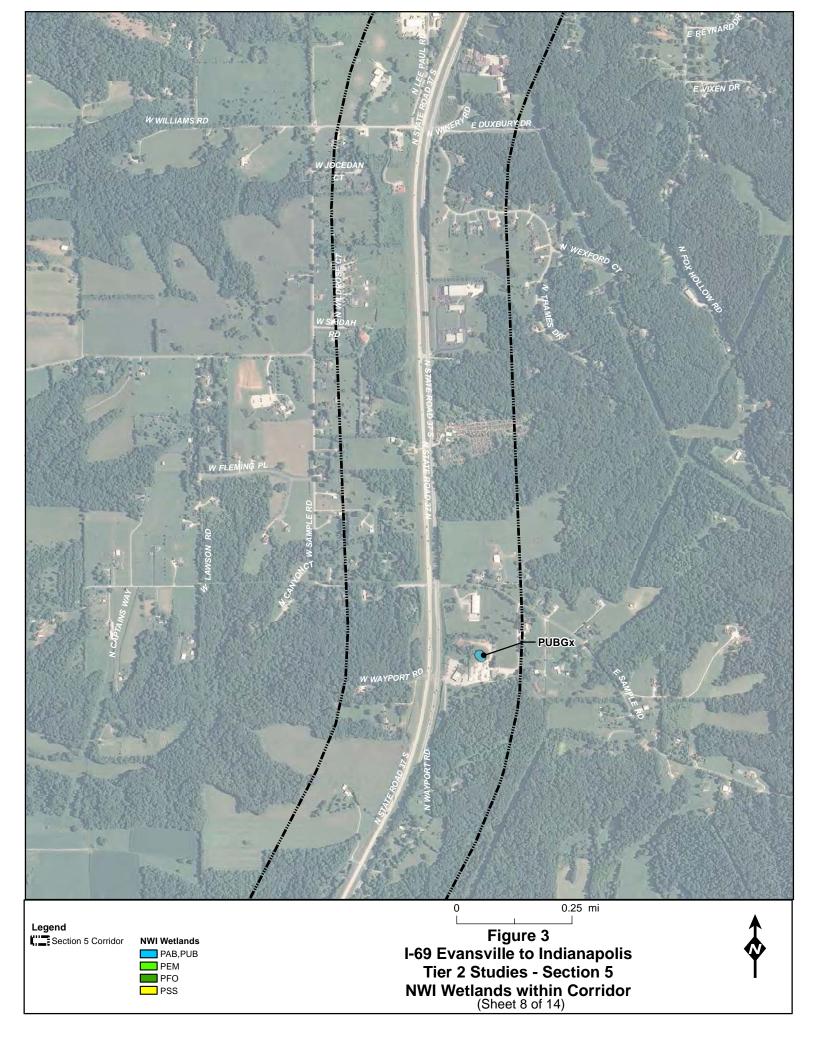


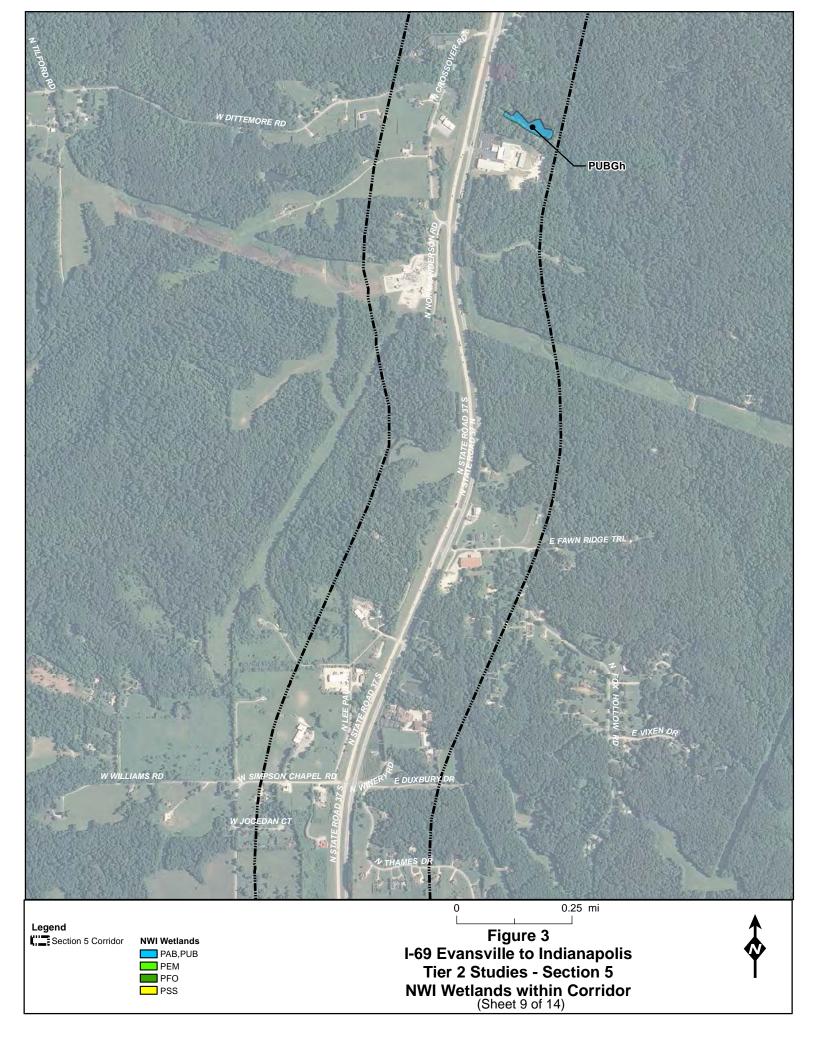


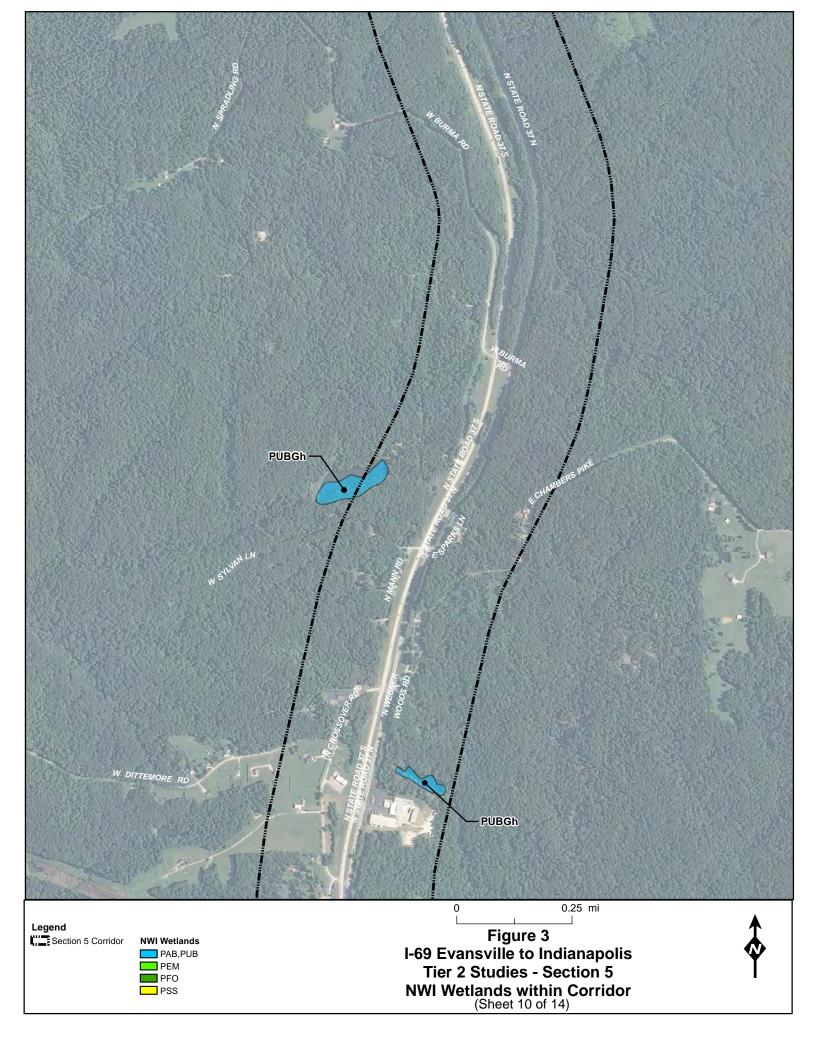


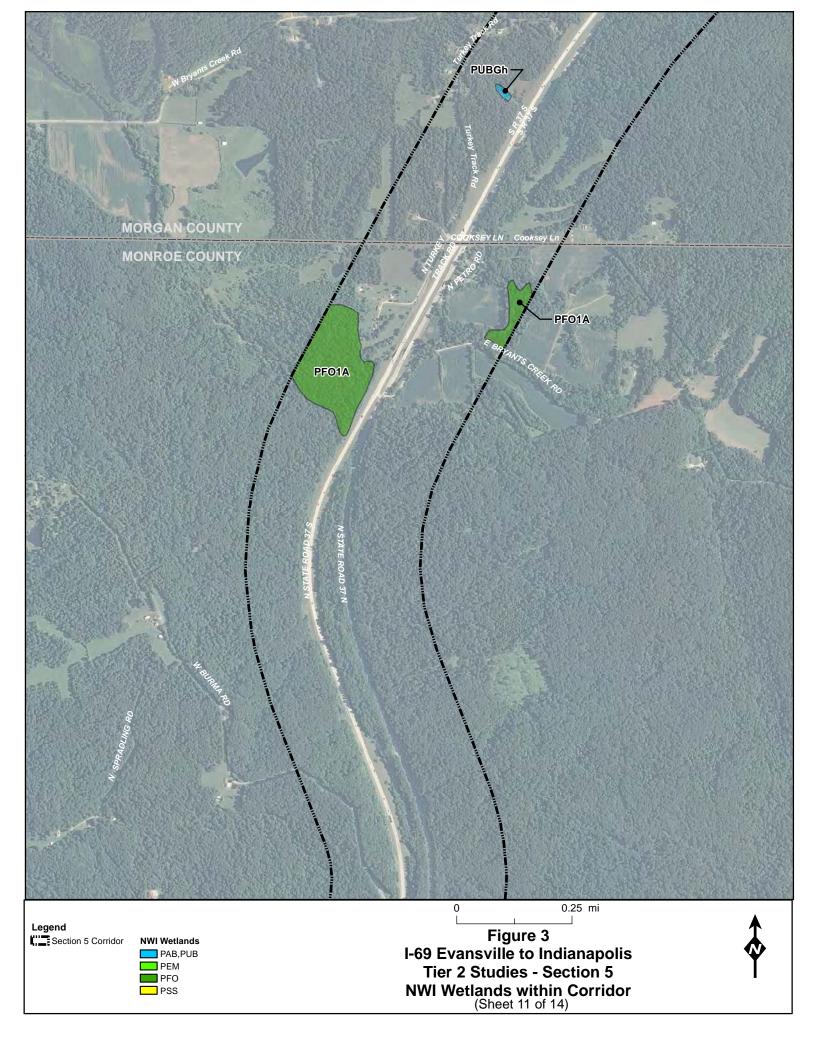


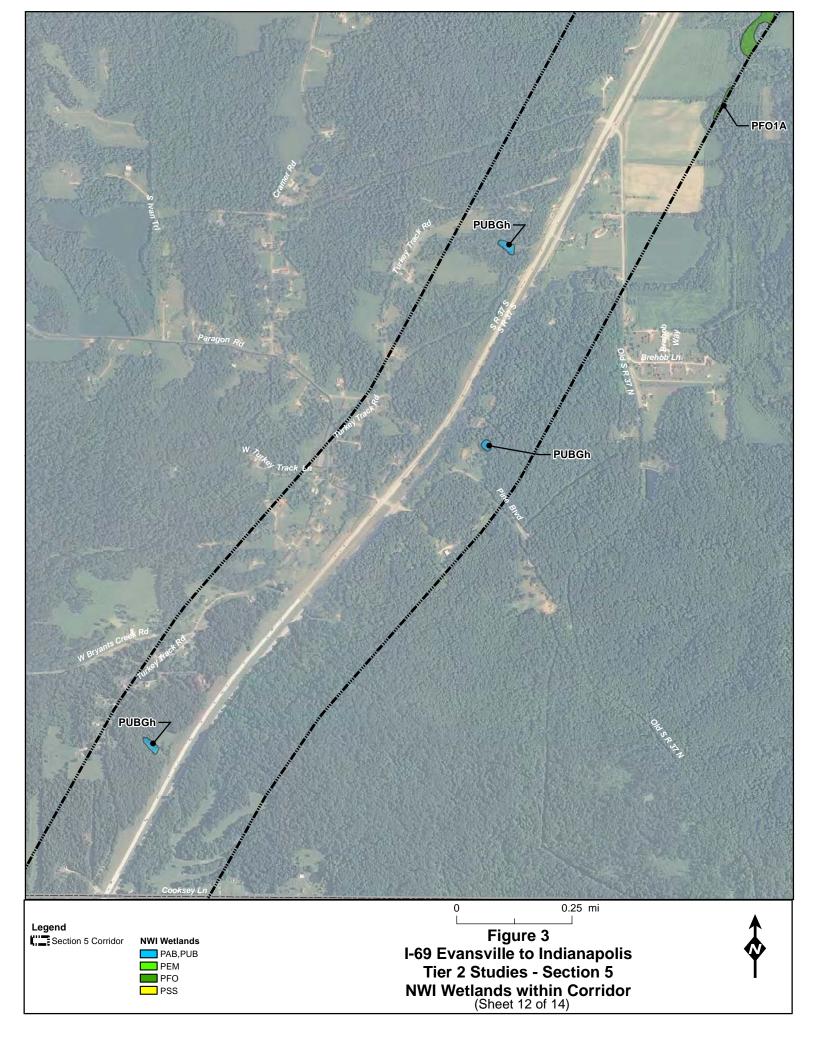


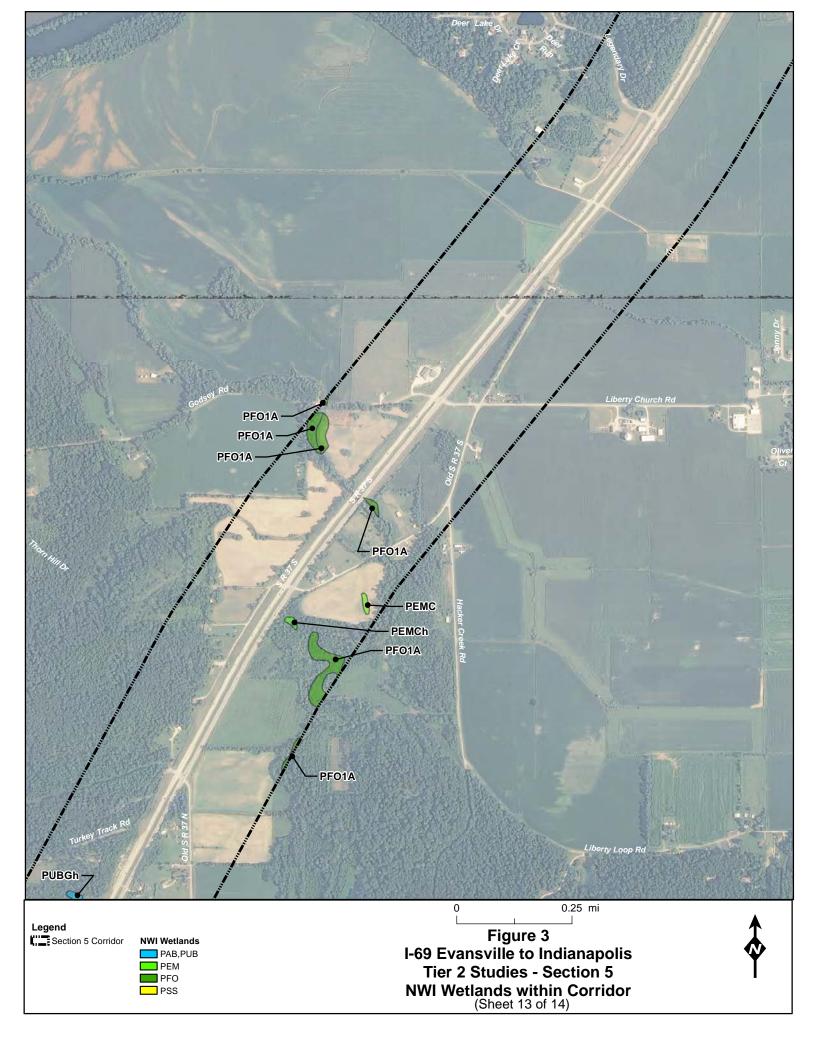


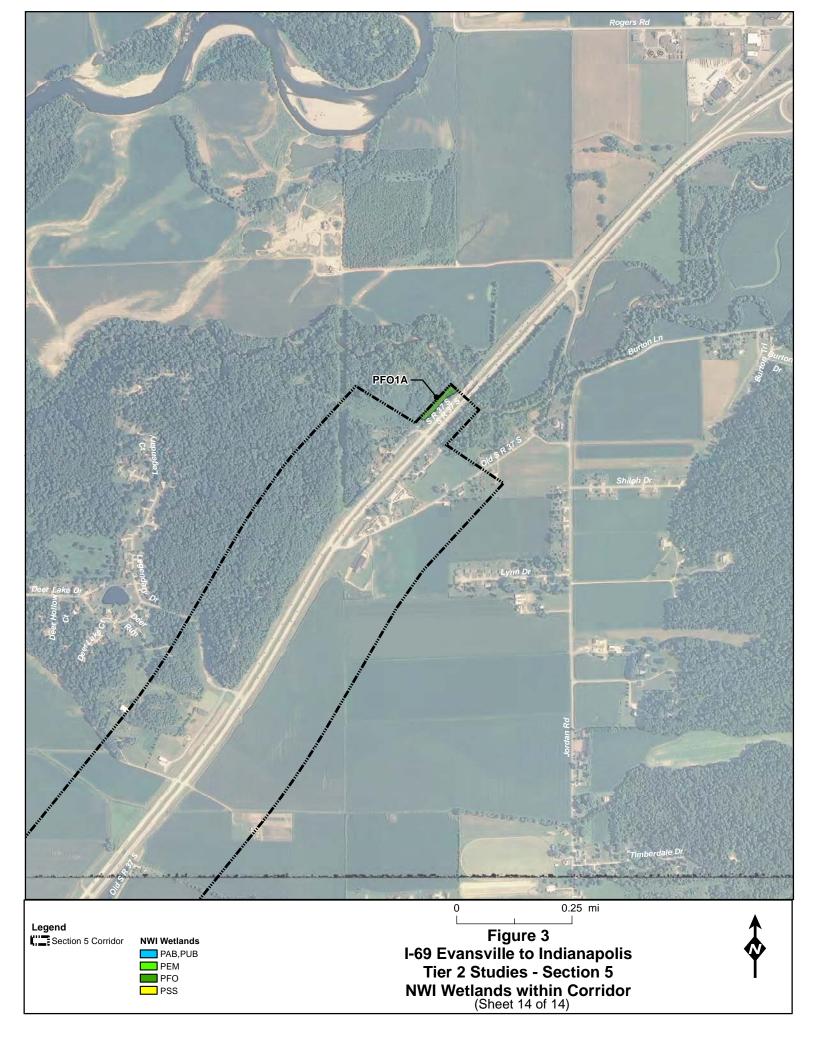










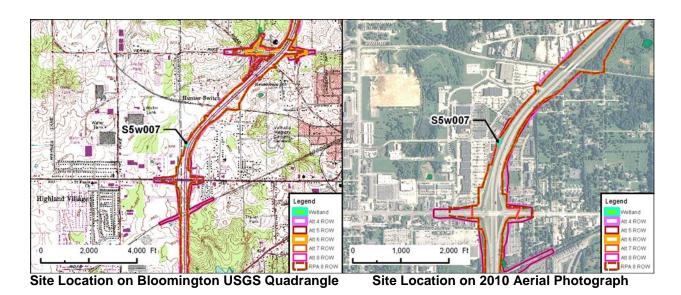


#### Section 5—Final Envir onmental Impact Statement

# APPENDIX F FI | AL WETLAND TECH NICAL REPORT

#### TE CHNICAL REPORT APPENDICES

| APP INDIX A | Wetland Site Forms  |
|-------------|---|
| APP :NDIX B | I-69 Wetland Quality<br>Assessment Profile<br>Sheets                                |
| APP :NDIX C | Wetland Matrix for I-69<br>Alternatives Carried<br>Forward for Detailed<br>Analysis |
| APP INDIX D | InWRAP Data Sheets  |
| APP :NDIX E | Wetland Determination<br>Data Forms   |



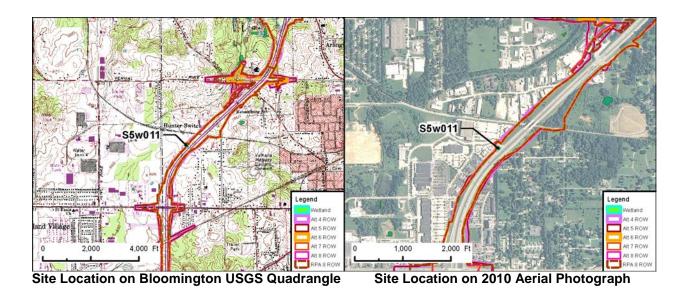
Type: Wet meadow Section: 31 Quarter: SW Township: 9N Range: 1W **USCOE** Jurisdiction: Yes Watershed: Clear Creek/Jackson Creek **IDEM Jurisdiction:** Yes

| Wetland S5W007 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                | Wet Meadow      | 0.00 acre        | 4           | Poor                         | Poor                 | Fair                 |  |  |
|                |                 | 0.03 acre        | 5           |                              |                      |                      |  |  |
| 7              |                 | 0.00 acre        | 6           |                              |                      |                      |  |  |
| ,              |                 | 0.00 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a wet meadow wetland, 0.03 acres in size. Alternatives 4, 6, 7, 8 and RPA 8 would avoid this wetland. Alternative 5 would impact 0.03 acres of this wetland. The area showed 75-100% vegetative cover. Cattail dominates the herbaceous species. Hydrology is likely due to roadway runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to its hydrologic connectivity to a tributary of Clear Creek.



Photograph of Emergent Polygon 7



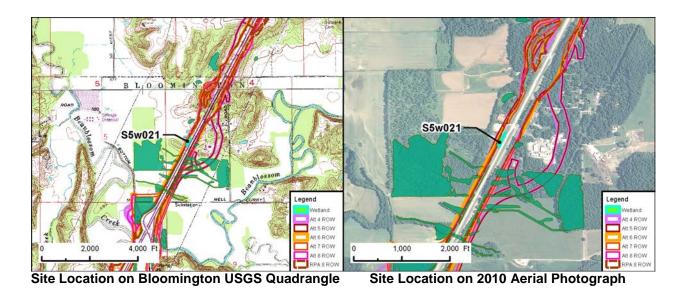
Type: Wet Meadow Section: 31 Quarter: SW Township: 9N Range: 1W **USCOE** Jurisdiction: No Bean Blossom Creek/Stout Creek Watershed: **IDEM Jurisdiction:** Yes

| Wetland S5W011 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                | Wet Meadow      | 0.01 acre        | 4           | Poor                         | Poor                 | Fair                 |  |  |
|                |                 | 0.01 acre        | 5           |                              |                      |                      |  |  |
| 11             |                 | 0.01 acre        | 6           |                              |                      |                      |  |  |
| 11             |                 | 0.01 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.01 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.01 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a wet meadow wetland, 0.01 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact the entire 0.01 acre of this depressional wetland. The area showed 75-100% vegetative cover. Cattail and reed canary grass dominate the herbaceous species. Hydrology is likely due to roadway runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland is apparently isolated. This wetland therefore falls solely under the jurisdiction of IDEM.



Photograph of Emergent Polygon 11



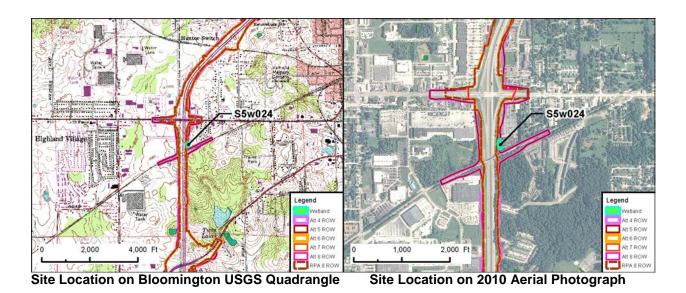
Type:Seasonally Flooded BasinSection:4Quarter:SWTownship:9NRange:1WUSCOE Jurisdiction:YesWatershed:Beanblossom Creek/Stout CreekIDEM Jurisdiction:Yes

Wetland S5W021 Polygon Wetland **Alternative** Animal Hydrology Area **Botanical** ID Type **Impacted** Habitat Measure Measure Measure 0.13 acre 4 0.13 acre 5 0.13 acre Seasonally 6 21 Poor Poor Fair Flooded Basin 0.13 acre 7 0.13 acre 8 0.13 acre RPA 8

**Description of Potential Impact:** This site is classified as a seasonally flooded basin, 0.13 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact the entire 0.013 acre of this depressional wetland. The area showed 75-100% vegetative cover. Cattail and reed canary grass dominate the herbaceous species. Hydrology is likely due to roadway runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Emergent Polygon 21



Type: Shallow Marsh Quarter: NW Range: 1W

Watershed: Clear Creek-Jackson Creek

w Marsh
Section: 6
Township: 8N
USCOE Jurisdiction: Yes
Creek-Jackson Creek
IDEM Jurisdiction: Yes

| Wetland S        | Wetland S5W024   |                  |             |                              |                      |                      |  |  |
|------------------|------------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID    | Wetland<br>Type  | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                  |                  | 0.01 acre        | 4           |                              |                      |                      |  |  |
|                  |                  | 0.01 acre        | 5           |                              |                      |                      |  |  |
| 24a              | Shrub-Carr       | 0.00 acre        | 6           | Poor                         | Poor                 | Fair                 |  |  |
| 2 <del>4</del> a | Siliub-Cali      | 0.00 acre        | 7           | F 001                        | Poor                 |                      |  |  |
|                  |                  | 0.00 acre        | 8           |                              |                      |                      |  |  |
|                  |                  | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |
|                  |                  | 0.02 acre        | 4           |                              | Poor                 | Fair                 |  |  |
|                  | Shallow<br>Marsh | 0.02 acre        | 5           | Poor                         |                      |                      |  |  |
| 24b              |                  | 0.00 acre        | 6           |                              |                      |                      |  |  |
| 240              | IVIAI SI I       | 0.00 acre        | 7           | F 001                        |                      |                      |  |  |
|                  |                  | 0.00 acre        | 8           |                              |                      |                      |  |  |
|                  |                  | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |
|                  |                  | 0.00 acre        | 4           |                              |                      |                      |  |  |
|                  |                  | 0.00 acre        | 5           |                              | Poor                 |                      |  |  |
| 24c              | Shrub-Carr       | 0.00 acre        | 6           | Poor                         |                      | Fair                 |  |  |
| 240              | Snrub-Carr       | 0.00 acre        | 7           | Poor                         |                      | Fair                 |  |  |
|                  |                  | 0.00 acre        | 8           |                              |                      |                      |  |  |
|                  |                  | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This wetland complex consists of three wetland polygons totaling 0.24 acres. Polygon 24a is classified as a shrub-carr wetland, 0.02 acres in size. Polygon 24b is classified as a shallow marsh, 0.14 acre in size. Polygon 24c is classified as a shrub-carr wetland 0.08 acre in size. Alternatives 4 and 5 impact approximately 0.01 acre of Polygon 24a and 0.02 acre of Polygon 24b. Alternatives 6, 7, 8 and RPA 8 would not impact any of the wetland polygons for this complex. The area showed 75-100% vegetative cover. Black willow and silky dogwood dominate the shrub-carr polygons 24a and 24c. Cattails dominate the herbaceous species in polygon 24b. Hydrology is likely due to its depressional nature, frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, for each of the polygons in the complex based on InWRAP summaries for the site. This wetland complex falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Clear Creek.



Photograph of Shrub-Carr Polygon 24a



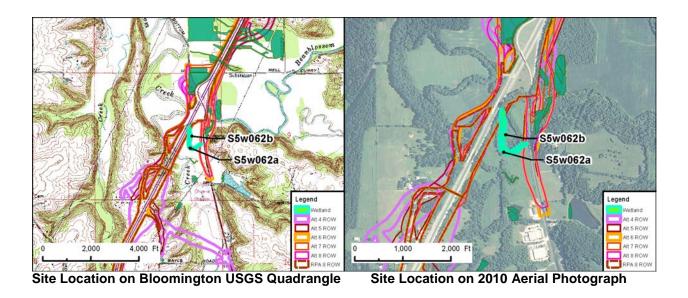
Photograph of Emergent Polygon 24b



Photograph of Shrub-carr Polygon 24c



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Type:Deep Marsh/Floodplain ForestSection:8Quarter:SETownship:9NRange:1WUSCOE Jurisdiction:YesWatershed:Beanblossom /Buck Creek/Muddy ForkIDEM Jurisdiction:Yes

| Wetland S     | Wetland S5W062  |                  |             |                              |                      |                      |  |  |  |
|---------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|--|
| Polygon<br>ID | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |  |
|               |                 | 0.03 acre        | 4           |                              | Fair                 |                      |  |  |  |
|               |                 | 0.20 acre        | 5           |                              |                      | Fair                 |  |  |  |
| 600           | Deep Marsh      | 0.06 acre        | 6           | Fair                         |                      |                      |  |  |  |
| 62a           |                 | 0.00 acre        | 7           |                              |                      |                      |  |  |  |
|               |                 | 0.08 acre        | 8           |                              |                      |                      |  |  |  |
|               |                 | 0.02 acre        | RPA 8       |                              |                      |                      |  |  |  |
|               |                 | 0.19 acre        | 4           |                              |                      | Good                 |  |  |  |
|               |                 | 0.33 acre        | 5           |                              | Poor                 |                      |  |  |  |
| COL           | Floodplain      | 0.13 acre        | 6           | Fair                         |                      |                      |  |  |  |
| 62b           | Forest          | 0.11 acre        | 7           | raii<br>-                    |                      |                      |  |  |  |
|               |                 | 0.19 acre        | 8           |                              |                      |                      |  |  |  |
|               |                 | 0.13 acre        | RPA 8       |                              |                      |                      |  |  |  |

**Description of Potential Impact:** This wetland complex consists of two wetland polygons totaling 3.25 acres. Polygon 62a is classified as a deep marsh, 1.47 acres in size. Polygon 62b is classified as a floodplain forest, 1.78 acres in size. Alternatives 4, 5, 6, 8 and RPA 8 would impact between 0.02 and 0.20 acres of the deep marsh polygon of this floodplain wetland complex. Alternative 7 would avoid impacts to the deep marsh polygon of this complex. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts

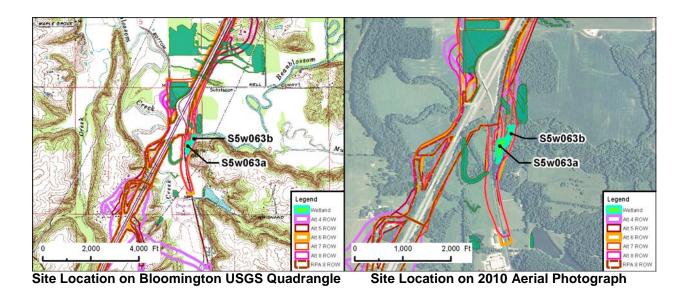
would range from 0.11 acre to 0.33 acre of the floodplain forest polygon. Polygon 62a showed less than 25% herbaceous cover. Duckweed and moneywort dominate the deep marsh polygon herbaceous species. Polygon 62b showed between 75-100% herbaceous cover. Moneywort and Canadian woodnettle dominate the floodplain forest polygon herbaceous species. Box elder and American elm are the dominant shrub species in polygon 62b, with green ash and silver maple dominating the tree species within this polygon. Hydrology is likely due to Beanblossom Creek flooding, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are ranked as fair, fair and fair, respectively, based on InWRAP summaries for the deep marsh polygon and fair, poor and good for the floodplain forest polygon within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Aquatic Bed Polygon 62a



Photograph of Forested Polygon 62b



Type: Sedge Meadow/Floodplain Forest Section: 8
Quarter: NE Township: 9N
Range: 1W USCOE Jurisdiction: Yes
Watershed: Beanblossom/Buck Creek/Muddy Fork IDEM Jurisdiction: Yes

| Wetland S     | Wetland S5W063       |                  |             |                              |                      |                      |  |  |
|---------------|----------------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID | Wetland<br>Type      | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|               |                      | 0.00 acre        | 4           |                              |                      |                      |  |  |
|               |                      | 1.22 acre        | 5           |                              | Poor                 | Good                 |  |  |
| 63a           | Sedge<br>Meadow      | 1.22 acre        | 6           | Fair                         |                      |                      |  |  |
| osa           |                      | 0.58 acre        | 7           |                              |                      |                      |  |  |
|               |                      | 1.17 acre        | 8           |                              |                      |                      |  |  |
|               |                      | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |
|               |                      | 0.00 acre        | 4           |                              |                      | Good                 |  |  |
|               |                      | 0.60 acre        | 5           |                              | Poor                 |                      |  |  |
| 63b           | Floodplain<br>Forest | 0.60 acre        | 6           | - Fair                       |                      |                      |  |  |
| 030           |                      | 0.18 acre        | 7           |                              |                      |                      |  |  |
|               |                      | 0.60 acre        | 8           |                              |                      |                      |  |  |
|               |                      | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This wetland complex consists of two wetland polygons totaling 2.04 acres. Polygon 63a is classified as a sedge meadow, 1.44 acres in size. Polygon 63b is classified as a floodplain forest, 0.60 acre in size. Alternatives 5, 6, 7 and 8 would impact from 0.58 acre to 1.22 acres of the sedge meadow polygon of this floodplain wetland complex. Alternatives 5, 6, 7, and 8 impacts would range from 0.18 acre to 0.60 acre of the floodplain forest polygon. Alternatives 4 and RPA 8

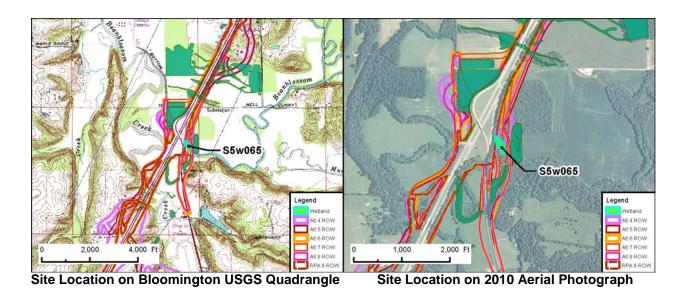
would avoid impacts to both the sedge meadow and floodplain forest polygons of this complex. Polygon 63a showed between 75-100% herbaceous cover. Carex and cattail dominate the sedge meadow polygon herbaceous species. Polygon 63b showed between 50-75% woody plant cover. Green ash and silver maple are the dominant shrub and tree species in polygon 63b. Hydrology is likely due to Beanblossom Creek flooding, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are ranked as fair, poor and good, respectively, based on InWRAP summaries for the sedge meadow polygon, and fair, poor and good for the floodplain forest polygon within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Emergent Polygon 63a



Photograph of Forested Polygon 63b



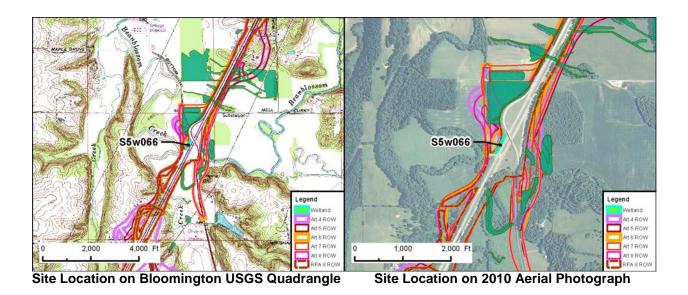
Type:Swamp ForestedSection:8Quarter:NETownship:9NRange:1WUSCOE Jurisdiction:YesWatershed:Beanblossom/Buck Creek/Muddy ForkIDEM Jurisdiction:Yes

| Wetland S5W065 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                | Swamp<br>Forest | 0.36 acre        | 4           | Good                         | Poor                 | Good                 |  |  |
|                |                 | 0.71 acre        | 5           |                              |                      |                      |  |  |
| 65             |                 | 0.71 acre        | 6           |                              |                      |                      |  |  |
| 00             |                 | 0.18 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.71 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a swamp forest, 0.71 acres in size. Alternatives 4, 5, 6, 7, and 8 impacts would range from 0.18 acre to 0.71 acre of this floodplain wetland. RPA 8 would avoid impacting this wetland. The area showed 25-50% herbaceous cover and 50-75% woody plant cover. Sedges dominate the herbaceous species in this wetland and silver maple, spicebush, and black walnut dominate the shrub species in this wetland. Silver maple and sycamore are the dominant tree species in this wetland. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Swamp Forest Polygon 65



Type:Seasonally Flooded BasinSection:8Quarter:NETownship:9NRange:1WUSCOE Jurisdiction:YesWatershed:Beanblossom Creek/Stout CreekIDEM Jurisdiction:Yes

0.12 acre

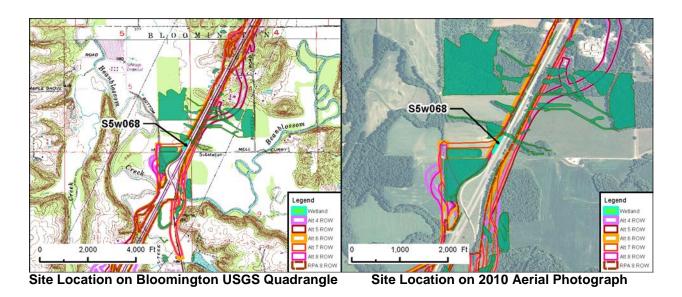
Wetland S5W066 Animal Polygon Wetland Area **Botanical** Hydrology **Alternative** Habitat ID Type **Impacted** Measure Measure Measure 0.15 acre 4 0.15 acre 5 Seasonally 0.12 acre 6 Flooded 66 Fair Poor Good 0.08 acre 7 Basin 0.15 acre 8

RPA8

**Description of Potential Impact:** This site is classified as a seasonally flooded basin, 0.15 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts would range from 0.08 acre to 0.15 acre of this floodplain wetland. The area showed 75-100% herbaceous cover. This wetland is dominated by softstem bullrush. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Emergent Polygon 66



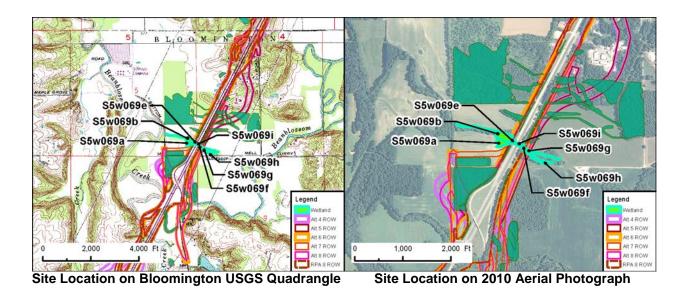
Wet Meadow Section: Type: 5 Quarter: SE Township: 9N Range: 1W **USCOE Jurisdiction:** Yes Watershed: Beanblossom Creek/Stout Creek **IDEM Jurisdiction:** Yes

| Wetland S5W068 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.16 acre        | 4           | -                            |                      |                      |  |  |
|                |                 | 0.16 acre        | 5           |                              |                      |                      |  |  |
| 68             | Wet             | 0.16 acre        | 6           | Poor                         | Poor                 | Good                 |  |  |
| 00             | Meadow          | 0.08 acre        | 7           |                              | F001                 | Good                 |  |  |
|                |                 | 0.01 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.01 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a wet meadow, 0.16 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts would range from 0.01 acre to 0.16 acre of this floodplain wetland. The area showed 50-75% herbaceous cover. Dominant herbaceous species for this wetland include reed canarygrass, broadleaf cattail, common rush, Canada goldenrod, and Pennsylvania smartweed. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Emergent Polygon 68



Type:SFB/FF/SHM/SOW/DMSection:4 & 5Quarter:SW, SETownship:9N

Range: 1W USCOE Jurisdiction: Yes Watershed: Beanblossom Creek/Stout Creek IDEM Jurisdiction: Yes

Wetland S5W069 Animal Wetland **Polygon Botanical** Hydrology Area **Alternative** Habitat ID **Type Impacted** Measure Measure Measure 0.00 acre 4 0.00 acre 5 0.02 acre 6 Seasonally 69a Poor Fair Good Flooded Basin 0.01 acre 7 0.00 acre 8 RPA8 0.00 acre 0.00 acre 4 0.00 acre 5 0.05 acre 6 Floodplain 69b Good Poor Good **Forest** 0.00 acre 7 0.00 acre 8 0.00 acre RPA8 0.02 acre 4 0.02 acre 5 0.02 acre 6 69e Shallow Marsh Fair Poor Fair 0.02 acre 7 0.02 acre 8 0.02 acre RPA8

| Wetland S         | 5W069             |                  |             |                              |                      |                      |
|-------------------|-------------------|------------------|-------------|------------------------------|----------------------|----------------------|
| Polygon<br>ID     | Wetland<br>Type   | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |
|                   |                   | 0.07 acre        | 4           |                              |                      |                      |
|                   | 0.07 acre         | 5                |             |                              |                      |                      |
| 69f               | 69f Shallow Marsh | 0.07 acre        | 6           | Fair                         | Fair                 | Cood                 |
| 69I Shallow Marsh | 0.07 acre         | 7                | raii<br>-   | Fair                         | Good                 |                      |
|                   | 0.07 acre         | 8                |             |                              |                      |                      |
|                   |                   | 0.04 acre        | RPA 8       |                              |                      |                      |
|                   |                   | 0.17 acre        | 4           | Poor                         | Fair                 | Fair                 |
|                   |                   | 0.20 acre        | 5           |                              |                      |                      |
| 600               | Shallow Open      | 0.11 acre        | 6           |                              |                      |                      |
| 69g               | Water             | 0.00 acre        | 7           | Pool                         |                      |                      |
|                   |                   | 0.06 acre        | 8           |                              |                      |                      |
|                   |                   | 0.00 acre        | RPA 8       |                              |                      |                      |
|                   |                   | 0.27 acre        | 4           |                              |                      |                      |
|                   |                   | 0.27 acre        | 5           |                              |                      |                      |
| 69i               | Deep Marsh        | 0.28 acre        | 6           | Poor                         | Foir                 | Foir                 |
| 091               | Deeb Maisii       | 0.28 acre        | 7           | Poor                         | Fair                 | Fair                 |
|                   |                   | 0.27 acre        | 8           |                              |                      |                      |
|                   |                   | 0.27 acre        | RPA 8       |                              |                      |                      |

Description of Potential Impact: This wetland complex consists of six wetland polygons totaling 3.52 acres. Polygon 69a is classified as a seasonally flooded basin 0.72 acre in size. Polygon 69b is classified as a floodplain forest, 1.67 acres in size. Polygons 69e and 69f are classified as shallow marshes, 0.02 acre and 0.07 acres respectively. Polygon 69g is classified as shallow open water, 0.76 acres in size; and, Polygon 69i is classified as a deep marsh, 0.28 acre in size. Alternatives 6 and 7 would impact from 0.01 acre to 0.02 acres of Polygon 69a. Alternatives 4, 5, 8 and RPA 8 would avoid impacts to Polygon 69a. Alternative 6 would impact 0.05 acre of the floodplain forest polygon (69b) of this complex. Alternatives 4, 5, 7, 8 and RPA 8 would avoid impacts to the floodplain forest polygon. The shallow marsh polygon 69e would be entirely impacted by all of the alternatives. The shallow marsh polygon 69f would be entirely impacted by alternatives 4, 5, 6, 7, and 8. Alternatives 4, 5, 6, 7, and 8 would each impact 0.07 acre of Polygon 69f. RPA 8 would impact 0.04 acre of polygon 69f. The shallow open water polygon (69g) impacts would range from 0.06 acre to 0.20 acres for Alternatives 4, 5, 6, and 8. Alternatives 7 and RPA 8 would avoid impacts to the shallow open water polygon. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact from 0.27 acre to 0.28 acre of the deep marsh polygon. Polygon 69a showed between 75-100% herbaceous cover with dominant species including bulrush and cattails. Polygon 69b showed between 25-50% woody plant cover, with green ash and red maple as the Polygon 69e showed between 75-100% herbaceous cover dominant tree species. with rice cutgrass and arrowleaf tearthumb as the dominant herbaceous species. Polygon 69f showed between 25-50% herbaceous cover with rice cutgrass and arrowleaf tearthumb as the dominant herbaceous species. Dominant shrub species for

Polygon 69f included sandbar willow and buttonbush. Polygon 69g showed less than 25% herbaceous and woody plant cover, with duckweed as the dominant herbaceous species. Polygon 69i showed between 50-75% herbaceous cover and less than 25%woody plant cover. Dominant herbaceous species included rice cutgrass, reed canarygrass, and spikerush. Dominant woody species included green ash and black willow. Hydrology is likely due to Beanblossom Creek flooding, local runoff, and poorly drained soils. Botanical diversity is rated as poor for Polygons 69b and 69e, and fair for Polygons 69a, 69f, 69g, and 69i. Animal habitat is rated as poor for Polygons 69a, 69g, and 69i, fair for Polygons 69e and 69f, and good for Polygon 69b. Hydrologic function is rated as fair for Polygons 69e, 69g and 69i and good for Polygons 69a, 69b and 69f. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Scrub/Shrub Polygon 69a



Photograph of Forest Polygon 69b



Photograph of Scrub/Shrub Polygon 69e



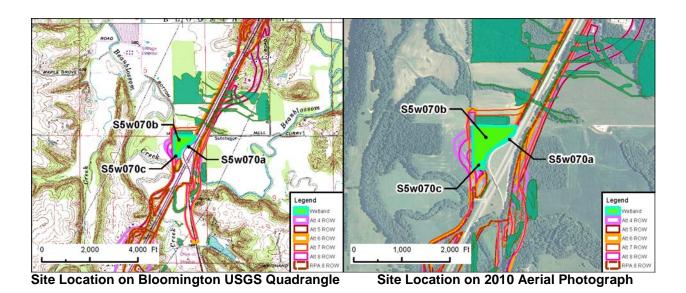
Photograph of Scrub/Shrub Polygon 69f



Photograph of Aquatic Bed Polygon 69g



Photograph of Deep Marsh polygon 69i



Type: Shallow Marsh/Swamp Forest Section: 8 Quarter: NE Township: 9N Range: 1W **USCOE** Jurisdiction: Yes Watershed: Beanblossom Creek/Stout Creek **IDEM Jurisdiction:** Yes

Wetland S5W070 **Animal** Polygon Wetland **Botanical** Hydrology Area **Alternative** Habitat Measure ID **Type Impacted** Measure Measure 4 0.05 acre 0.40 acre 5 6 Shallow 0.40 acre 70a Fair Poor Good Marsh 0.00 acre 7 8 0.31 acre RPA8 0.14 acre 2.44 acre 4 5 3.76 acre Swamp 3.63 acre 6 70b Good Good Poor Forest 0.48 acre 2.79 acre 8 RPA8 0.02 acre 0.09 acre 4 0.09 acre 5 Shallow 0.09 acre 6 70c Fair Poor Good Marsh 0.00 acre 7 0.08 acre 8 0.00 acre RPA8

Description of Potential Impact: This wetland complex consists of three wetland polygons totaling 10.92 acres. Polygon 70a is classified as a shallow marsh, 0.54 acre in size; Polygon 70b is classified as a swamp forest, 10.29 acres in size; and, Polygon 70c is classified as a shallow marsh 0.09 acres in size. Alternatives 4, 5, 6, 8 and RPA 8 would impact between 0.05 and 0.40 acres of Polygon 70a. Alternatives 4, 5, 6, and 8 would impact between 0.08 and 0.09 acre of Polygon 70c. Alternative 7 would avoid impacts to the two shallow marsh polygons (70a and 70b). RPA 8 would avoid impacts to polygon 70c. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts to the swamp forest polygon would range from 0.02 acre to 3.76 acres. Polygons 70a and 70c showed between 75-100% herbaceous cover. Cattails, soft rush, rice cutgrass, and sedges were the dominant herbaceous species for both of these polygons. Polygon 70b showed between 50-75% woody plant cover. Spicebush and sweet gum were the dominant shrub species for 70b, with red maple and pin oak as dominant tree species. Hydrology is likely due to its floodplain nature of the wetland, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are ranked as fair, poor and good, respectively, based on InWRAP summaries for the shallow marsh polygons and good, poor and good for the swamp forest polygon within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.





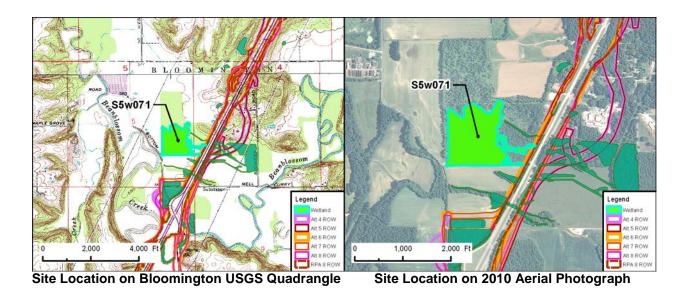


Photograph of shallow marsh Polygon 70c



Photograph of swamp forest Polygon 70b

Watershed:



Aquatic Resource: Wetland USGS Quadrangle: Bloomington

Type: Floodplain Forest
Quarter: SE
Range: 1W

Beanblossom Creek/Stout Creek

Township: 9N
USCOE Jurisdiction: Yes
IDEM Jurisdiction: Yes

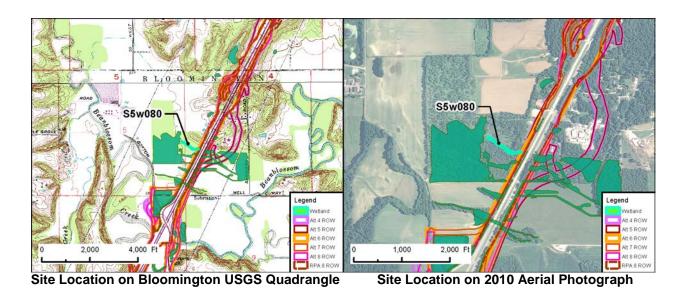
Section:

| Wetland S5W071 |                 |                  |             |                              |                      |                      |  |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |  |
|                |                 | 0.05 acre        | 4           | Good                         | Fair                 | Fair                 |  |  |  |
|                |                 | 0.05 acre        | 5           |                              |                      |                      |  |  |  |
| 71             | Floodplain      | 0.02 acre        | 6           |                              |                      |                      |  |  |  |
| 71             | Forest          | 0.00 acre        | 7           |                              |                      |                      |  |  |  |
|                |                 | 0.00 acre        | 8           |                              |                      |                      |  |  |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |  |

**Description of Potential Impact:** This site is classified as a floodplain forest, 31.75 acres in size. Alternatives 4, 5, and 6 impacts would range from 0.02 acre to 0.05 acre of this floodplain wetland. Alternative 7, 8 and RPA 8 would avoid this wetland. The area showed 25-50% herbaceous cover and 50-75% woody plant cover. Dominant herbaceous species for this wetland include moneywort, goldenrod, and snakeroot. Dominant woody species included boxelder and spicebush for shrub species, and green ash, silver maple, and sycamore for tree species. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Floodplain Forest Polygon 71



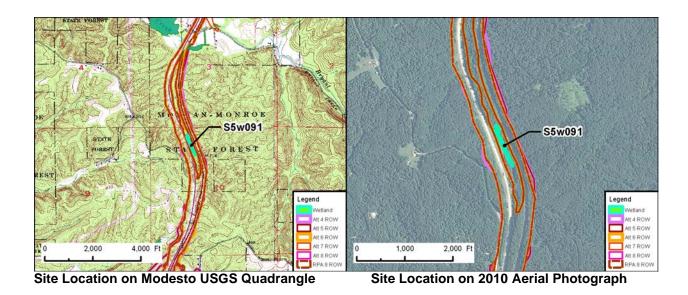
Type:Floodplain ForestSection:4Quarter:SWTownship:9NRange:1WUSCOE Jurisdiction:YesWatershed:Beanblossom Creek/Stout CreekIDEM Jurisdiction:Yes

| Wetland S5W080 |                 |                  |             |                              |                      |                      |  |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |  |
|                |                 | 0.00 acre        | 4           | Good                         | Fair                 | Fair                 |  |  |  |
|                |                 | 0.00 acre        | 5           |                              |                      |                      |  |  |  |
| 80             | Floodplain      | 0.01 acre        | 6           |                              |                      |                      |  |  |  |
| 80             | Forest          | 0.00 acre        | 7           |                              |                      |                      |  |  |  |
|                |                 | 0.00 acre        | 8           |                              |                      |                      |  |  |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |  |

**Description of Potential Impact:** This site is classified as a floodplain forest, 0.56 acres in size. Alternatives 4, 5, 7, 8 and RPA 8 would avoid impacting this wetland. Alternative 6 would impact 0.01 acre of this wetland. The area showed 50-75% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include moneywort. Dominant woody species included boxelder and spicebush for shrub species, and green ash, sycamore, and silver maple for tree species. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of floodplain forest Polygon 80



Aquatic Resource:WetlandUSGS Quadrangle:ModestoType:Seasonally Flooded BasinSection:10

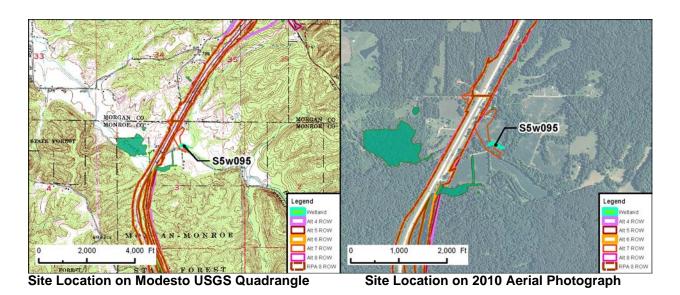
Quarter:NWTownship:10NRange:1WUSCOE Jurisdiction:YesWatershed:Bryant CreekIDEM Jurisdiction:Yes

| Wetland S5W091 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.88 acre        | 4           | - Fair                       | Poor                 | Fair                 |  |  |
|                |                 | 0.88 acre        | 5           |                              |                      |                      |  |  |
| 01             | Seasonally      | 0.88 acre        | 6           |                              |                      |                      |  |  |
| 91             | Flooded Basin   | 0.88 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.88 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.88 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a seasonally flooded basin, 0.88 acres in size. All six alternatives would impact this entire wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include reed canarygrass, goldenrod, sedges, and cattail. Dominant woody species included black willow, sycamore and cottonwood. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.



Photograph of Polygon 91



Aquatic Resource: Wetland USGS Quadrangle: Modesto

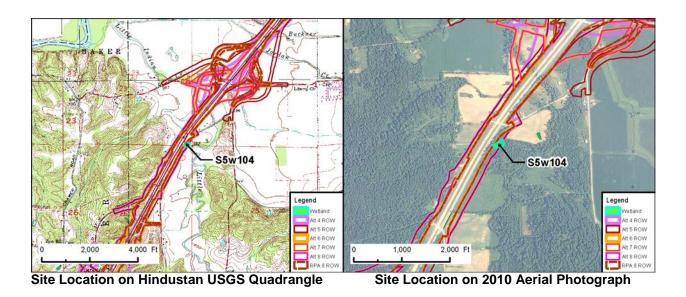
Floodplain Forest Section: Type: 3 Quarter: NE Township: 10N Range: 1W **USCOE** Jurisdiction: Yes Watershed: **Bryant Creek IDEM Jurisdiction:** Yes

| Wetland S5W095 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.00 acre        | 4           | Fair                         | Poor                 | Good                 |  |  |
|                |                 | 0.00 acre        | 5           |                              |                      |                      |  |  |
| 05             | Floodplain      | 0.00 acre        | 6           |                              |                      |                      |  |  |
| 95             | Forest          | 0.01 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a floodplain forest, 0.19 acres in size. Alternative 7 would impact 0.01 acre of this floodplain forest. Alternatives 4, 5, 6, 8 and RPA 8 would avoid impacting this wetland. This wetland showed less than 25% herbaceous cover and between 50-75% woody plant cover. Dominant herbaceous species for this wetland include jewelweed and wingstem. Dominant woody species included sycamore. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.



Photograph of forested Polygon 95



Aquatic Resource: Wetland USGS Quadrangle: Hindustan

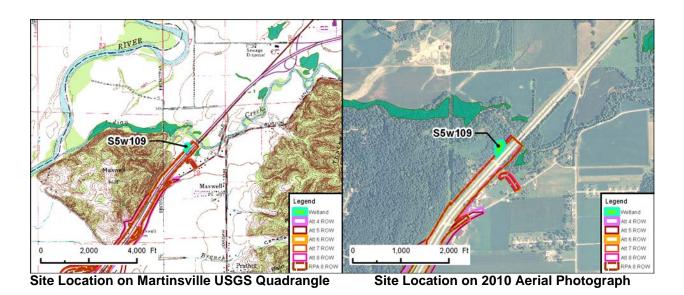
Sedge Meadow Section: 23 Type: Quarter: SE Township: 11N Range: 1W **USCOE Jurisdiction:** Yes Watershed: Little Indian Creek/Jordan Creek **IDEM Jurisdiction:** Yes

| Wetland S5W104 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.25 acre        | 4           | Poor                         | Fair                 | Good                 |  |  |
|                |                 | 0.25 acre        | 5           |                              |                      |                      |  |  |
| 104            | Sedge           | 0.00 acre        | 6           |                              |                      |                      |  |  |
| 104            | Meadow          | 0.00 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a sedge meadow, 0.40 acres in size. Alternatives 4 and 5 would impact 0.25 acre of this depressional wetland. Alternatives 6, 7, 8, and RPA 8 would avoid impacting this wetland. This wetland showed between 75-100% herbaceous cover. Dominant herbaceous species for this wetland include knotweed, reed canarygrass, sedges, and woolgrass. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, fair and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Little Indian Creek.



Photograph of Sedge Meadow Polygon 104



Aquatic Resource: Wetland USGS Quadrangle: Martinsville

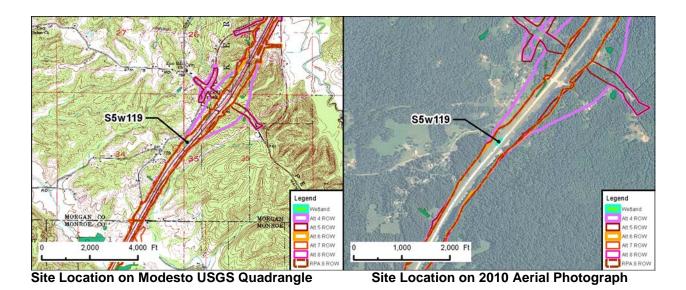
Scrub Carr Section: Type: 18 Quarter: NW Township: 11N Range: 1E **USCOE** Jurisdiction: Yes Watershed: Indian Creek/Sand Creek **IDEM Jurisdiction:** Yes

| Wetland S5W109 |                 |                  |             |                              |                      |                      |  |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |  |
|                |                 | 0.37 acre        | 4           |                              | Poor                 | Fair                 |  |  |  |
|                |                 | 0.38 acre        | 5           |                              |                      |                      |  |  |  |
| 100            | Carub Carr      | 0.12 acre        | 6           | Door                         |                      |                      |  |  |  |
| 109            | Scrub Carr      | 0.15 acre        | 7           | Poor                         |                      |                      |  |  |  |
|                |                 | 0.12 acre        | 8           |                              |                      |                      |  |  |  |
|                |                 | 0.12 acre        | RPA 8       |                              |                      |                      |  |  |  |

**Description of Potential Impact:** This site is classified as a shrub-carr, 1.01 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 impacts range from 0.12 acre to 0.38 acre of this floodplain wetland. The area showed 75-100% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include reed canarygrass and knotweed. Dominant woody species included black willow and sycamore. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Indian Creek.



Photograph of Scrub Carr Polygon 109



Aquatic Resource:WetlandUSGS Quadrangle:ModestoType:Seasonally Flooded BasinSection:35

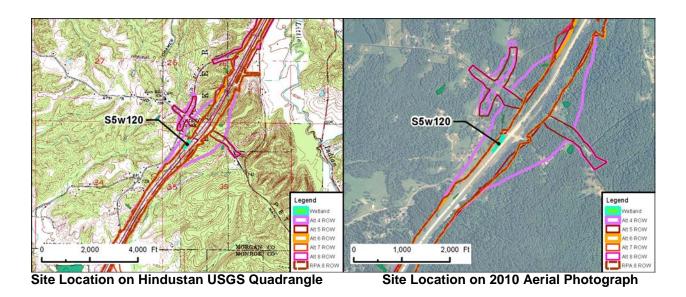
Quarter: NW Township: 11N
Range: 1W USCOE Jurisdiction: Yes
Watershed: Bryant Creek IDEM Jurisdiction: Yes

| Wetland 9     | Wetland S5W119  |                  |             |                              |                      |                      |  |  |  |
|---------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|--|
| Polygon<br>ID | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |  |
|               |                 | 0.05 acre        | 4           | Poor                         | Poor                 | Poor                 |  |  |  |
|               |                 | 0.05 acre        | 5           |                              |                      |                      |  |  |  |
| 119           | Seasonally      | 0.05 acre        | 6           |                              |                      |                      |  |  |  |
| 119           | Flooded Basin   | 0.05 acre        | 7           |                              |                      |                      |  |  |  |
|               |                 | 0.05 acre        | 8           |                              |                      |                      |  |  |  |
|               |                 | 0.05 acre        | RPA 8       |                              |                      |                      |  |  |  |

**Description of Potential Impact:** This site is classified as a seasonally flooded basin, 0.05 acres in size. All six alternatives would impact this entire wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include cattail, sedges, bulrush, and ladysthumb. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and poor respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.



Photograph of emergent Polygon 119



Aquatic Resource: Wetland USGS Quadrangle: Hindustan

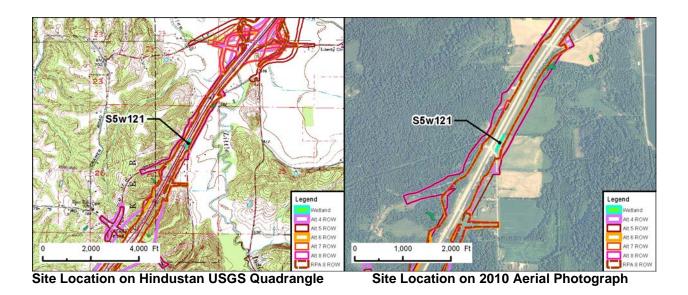
Type: Seasonally Flooded Basin Section: 35 Quarter: NW Township: 11N Range: 1W **USCOE** Jurisdiction: Yes Watershed: **Bryant Creek IDEM Jurisdiction:** Yes

| Wetland S5W120 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.02 acre        | 4           | Poor                         |                      |                      |  |  |
|                |                 | 0.02 acre        | 5           |                              |                      |                      |  |  |
| 120            | Seasonally      | 0.06 acre        | 6           |                              | Poor                 | Fair                 |  |  |
| 120            | Flooded Basin   | 0.06 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.04 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.06 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a seasonally flooded basin, 0.20 acres in size. All six alternatives would impact from 0.02 acre to 0.06 acre of this emergent wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include cattail and joe pye weed. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.



Photograph of Polygon 120



Aquatic Resource: Wetland USGS Quadrangle: Hindustan

Type:Seasonally Flooded BasinSection:26Quarter:NETownship:11NRange:1WUSCOE Jurisdiction:Yes

Watershed: Little Indian Creek/Jordan Creek

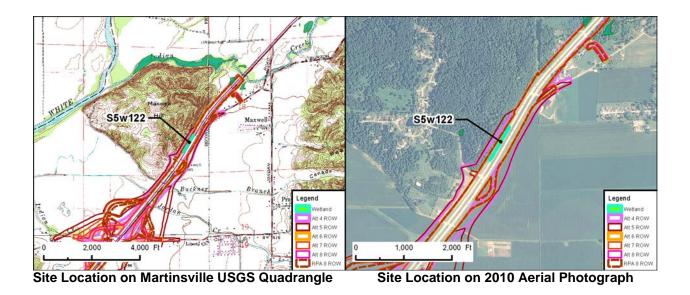
IDEM Jurisdiction: Yes

| Wetland \$    | Wetland S5W121  |                  |             |                              |                      |                      |  |  |  |  |
|---------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|--|--|
| Polygon<br>ID | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |  |  |
|               |                 | 0.04 acre        | 4           | Poor                         | Poor                 | Fair                 |  |  |  |  |
|               |                 | 0.04 acre        | 5           |                              |                      |                      |  |  |  |  |
| 121           | Seasonally      | 0.04 acre        | 6           |                              |                      |                      |  |  |  |  |
| 121           | Flooded Basin   | 0.04 acre        | 7           |                              |                      |                      |  |  |  |  |
|               |                 | 0.04 acre        | 8           |                              |                      |                      |  |  |  |  |
|               |                 | 0.04 acre        | RPA 8       |                              |                      |                      |  |  |  |  |

**Description of Potential Impact:** This site is classified as a seasonally flooded basin, 0.04 acres in size. All six alternatives would impact this entire wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include rushes, beggarticks and asters. Hydrology is likely due to local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Little Indian Creek.



Photograph of Emergent Polygon 121



Aquatic Resource: Wetland USGS Quadrangle: Martinsville

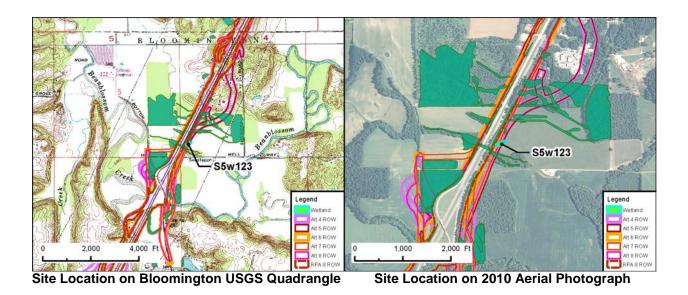
Type: Wet Meadow Section: 13 Quarter: SE Township: 11N Range: 1W **USCOE Jurisdiction:** Yes Watershed: Little Indian Creek/Jordan Creek **IDEM Jurisdiction:** Yes

| Wetland S5W122 |                 |                  |             |                              |                      |                      |  |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |  |
|                |                 | 0.28 acre        | 4           | Poor                         | Poor                 | Fair                 |  |  |  |
|                |                 | 0.28 acre        | 5           |                              |                      |                      |  |  |  |
| 100            | Mot Moodow      | 0.01 acre        | 6           |                              |                      |                      |  |  |  |
| 122            | Wet Meadow      | 0.01 acre        | 7           |                              |                      |                      |  |  |  |
|                |                 | 0.01 acre        | 8           |                              |                      |                      |  |  |  |
|                |                 | 0.01 acre        | RPA 8       |                              |                      |                      |  |  |  |

**Description of Potential Impact:** This site is classified as a wet meadow, 0.28 acres in size. Alternatives 4 and 5 would impact this entire depressional wetland. Alternatives 6, 7, 8, and RPA 8 would impact 0.01 acre of this emergent wetland. This wetland showed between 75-100% herbaceous cover. Dominant herbaceous species for this wetland include reed canarygrass, beggarticks, nutsedge and knotweed. Hydrology is likely due to local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Indian Creek.



Photograph of Wet Meadow Polygon 122



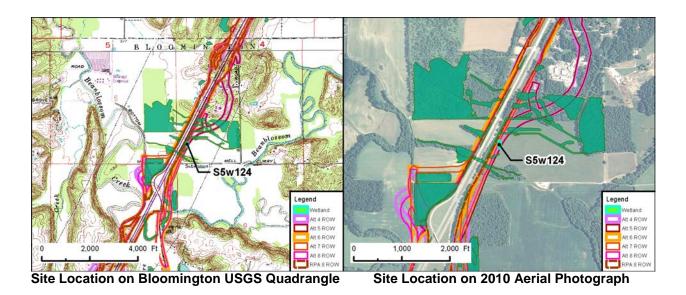
Section: Type: Wet Meadow 4 Quarter: SW Township: 9N Range: 1W **USCOE Jurisdiction:** Yes Watershed: Beanblossom Creek/Stout Creek **IDEM Jurisdiction:** Yes

| Wetland S5W123 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.10 acre        | 4           | Poor                         | Poor                 | Good                 |  |  |
|                |                 | 0.12 acre        | 5           |                              |                      |                      |  |  |
| 123            | Wet Meadow      | 0.02 acre        | 6           |                              |                      |                      |  |  |
| 123            | vvet ivieadow   | 0.00 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.01 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a wet meadow, 0.18 acres in size. Alternatives 4, 5, 6, and 8 impacts would range from 0.01 acre to 0.12 acre of this floodplain wetland. Alternatives 7 and RPA 8 would avoid impacting this wetland. The area showed 75-100% herbaceous cover. Dominant herbaceous species include sedges, and moneywort. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



**Photograph of Emergent Polygon 123** 



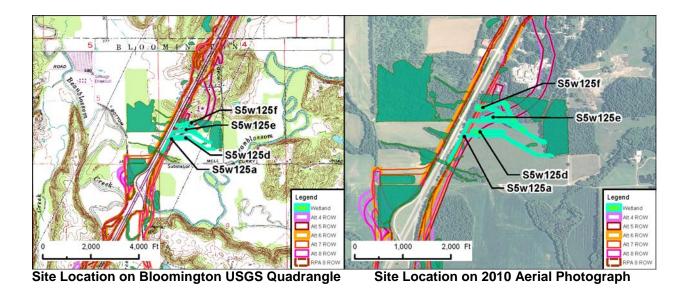
Wet Meadow Section: Type: 4 Quarter: SW Township: 9N Range: 1W **USCOE Jurisdiction:** Yes Watershed: Beanblossom Creek/Stout Creek **IDEM Jurisdiction:** Yes

| Wetland S5W124 |                 |                  |             |                              |                      |                      |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
| 124            | Wet Meadow      | 0.11 acre        | 4           | Poor                         | Poor                 | Good                 |  |
|                |                 | 0.13 acre        | 5           |                              |                      |                      |  |
|                |                 | 0.00 acre        | 6           |                              |                      |                      |  |
|                |                 | 0.00 acre        | 7           |                              |                      |                      |  |
|                |                 | 0.00 acre        | 8           |                              |                      |                      |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |

**Description of Potential Impact:** This site is classified as a wet meadow, 0.14 acres in size. Alternatives 4 and 5 impacts would range from 0.11 acre to 0.13 acre of this floodplain wetland. Alternatives 6, 7, 8 and RPA 8 would avoid impacting this wetland. The area showed 75-100% herbaceous cover. Dominant herbaceous species include soft rush, sedges, and moneywort. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Emergent Polygon 124



Type: Wet Meadow/Floodplain Forest

Type: Wet Quarter: SW Range: 1W

Watershed: Beanblossom Creek/Stout Creek IDE

Section: 4
Township: 9N

USCOE Jurisdiction: Yes IDEM Jurisdiction: Yes

| Wetland S5W125 |                      |                  |             |                              |                      |                      |  |
|----------------|----------------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type      | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
| 125a           | Wet Meadow           | 1.07 acre        | 4           |                              | Poor                 | Fair                 |  |
|                |                      | 1.07 acre        | 5           |                              |                      |                      |  |
|                |                      | 0.69 acre        | 6           | Poor                         |                      |                      |  |
|                |                      | 0.62 acre        | 7           |                              |                      |                      |  |
|                |                      | 0.68 acre        | 8           |                              |                      |                      |  |
|                |                      | 0.43 acre        | RPA 8       |                              |                      |                      |  |
| 125d           | Wet Meadow           | 0.21 acre        | 4           | Poor                         | Poor                 | Good                 |  |
|                |                      | 0.23 acre        | 5           |                              |                      |                      |  |
|                |                      | 0.00 acre        | 6           |                              |                      |                      |  |
|                |                      | 0.00 acre        | 7           |                              |                      |                      |  |
|                |                      | 0.00 acre        | 8           |                              |                      |                      |  |
|                |                      | 0.00 acre        | RPA 8       |                              |                      |                      |  |
|                | Floodplain<br>Forest | 0.32 acre        | 4           | Good                         | Fair                 |                      |  |
| 125e           |                      | 0.31 acre        | 5           |                              |                      |                      |  |
|                |                      | 0.00 acre        | 6           |                              |                      | Cood                 |  |
|                |                      | 0.00 acre        | 7           |                              |                      | Good                 |  |
|                |                      | 0.00 acre        | 8           |                              |                      |                      |  |
|                |                      | 0.00 acre        | RPA 8       |                              |                      |                      |  |

| Wetland S5W125 |                      |                  |             |                              |                      |                      |  |
|----------------|----------------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type      | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
| 125f           | Floodplain<br>Forest | 0.87 acre        | 4           | Good                         | Fair                 | Good                 |  |
|                |                      | 0.86 acre        | 5           |                              |                      |                      |  |
|                |                      | 0.21 acre        | 6           |                              |                      |                      |  |
|                |                      | 0.09 acre        | 7           |                              |                      |                      |  |
|                |                      | 0.21 acre        | 8           |                              |                      |                      |  |
|                |                      | 0.05 acre        | RPA 8       |                              |                      |                      |  |

Description of Potential Impact: This wetland complex consists of four wetland polygons totaling 7.40 acres. Polygon 125a is classified as a wet meadow, 3.75 acres in size; Polygon 125d is classified as a wet meadow, 1.03 acres in size; Polygon 125e is classified as a floodplain forest, 0.33 acres in size, and Polygon 125f is classified as a floodplain forest 2.29 acres in size. Alternatives 4, 5, 6, 7, 8 and RPA 8 would impact from 0.43 acre to 1.07 acres of Polygon 125a. Alternatives 6, 7, 8 and RPA 8 would avoid impacts to Polygons 125d and 125e. Alternatives 4 and 5 impacts to Polygon 125d would range from 0.21 to 0.23 acres. Alternatives 4 and 5 impacts to Polygon 125e would range from 0.31 to 0.32 acre. Alternatives 4, 5, 6, 7, 8, and RPA 8 would impact from 0.05 to 0.87 acres of Polygon 125f. Polygons 125a showed between 75-100% herbaceous cover and Polygon 125d showed between 50-75% herbaceous cover. Soft rush, sedges, asters, and knotweed were the dominant herbaceous species for both of these polygons. Polygon 125e showed between 25-50% cover for both the herbaceous and woody species. Dominant herbaceous species for Polygon 125e include sensitive fern. Spicebush and swamp rose are the dominant shrub species, and green ash and sweet gum are the dominant tree species for Polygon 125e. Polygon 125f showed between 25-50% woody cover and less than 25% herbaceous cover. Sedges are the dominant herbaceous species and spicebush and swamp rose are the dominant shrub species for Polygon 125f. Dominant tree species for Polygon 125f include green ash, red maple, and sweet gum. Hydrology is likely due to frequent flooding, local runoff, and poorly drained soils. Animal habitat is ranked as poor for the wet meadow polygons and good for the floodplain forest polygons. Botanical diversity is ranked as poor for the wet meadow polygons and fair for the floodplain forest polygons. Hydraulic functions are ranked as fair for polygon 125a and good for the remaining polygons. These values are based on the InWRAP summaries for each of the polygons within this complex. This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Emergent Polygon 125a



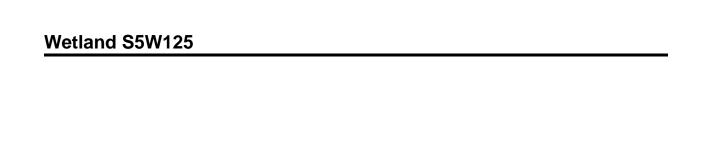
Photograph of Forested Polygon 125f



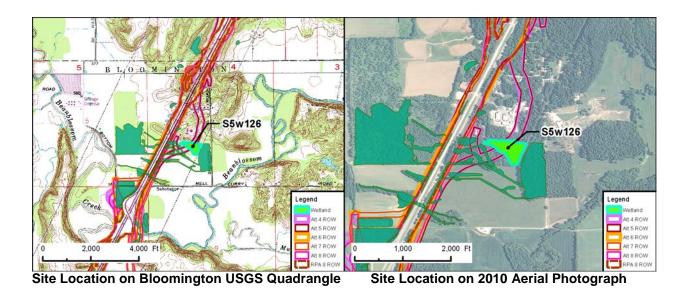
Photograph of Emergent Polygon 125d



Photograph of Forested Polygon 125e



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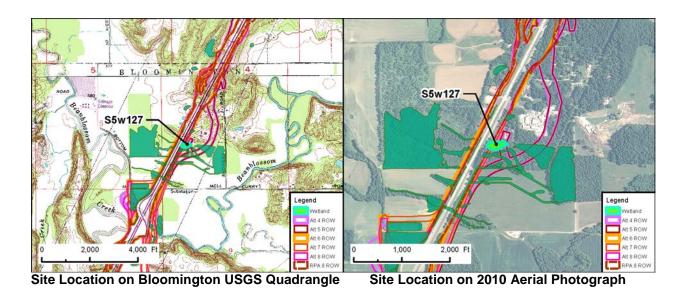
Type:Floodplain ForestSection:4Quarter:SWTownship:9NRange:1WUSCOE Jurisdiction:YesWatershed:Beanblossom Creek/Stout CreekIDEM Jurisdiction:Yes

| Wetland S5W126 |                      |                  |             |                              |                      |                      |  |
|----------------|----------------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type      | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
| 126            | Floodplain<br>Forest | 1.37 acres       | 4           | Good                         | Fair                 | Cood                 |  |
|                |                      | 1.37 acres       | 5           |                              |                      |                      |  |
|                |                      | 0.00 acres       | 6           |                              |                      |                      |  |
|                |                      | 0.00 acres       | 7           |                              | raii                 | Good                 |  |
|                |                      | 0.00 acres       | 8           |                              |                      |                      |  |
|                |                      | 0.00 acres       | RPA 8       |                              |                      |                      |  |

**Description of Potential Impact:** This site is classified as a floodplain forest, 5.00 acres in size. Alternatives 4 and 5 would impact 1.37 acres of this floodplain wetland. Alternatives 6, 7, 8 and RPA 8 would avoid impacting this wetland. This wetland showed 75-100% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include sedges. Dominant woody plant species include sweetgum, swamp rose, and green ash. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.



Photograph of Forested Polygon 126



Aquatic Resource: Wetland USGS Quadrangle: Bloomington

Floodplain Forest Section: Type: 4 Quarter: SW Township: 9N Range: 1W **USCOE Jurisdiction:** Yes Watershed: Beanblossom Creek/Stout Creek **IDEM Jurisdiction:** Yes

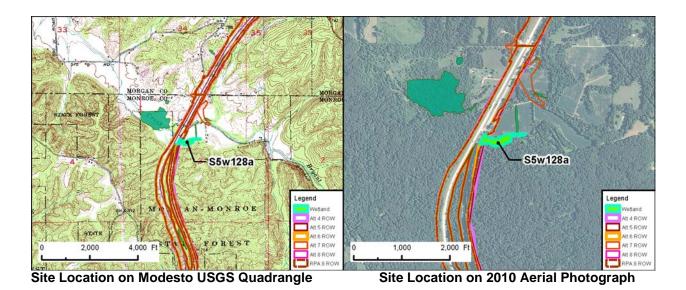
| Wetland S5W127 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.44 acre        | 4           | Good                         | Fair                 | Good                 |  |  |
|                |                 | 0.44 acre        | 5           |                              |                      |                      |  |  |
| 107            | Floodplain      | 0.35 acre        | 6           |                              |                      |                      |  |  |
| 127            | 127 Forest      | 0.16 acre        | 7           |                              |                      |                      |  |  |
|                |                 | 0.35 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.10 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a floodplain forest, 1.16 acres in size. Alternatives 4 and 5 would impact 0.44 acres of this floodplain wetland. Alternatives 6 and 8 would impact 0.35 acre of this wetland, Alternative 7 would impact 0.16 acre; and RPA 8 would impact 0.10 acre. This wetland showed 75-100% herbaceous cover and 25-50% woody plant cover. Dominant herbaceous species for this wetland include sedges and moneywort. Dominant woody plant species include swamp rose, spicebush, red maple and pin oak. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

## Wetland S5W127



Photograph of Forested Polygon 127



Aquatic Resource: Wetland USGS Quadrangle: Modesto

Type:Floodplain ForestSection:3Quarter:NWTownship:10NRange:1WUSCOE Jurisdiction:Yes

Watershed: Bryant Creek IDEM Jurisdiction: Yes

| Wetland S5W128 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.32 acre        | 4           |                              |                      |                      |  |  |
|                |                 | 0.32 acre        | 5           |                              |                      |                      |  |  |
| 1200           | Floodplain      | 0.00 acre        | 6           | Good                         | Poor                 | Good                 |  |  |
| 120a           | 128a Forest     | 0.21 acre        | 7           | Good                         |                      |                      |  |  |
|                |                 | 0.21 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.21 acre        | RPA 8       |                              |                      |                      |  |  |

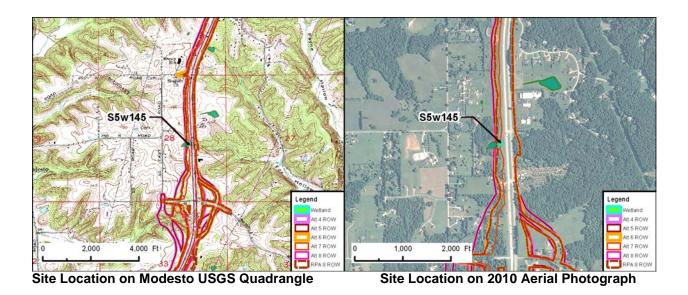
**Description of Potential Impact:** This site is classified as a floodplain forest, 2.65 acres in size. Alternative 6 would avoid impacting this wetland. Alternatives 4 and 5 would impact 0.32 acres if this floodplain forest. Alternatives 7, 8, and RPA 8 would impact 0.21 acres of this forested wetland. This wetland showed less than 25% herbaceous cover and between 50-75% woody plant cover. Dominant herbaceous species for this wetland include moneywort. Dominant woody species included box elder, green ash, and sycamore. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, poor and good respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.



Photograph of Forested Polygon 128a



Photograph of Forested Polygon 128a



**Aquatic Resource:** Wetland **USGS Quadrangle:** Modesto Wet Meadow Section: 28 Type: Quarter: SE Township: 10N Range: 1W **USCOE** Jurisdiction: Yes Watershed: Yes

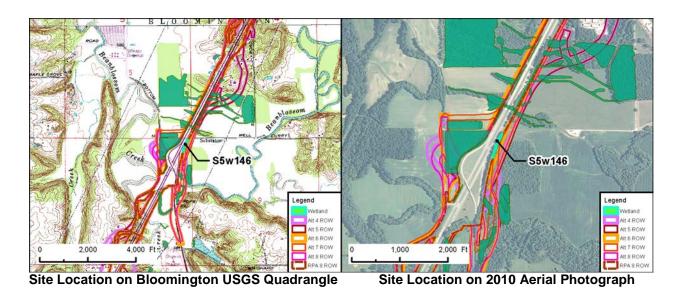
| Wetland S5W145 |                 |                  |             |                              |                      |                      |  |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |  |
|                |                 | 0.06 acre        | 4           |                              |                      |                      |  |  |
|                |                 | 0.06 acre        | 5           |                              |                      |                      |  |  |
| 145            | Wet Meadow      | 0.06 acre        | 6           | Fair                         | Poor                 | Fair                 |  |  |
| 145            | vvet ivieadow   | 0.01 acre        | 7           | Fair                         |                      |                      |  |  |
|                |                 | 0.06 acre        | 8           |                              |                      |                      |  |  |
|                |                 | 0.06 acre        | RPA 8       |                              |                      |                      |  |  |

**Description of Potential Impact:** This site is classified as a wet meadow, 0.06 acres in size. Alternatives 4, 5, 6, 8, and RPA 8 would impact this entire wetland. Alternative 7 would impact 0.01 acre of this emergent wetland. This wetland showed between 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include sedges, smartweeds, lady's thumb, and touch-me-nots. Dominant woody species included silky willow. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Fox Hollow.

## Wetland S5W145



Photograph of emergent Polygon 145



**Aquatic Resource:** Wetland **USGS Quadrangle:** Bloomington

28

10N

Floodplain Forest Section: Type: Quarter: SE Township: Range: 1W **USCOE Jurisdiction:** Yes

Watershed: Beanblossom Creek/Stout Creek **IDEM Jurisdiction:** Yes

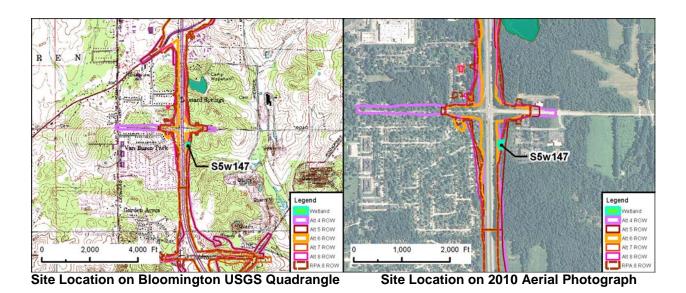
| Wetland S5W146 |                 |                  |             |                              |                      |                      |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
|                |                 | 0.14 acre        | 4           |                              |                      |                      |  |
|                |                 | 0.14 acre        | 5           |                              |                      |                      |  |
| 146            | Floodplain      | 0.01 acre        | 6           | Fair                         | Door                 | Fair                 |  |
| 146            | Forest          | 0.11 acre        | 7           | ган                          | Poor                 | raii                 |  |
|                |                 | 0.14 acre        | 8           |                              |                      |                      |  |
|                |                 | 0.01 acre        | RPA 8       |                              |                      |                      |  |

Description of Potential Impact: This site is classified as a floodplain forest, 0.14 acres in size. Alternatives 4, 5, and 8 would impact this entire wetland. Alternatives 6 and RPA 8 would impact 0.01 acre of this emergent wetland and Alternative 7 would impact 0.11 acre of this wetland. This wetland showed between 25-50% herbaceous cover and between 50-75% woody plant cover. Dominant herbaceous species for this wetland include reed canarygrass. Dominant woody species include green ash, American elm, red maple and swamp white oak. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are each rated as fair, poor and fair based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Beanblossom Creek.

## Wetland S5W146



Photograph of forested Polygon 146



**Aquatic Resource:** Wetland **USGS Quadrangle:** Bloomington

Section:

Township:

18

N8

Yes

Yes

Floodplain Forest Type:

Quarter: NW Range: 1W

**USCOE Jurisdiction:** Watershed: Clear Creek/Jackson Creek **IDEM Jurisdiction:** 

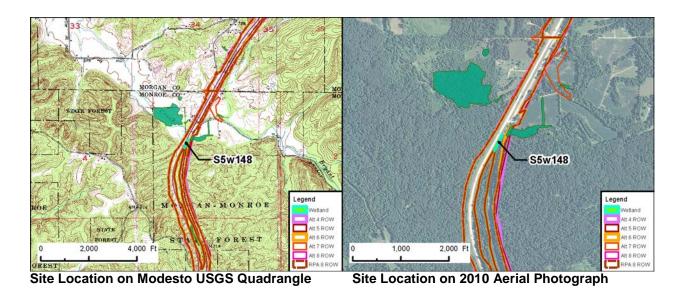
| Wetland S5W147 |                 |                  |             |                              |                      |                      |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
|                |                 | 0.06 acre        | 4           |                              |                      |                      |  |
|                |                 | 0.23 acre        | 5           |                              |                      |                      |  |
| 147            | Floodplain      | 0.00 acre        | 6           | Good                         | Fair                 | Cood                 |  |
| 147            | Forest          | 0.11 acre        | 7           | Good                         | raii                 | Good                 |  |
|                |                 | 0.07 acre        | 8           |                              |                      |                      |  |
|                |                 | 0.07 acre        | RPA 8       |                              |                      |                      |  |

Description of Potential Impact: This site is classified as a floodplain forest, 0.23 acres in size. Alternatives 6 would avoid impacting this depressional wetland; while alternatives 4, 5, 7, 8 and RPA 8 would impact from 0.06 acre to 0.23 acres. This wetland showed between 25-50% herbaceous cover and between 50-75% woody plant Dominant herbaceous species for this wetland include needle spikerush. Dominant woody species included black willow, silky dogwood, green ash, and American elm. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as good, fair and good based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Clear Creek.

## Wetland S5W147



Photograph of forested Polygon 147



Aquatic Resource: Wetland USGS Quadrangle: Modesto

3

10N

Type:Sedge meadowSection:Quarter:NWTownship:Range:1WUSCOE Jurisdiction:

Range: 1W USCOE Jurisdiction: Yes Watershed: Bryant Creek IDEM Jurisdiction: Yes

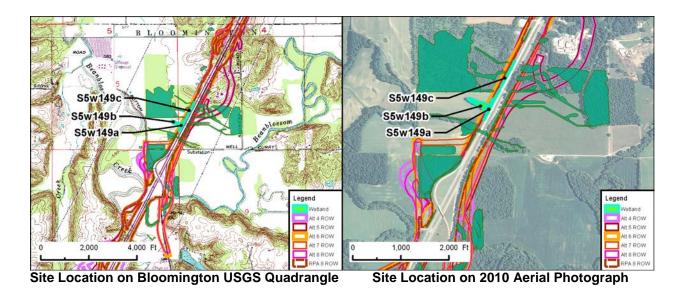
| Wetland S5W148 |                 |                  |             |                              |                      |                      |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
|                |                 | 0.08 acre        | 4           |                              |                      |                      |  |
|                |                 | 0.08 acre        | 5           |                              |                      |                      |  |
| 1.10           | Sedge           | 0.08 acre        | 6           | Poor                         | Door                 | Fair                 |  |
| 148            | meadow          | 0.08 acre        | 7           | P001                         | Poor                 | raii                 |  |
|                |                 | 0.08 acre        | 8           |                              |                      |                      |  |
|                |                 | 0.08 acre        | RPA 8       |                              |                      |                      |  |

**Description of Potential Impact:** This site is classified as a sedge meadow, 0.09 acres in size. All of the alternatives would impact 0.08 acres of this wetland. This wetland showed between 50-75% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include cattails and reed canarygrass. Hydrology is likely due to local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, poor and fair, respectively based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Clear Creek.

## Wetland S5W148



Photograph of emergent Polygon 148



Bloomington

**Aquatic Resource:** Wetland **USGS Quadrangle:** Sedge Meadow/Swamp Forest Section:

Type: Quarter: 4 & 5 SW, SE Township: 9N Range: 1W USCOE Jurisdiction: Yes

Watershed: Beanblossom Creek/Stout Creek **IDEM Jurisdiction:** Yes

| Wetland S5    | 5W149           |                  |             |                              |                      |                      |
|---------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|
| Polygon<br>ID | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |
|               |                 | 0.26 acre        | 4           |                              |                      |                      |
|               |                 | 0.26 acre        | 5           |                              |                      |                      |
| 149a          | Sedge Meadow    | 0.39 acre        | 6           | Poor                         | Fair                 | Good                 |
| 1494          | Seage Meadow    | 0.27 acre        | 7           | F 001                        | ı alı                |                      |
|               |                 | 0.25 acre        | 8           |                              |                      |                      |
|               |                 | 0.24 acre        | RPA 8       |                              |                      |                      |
|               |                 | 0.11 acre        | 4           | Poor                         | Fair                 | Good                 |
|               |                 | 0.11 acre        | 5           |                              |                      |                      |
| 149b          | Sedge Meadow    | 0.11 acre        | 6           |                              |                      |                      |
| 1490          | Seage Meadow    | 0.11 acre        | 7           | F001                         |                      |                      |
|               |                 | 0.11 acre        | 8           |                              |                      |                      |
|               |                 | 0.11 acre        | RPA 8       |                              |                      |                      |
|               |                 | 0.00 acre        | 4           |                              |                      |                      |
|               |                 | 0.00 acre        | 5           |                              |                      |                      |
| 149c          | Swamp Forcet    | 0.04 acre        | 6           | Good                         | Poor                 | Fair                 |
| 1490          | Swamp Forest    | 0.00 acre        | 7           | Good                         | Poor                 | Ган                  |
|               |                 | 0.00 acre        | 8           |                              |                      |                      |
|               |                 | 0.00 acre        | RPA 8       |                              |                      |                      |

**Description of Potential Impact:** This wetland complex consists of three wetland polygons totaling 1.27 acres. Polygon 149a and 149b are classified as sedge meadows 0.40 acre and 0.11 acre in size, respectively. Polygon 149c is classified as a swamp forest, 0.76 acre in size. Impacts to polygon 149a range from 0.25 acre to 0.39 acre for alternatives 4, 5, 6, 7, 8 and RPA 8. All six alternatives would impact the entire 0.11 acre of Polygon 149b. Alternative 4, 5, 7, 8 and RPA 8 would avoid impacting Polygon 149c, while Alternative 6 would impact 0.04 acre of this polygon. Polygon 149a and 149b showed between 75-100% herbaceous cover with dominant species including sedges and knotweed. Polygon 149c showed between 25-50% woody plant cover, with green ash, red maple, and silver maple as the dominant tree species. Hydrology is likely due to frequent flooding, local runoff, and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as poor, fair and good for Polygon 149a and 149b, and good, poor and fair for Polygon 149c, based on InWRAP summaries for the site This wetland falls under the jurisdiction of both the USACE and IDEM due to its hydrologic connectivity to a tributary of Beanblossom Creek.



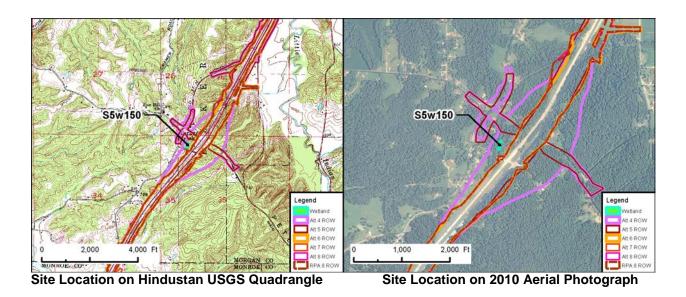
Photograph of emergent Polygon 149a



Photograph of emergent Polygon 149b



Photograph of forested Polygon 149c



**Aquatic Resource:** Wetland **USGS Quadrangle:** Hindustan

Wet Meadow Section: Type: 35 Quarter: NW Township: 11N Range: 1W **USCOE** Jurisdiction: Yes

Watershed: **Bryant Creek IDEM Jurisdiction:** Yes

| Wetland S5W150 |                 |                  |             |                              |                      |                      |  |
|----------------|-----------------|------------------|-------------|------------------------------|----------------------|----------------------|--|
| Polygon<br>ID  | Wetland<br>Type | Area<br>Impacted | Alternative | Animal<br>Habitat<br>Measure | Botanical<br>Measure | Hydrology<br>Measure |  |
|                |                 | 0.07 acre        | 4           |                              | Poor                 | Fair                 |  |
|                |                 | 0.00 acre        | 5           |                              |                      |                      |  |
| 150            | Wet Meadow      | 0.00 acre        | 6           | Fair                         |                      |                      |  |
| 150            | vvet ivieadow   | 0.00 acre        | 7           | ган                          |                      |                      |  |
|                |                 | 0.00 acre        | 8           |                              |                      |                      |  |
|                |                 | 0.00 acre        | RPA 8       |                              |                      |                      |  |

**Description of Potential Impact:** This site is classified as a wet meadow, 0.07 acres in size. Alternative 4 would impact this entire wetland. Alternatives 5, 6, 7, 8 and RPA 8 would avoid impacting this wetland. This wetland showed 75-100% herbaceous cover and less than 25% woody plant cover. Dominant herbaceous species for this wetland include ricecut grass, touch-me-nots, sedges and false nettle. Hydrology is likely due to frequent flooding, local runoff and poorly drained soils. Animal habitat, botanical diversity and hydrologic function are rated as fair, poor and fair respectively, based on InWRAP summaries for the site. This wetland falls under the jurisdiction of the USACE and IDEM due to hydrologic connectivity to a tributary of Bryant Creek.



Photograph of Wet Meadow Polygon 150

### Section 5—Final Envir onmental Impact Statement

# APPENDIX F FI | AL WETLAND TECH NICAL REPORT

#### TE CHNICAL REPORT APPENDICES

| APP INDIX A | Wetland Site Forms  |
|-------------|---|
| APP :NDIX B | I-69 Wetland Quality<br>Assessment Profile<br>Sheets                                |
| APP :NDIX C | Wetland Matrix for I-69<br>Alternatives Carried<br>Forward for Detailed<br>Analysis |
| APP NDIX D  | InWRAP Data Sheets  |
| APP NDIX E  | Wetland Determination Data Forms  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W007

 Wetland Site
 \$5W007

 Date of site visit
 10/11/11

 Total wetland area
 0.03 acres

| Dahanan Information  |      |  |
|--|------|--|
| Polygon Information  | -    |  |
| Polygon ID   | 7    |  |
| Polygon Size (acres)   | 0.03 |  |
| Wetland Community Type   | WM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 1    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 1    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 1    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 8    |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | rpe) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 6    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 2    |  |
| Flood and storm water storage (= no. of yes answers)               | 2    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 19   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W011

 Wetland Site
 \$5W011

 Date of site visit
 10/11/12

 Total wetland area
 0.01 acres

| Delvaen Information  |      |  |
|--|------|--|
| Polygon Information  | 11   |  |
| Polygon ID   |      |  |
| Polygon Size (acres)   | 0.01 |  |
| Wetland Community Type   | WM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 1    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 1    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 1    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 8    |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | rpe) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 6    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 3    |  |
| Flood and storm water storage (= no. of yes answers)               | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 23   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W021

 Wetland Site
 \$5W021

 Date of site visit
 10/15/11

 Total wetland area
 0.13 acres

| Dahawan lufannasian  |      |  |
|--|------|--|
| Polygon Information  | 04   |  |
| Polygon ID   | 21   |  |
| Polygon Size (acres)   | 0.13 |  |
| Wetland Community Type   | SFB  |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 1    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 1    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 9    |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 6    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 2    |  |
| Flood and storm water storage (= no. of yes answers)               | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 21   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/28/2013

 Data reference #
 \$5W024

 Wetland Site
 \$5W024

 Date of site visit
 04/27/12

 Total wetland area
 0.24 acres

|   |        |      |      | _ |
|---|--------|------|------|---|
| Polygon Information   |        |      |      |   |
| Polygon ID  | 24a    | 24b  | 24c  |   |
| Polygon Size (acres)  | 0.02   | 0.14 | 0 08 |   |
| Wetland Community Type  | SC     | SHM  | SC   |   |
| Red Flag (Special) Indicators   |        |      |      |   |
| Special Hydrologic Conditions   | N      | N    | N    |   |
| Special Community Type  | N      | N    | N    |   |
| Rare-Threatened-Endangered Species                                    | N      | N    | N    |   |
| Animal Habitat Measures   |        |      |      |   |
| Wetland size and connectivity   | 1      | 1    | 1    |   |
| Surrounding land use  | 1      | 1    | 1    |   |
| Standing water  | 2      | 2    | 2    |   |
| Dead woody material   | 1      | 1    | 1    |   |
| Zonation and interspersion  | 1      | 1    | 1    |   |
| Stratification  | 1      | 1    | 1    |   |
| Tree canopy   | 3      | 1    | 3    |   |
| Mature trees  | 1      | 1    | 1    |   |
| Animal Habitat Measure Score (min = 8, max = 24)                      | 11     | 9    | 11   |   |
| Animal Habitat Measure Rating   | poor   | poor | poor |   |
| Botanical Measures (all except exotics dependent upon community type) |        | •    |      | _ |
| Number of dominant plant taxa observed                                | 1      | 1    | 1    |   |
| Conservatism rating   | 2      | 1    | 2    |   |
| Total hydrophytic taxa observed                                       | 1      | 1    | 1    |   |
| Number of indicator taxa  | 1      | 1    | 1    |   |
| Exotic species rating   | 3      | 2    | 3    |   |
| Botanical Measure Score (min = 5, max = 15)                           | 8      | 6    | 8    | _ |
| Botanical Measure Rating  | poor   | poor | poor |   |
| Hydrology Measures  |        |      |      | _ |
| Water quality protection (= no. of yes answers)                       | 2      | 2    | 2    |   |
| Flood and storm water storage (= no. of yes answers)                  | 2      | 2    | 2    |   |
| Site/Hydrology Score (min = 11, max = 33)                             | <br>19 | 19   | 19   | _ |
| Site/Hydrology Rating   | fair   | fair | fair |   |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W062

 Wetland Site
 \$5W062

 Date of site visit
 10/12/11

 Total wetland area
 3.25 acres

| 620  | 62b  |
|------|--|
|      | 1.78   |
|      |  |
| ואוט | FF   |
|      |  |
|      | N  |
|      | N  |
| N    | N  |
|      |  |
| 2    | 2  |
| 2    | 2  |
| 3    | 2  |
| 2    | 1  |
| 1    | 3  |
| 1    | 3  |
| 3    | 3  |
| 1    | 1  |
| 15   | 17   |
| fair | fair   |
|      |  |
| 1    | 2  |
| 1    | 1  |
| 3    | 1  |
| 1    | 1  |
| 3    | 3  |
| 9    | 8  |
| fair | poor   |
|      | ,  |
| 2    | 5  |
| 5    | 4  |
|      | 29   |
| fair | good   |
|      | 2<br>3<br>2<br>1<br>1<br>1<br>3<br>1<br>15<br>fair<br>1<br>3<br>3<br>9<br>fair<br>2<br>5 |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W063

 Wetland Site
 \$5W063

 Date of site visit
 10/12/11

 Total wetland area
 2.04 acres

| Polygon Information   |      |      |   |
|---|------|------|---|
| Polygon ID  | 63a  | 63b  |   |
| Polygon Size (acres)  | 1.44 | 0.60 |   |
| Wetland Community Type  | SM   | FF   |   |
|   | SIVI | ГГ   | _ |
| Red Flag (Special) Indicators   |      |      |   |
| Special Hydrologic Conditions   | N    | N    |   |
| Special Community Type  | N    | N    |   |
| Rare-Threatened-Endangered Species                                    | N    | N    | 1 |
| Animal Habitat Measures   |      |      |   |
| Wetland size and connectivity   | 3    | 3    | 3 |
| Surrounding land use  | 2    | 2    | 2 |
| Standing water  | 2    | 2    | 2 |
| Dead woody material   | 1    | 1    | 1 |
| Zonation and interspersion  | 3    | 1    | 1 |
| Stratification  | 1    | 3    | 3 |
| Tree canopy   | 1    | 3    | 3 |
| Mature trees  | 1    | 3    | 3 |
| Animal Habitat Measure Score (min = 8, max = 24)                      | 14   | 18   | 3 |
| Animal Habitat Measure Rating   | fair | fair | r |
| Botanical Measures (all except exotics dependent upon community type) |      |      |   |
| Number of dominant plant taxa observed                                | 2    | 2    | 2 |
| Conservatism rating   | 2    | 1    | 1 |
| Total hydrophytic taxa observed                                       | 1    | 1    | 1 |
| Number of indicator taxa  | 1    | 1    | 1 |
| Exotic species rating   | 2    | 3    | 3 |
| Botanical Measure Score (min = 5, max = 15)                           | 8    | 8    | 3 |
| Botanical Measure Rating  | poor | poor | r |
| Hydrology Measures  | •    | •    |   |
| Water quality protection (= no. of yes answers)                       | 5    | 5    | 5 |
| Flood and storm water storage (= no. of yes answers)                  | 5    | 4    |   |
| Site/Hydrology Score (min = 11, max = 33)                             | 31   | 29   |   |
| Site/Hydrology Rating   | good | good | - |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W065

 Wetland Site
 \$5W065

 Date of site visit
 10/13/11

 Total wetland area
 0.71 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 65   |  |
| Polygon Size (acres)   | 0.71 |  |
| Wetland Community Type   | SF   |  |
| Red Flag (Special) Indicators                                      | Ţ.   |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 3    |  |
| Surrounding land use   | 2    |  |
| Standing water   | 1    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 3    |  |
| Tree canopy  | 3    |  |
| Mature trees   | 3    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 19   |  |
| Animal Habitat Measure Rating                                      | good |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 7    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 5    |  |
| Flood and storm water storage (= no. of yes answers)               | 5    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 31   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W066

 Wetland Site
 \$5W066

 Date of site visit
 10/14/11

 Total wetland area
 0.15 acres

| Polygon Information   |      |  |
|---|------|--|
|   | 66   |  |
| Polygon ID  | 0.15 |  |
| Polygon Size (acres)  |      |  |
| Wetland Community Type  | SFB  |  |
| Red Flag (Special) Indicators                                     |      |  |
| Special Hydrologic Conditions                                     | N    |  |
| Special Community Type  | N    |  |
| Rare-Threatened-Endangered Species                                | N    |  |
| Animal Habitat Measures   |      |  |
| Wetland size and connectivity                                     | 3    |  |
| Surrounding land use  | 2    |  |
| Standing water  | 2    |  |
| Dead woody material   | 1    |  |
| Zonation and interspersion  | 3    |  |
| Stratification  | 1    |  |
| Tree canopy   | 1    |  |
| Mature trees  | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                  | 14   |  |
| Animal Habitat Measure Rating                                     | fair |  |
| Botanical Measures (all except exotics dependent upon community t | ype) |  |
| Number of dominant plant taxa observed                            | 1    |  |
| Conservatism rating   | 2    |  |
| Total hydrophytic taxa observed                                   | 1    |  |
| Number of indicator taxa  | 1    |  |
| Exotic species rating   | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                       | 8    |  |
| Botanical Measure Rating  | poor |  |
| Hydrology Measures  | •    |  |
| Water quality protection (= no. of yes answers)                   | 3    |  |
| Flood and storm water storage (= no. of yes answers)              | 5    |  |
| Site/Hydrology Score (min = 11, max = 33)                         | 27   |  |
| Site/Hydrology Rating   | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W068

 Wetland Site
 \$5W068

 Date of site visit
 10/14/11

 Total wetland area
 0.16 acres

| Daharan Information  |      |  |
|--|------|--|
| Polygon Information  | 22   |  |
| Polygon ID   | 68   |  |
| Polygon Size (acres)   | 0.16 |  |
| Wetland Community Type   | WM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 12   |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 2    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 7    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   | •    |  |
| Water quality protection (= no. of yes answers)                    | 3    |  |
| Flood and storm water storage (= no. of yes answers)               | 5    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 27   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W069

 Wetland Site
 \$5W069

 Date of site visit
 10/13/11

 Total wetland area
 3.52 acres

| Polygon Information   |      |      |      |      |      |      |  |
|---|------|------|------|------|------|------|--|
| Polygon ID  | 69a  | 69b  | 69e  | 69f  | 69g  | 69i  |  |
| Polygon Size (acres)  | 0.72 | 1.67 | 0 02 | 0 07 | 0.76 | 0.28 |  |
| Wetland Community Type  | SFB  | FF   | SHM  | SHM  | SOW  | DM   |  |
| Red Flag (Special) Indicators   |      |      |      |      |      |      |  |
| Special Hydrologic Conditions   | N    | N    | N    | N    | N    | N    |  |
| Special Community Type  | N    | N    | N    | N    | N    | N    |  |
| Rare-Threatened-Endangered Species                                    | N    | N    | N    | N    | N    | N    |  |
| Animal Habitat Measures   |      |      |      |      |      |      |  |
| Wetland size and connectivity   | 3    | 3    | 3    | 3    | 3    | 3    |  |
| Surrounding land use  | 1    | 1    | 1    | 1    | 1    | 1    |  |
| Standing water  | 1    | 2    | 3    | 2    | 3    | 2    |  |
| Dead woody material   | 1    | 3    | 1    | 1    | 1    | 1    |  |
| Zonation and interspersion  | 2    | 3    | 3    | 3    | 1    | 3    |  |
| Stratification  | 1    | 3    | 1    | 3    | 1    | 1    |  |
| Tree canopy   | 1    | 3    | 1    | 3    | 1    | 1    |  |
| Mature trees  | 1    | 1    | 1    | 1    | 1    | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                      | 11   | 19   | 14   | 17   | 12   | 13   |  |
| Animal Habitat Measure Rating   | poor | good | fair | fair | poor | poor |  |
| Botanical Measures (all except exotics dependent upon community type) |      |      |      |      |      |      |  |
| Number of dominant plant taxa observed                                | 2    | 1    | 1    | 1    | 1    | 3    |  |
| Conservatism rating   | 1    | 2    | 2    | 2    | 2    | 1    |  |
| Total hydrophytic taxa observed                                       | 2    | 1    | 1    | 2    | 2    | 3    |  |
| Number of indicator taxa  | 1    | 1    | 1    | 1    | 1    | 2    |  |
| Exotic species rating   | 3    | 3    | 3    | 3    | 3    | 1    |  |
| Botanical Measure Score (min = 5, max = 15)                           | 9    | 8    | 8    | 9    | 9    | 10   |  |
| Botanical Measure Rating  | fair | poor | poor | fair | fair | fair |  |
| Hydrology Measures  | •    |      |      |      |      |      |  |
| Water quality protection (= no. of yes answers)                       | 4    | 4    | 3    | 4    | 3    | 3    |  |
| Flood and storm water storage (= no. of yes answers)                  | 5    | 5    | 3    | 4    | 4    | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                             | 29   | 29   | 23   | 27   | 25   | 23   |  |
| Site/Hydrology Rating   | good | good | fair | good | fair | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W070

 Wetland Site
 \$5W070

 Date of site visit
 10/13/11

 Total wetland area
 10.92 acres

| Polygon Information   |         |        |        |  |
|---|---------|--------|--------|--|
| Polygon ID  | 70a     | 70b    | 70c    |  |
| Polygon Size (acres)  | 0.54    | 10.29  | 0 09   |  |
| Wetland Community Type  | SHM     | SF     | SHM    |  |
| Red Flag (Special) Indicators   | OI IIVI | - 01   | OTTIVI |  |
| Special Hydrologic Conditions   | N       | N      | N      |  |
| Special Community Type  | N       | N      | N      |  |
| Rare-Threatened-Endangered Species                                    | N       | N      | N      |  |
| Animal Habitat Measures   | - ' '   |        | - ''   |  |
| Wetland size and connectivity   | 3       | 3      | 3      |  |
| Surrounding land use  | 2       | 2      | 2      |  |
| Standing water  | 2       | 2      | 2      |  |
| Dead woody material   | 1       | 2      | 1      |  |
| Zonation and interspersion  | 3       | 3      | 3      |  |
| Stratification  | 1       | 3      | 1      |  |
| Tree canopy   | 1       | 3      | 1      |  |
| Mature trees  | 1       | 3      | 1      |  |
| Animal Habitat Measure Score (min = 8, max = 24)                      | 14      | 21     | 14     |  |
| Animal Habitat Measure Rating   | fair    | aood   | fair   |  |
| Botanical Measures (all except exotics dependent upon community type) | Iali    | good   | Iaii   |  |
| Number of dominant plant taxa observed                                | 1       | 1      | 1      |  |
| ·   | 1       | 1      | 1      |  |
| Conservatism rating   | 2       | 2      | 2      |  |
| Total hydrophytic taxa observed  Number of indicator taxa             | 1       | 1      | 1      |  |
|   | 1       | 1      | 1      |  |
| Exotic species rating   | 3       | 3<br>8 | 3<br>8 |  |
| Botanical Measure Score (min = 5, max = 15)                           | 8       | -      | -      |  |
| Botanical Measure Rating  | poor    | poor   | poor   |  |
| Hydrology Measures  |         | _      |        |  |
| Water quality protection (= no. of yes answers)                       | 4       | 5      | 4      |  |
| Flood and storm water storage (= no. of yes answers)                  | 5       | 5      | 5      |  |
| Site/Hydrology Score (min = 11, max = 33)                             | 29      | 31     | 29     |  |
| Site/Hydrology Rating   | good    | good   | good   |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W071

 Wetland Site
 \$5W071

 Date of site visit
 04/26/12

 Total wetland area
 31.75 acres

| Polygon Information  |       |  |
|--|-------|--|
| Polygon ID   | 71    |  |
| Polygon Size (acres)   | 31.75 |  |
| Wetland Community Type   | FF    |  |
| Red Flag (Special) Indicators  |       |  |
| Special Hydrologic Conditions  | N     |  |
| Special Community Type   | N     |  |
| Rare-Threatened-Endangered Species                                   | N     |  |
| Animal Habitat Measures  |       |  |
| Wetland size and connectivity  | 3     |  |
| Surrounding land use   | 2     |  |
| Standing water   | 2     |  |
| Dead woody material  | 2     |  |
| Zonation and interspersion   | 3     |  |
| Stratification   | 1     |  |
| Tree canopy  | 3     |  |
| Mature trees   | 3     |  |
| Animal Habitat Measure Score (min = 8, max = 24)                     | 19    |  |
| Animal Habitat Measure Rating  | good  |  |
| Botanical Measures (all except exotics dependent upon community type | e)    |  |
| Number of dominant plant taxa observed                               | 3     |  |
| Conservatism rating  | 1     |  |
| Total hydrophytic taxa observed                                      | 3     |  |
| Number of indicator taxa   | 1     |  |
| Exotic species rating  | 3     |  |
| Botanical Measure Score (min = 5, max = 15)                          | 11    |  |
| Botanical Measure Rating   | fair  |  |
| Hydrology Measures   |       |  |
| Water quality protection (= no. of yes answers)                      | 4     |  |
| Flood and storm water storage (= no. of yes answers)                 | 3     |  |
| Site/Hydrology Score (min = 11, max = 33)                            | 25    |  |
| Site/Hydrology Rating  | fair  |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W080

 Wetland Site
 \$5W080

 Date of site visit
 04/26/12

 Total wetland area
 0.56 acres

| Polygon Information   |      |  |
|---|------|--|
| Polygon ID  | 80   |  |
| Polygon Size (acres)  | 0.56 |  |
| Wetland Community Type  | FF   |  |
| Red Flag (Special) Indicators                                     |      |  |
| Special Hydrologic Conditions                                     | N    |  |
| Special Community Type  | N    |  |
| Rare-Threatened-Endangered Species                                | N    |  |
| Animal Habitat Measures   |      |  |
| Wetland size and connectivity                                     | 3    |  |
| Surrounding land use  | 3    |  |
| Standing water  | 2    |  |
| Dead woody material   | 2    |  |
| Zonation and interspersion  | 3    |  |
| Stratification  | 1    |  |
| Tree canopy   | 3    |  |
| Mature trees  | 3    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                  | 20   |  |
| Animal Habitat Measure Rating                                     | good |  |
| Botanical Measures (all except exotics dependent upon community t | ype) |  |
| Number of dominant plant taxa observed                            | 2    |  |
| Conservatism rating   | 1    |  |
| Total hydrophytic taxa observed                                   | 2    |  |
| Number of indicator taxa  | 1    |  |
| Exotic species rating   | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                       | 9    |  |
| Botanical Measure Rating  | fair |  |
| Hydrology Measures  |      |  |
| Water quality protection (= no. of yes answers)                   | 4    |  |
| Flood and storm water storage (= no. of yes answers)              | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                         | 25   |  |
| Site/Hydrology Rating   | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W091

 Wetland Site
 \$5W091

 Date of site visit
 10/15/11

 Total wetland area
 0.88 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 91   |  |
|  |      |  |
| Polygon Size (acres)   | 0.88 |  |
| Wetland Community Type   | SFB  |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 3    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 2    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 15   |  |
| Animal Habitat Measure Rating                                      | fair |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 2    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 2    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 1    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 7    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 3    |  |
| Flood and storm water storage (= no. of yes answers)               | 4    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 25   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W095

 Wetland Site
 \$5W095

 Date of site visit
 04/26/12

 Total wetland area
 0.19 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 95   |  |
|  |      |  |
| Polygon Size (acres)   | 0.19 |  |
| Wetland Community Type   | FF   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 3    |  |
| Standing water   | 1    |  |
| Dead woody material  | 2    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 1    |  |
| Tree canopy  | 3    |  |
| Mature trees   | 3    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 18   |  |
| Animal Habitat Measure Rating                                      | fair |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 8    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 4    |  |
| Flood and storm water storage (= no. of yes answers)               | 4    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 27   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W104

 Wetland Site
 \$5W104

 Date of site visit
 10/14/11

 Total wetland area
 0.4 acres

| Deliver Information  |      |  |
|--|------|--|
| Polygon Information  | 404  |  |
| Polygon ID   | 104  |  |
| Polygon Size (acres)   | 0.40 |  |
| Wetland Community Type   | SM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 12   |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 2    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 9    |  |
| Botanical Measure Rating   | fair |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 5    |  |
| Flood and storm water storage (= no. of yes answers)               | 4    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 29   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W109

 Wetland Site
 \$5W109

 Date of site visit
 10/14/11

 Total wetland area
 1.01 acres

| Polygon Information   |      |  |
|---|------|--|
| Polygon ID  | 109  |  |
| Polygon Size (acres)  | 1.01 |  |
|   | SC   |  |
| Wetland Community Type  | 3C   |  |
| Red Flag (Special) Indicators   |      |  |
| Special Hydrologic Conditions   | N    |  |
| Special Community Type  | N    |  |
| Rare-Threatened-Endangered Species                                    | N    |  |
| Animal Habitat Measures   |      |  |
| Wetland size and connectivity   | 2    |  |
| Surrounding land use  | 2    |  |
| Standing water  | 1    |  |
| Dead woody material   | 1    |  |
| Zonation and interspersion  | 3    |  |
| Stratification  | 1    |  |
| Tree canopy   | 1    |  |
| Mature trees  | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                      | 12   |  |
| Animal Habitat Measure Rating   | poor |  |
| Botanical Measures (all except exotics dependent upon community type) | -    |  |
| Number of dominant plant taxa observed                                | 1    |  |
| Conservatism rating   | 1    |  |
| Total hydrophytic taxa observed                                       | 1    |  |
| Number of indicator taxa  | 1    |  |
| Exotic species rating   | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                           | 6    |  |
| Botanical Measure Rating  | poor |  |
| Hydrology Measures  | •    |  |
| Water quality protection (= no. of yes answers)                       | 3    |  |
| Flood and storm water storage (= no. of yes answers)                  | 4    |  |
| Site/Hydrology Score (min = 11, max = 33)                             | 25   |  |
| Site/Hydrology Rating   | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W119

 Wetland Site
 \$5W119

 Date of site visit
 10/15/11

 Total wetland area
 0.05 acres

| Polygon Information Polygon ID Polygon Size (acres) Wetland Community Type | 119<br>0.05<br>SFB |  |
|--|--------------------|--|
| Polygon Size (acres)<br>Wetland Community Type                             | 0.05               |  |
| Wetland Community Type   |                    |  |
|  | SFB                |  |
| Ded Flow (Consciet) Indicators   |                    |  |
| Red Flag (Special) Indicators  |                    |  |
| Special Hydrologic Conditions  | N                  |  |
| Special Community Type   | N                  |  |
| Rare-Threatened-Endangered Species   | N                  |  |
| Animal Habitat Measures  |                    |  |
| Wetland size and connectivity  | 2                  |  |
| Surrounding land use   | 2                  |  |
| Standing water   | 1                  |  |
| Dead woody material  | 1                  |  |
| Zonation and interspersion   | 1                  |  |
| Stratification   | 1                  |  |
| Tree canopy  | 1                  |  |
| Mature trees   | 1                  |  |
| Animal Habitat Measure Score (min = 8, max = 24)                           | 10                 |  |
| Animal Habitat Measure Rating  | poor               |  |
| Botanical Measures (all except exotics dependent upon community type)      |                    |  |
| Number of dominant plant taxa observed                                     | 1                  |  |
| Conservatism rating  | 2                  |  |
| Total hydrophytic taxa observed  | 1                  |  |
| Number of indicator taxa   | 1                  |  |
| Exotic species rating  | 3                  |  |
| Botanical Measure Score (min = 5, max = 15)                                | 8                  |  |
| Botanical Measure Rating   | poor               |  |
| Hydrology Measures   |                    |  |
| Water quality protection (= no. of yes answers)                            | 1                  |  |
| Flood and storm water storage (= no. of yes answers)                       | 1                  |  |
| Site/Hydrology Score (min = 11, max = 33)                                  | 15                 |  |
| Site/Hydrology Rating  | poor               |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W120

 Wetland Site
 \$5W120

 Date of site visit
 10/15/11

 Total wetland area
 0.2 acres

| Delege to feed of the second o |      |  |
|--|------|--|
| Polygon Information  | 400  |  |
| Polygon ID   | 120  |  |
| Polygon Size (acres)   | 0.20 |  |
| Wetland Community Type   | SFB  |  |
| Red Flag (Special) Indicators  |      |  |
| Special Hydrologic Conditions  | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species   | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity  | 2    |  |
| Surrounding land use   | 2    |  |
| Standing water   | 1    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 1    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)   | 10   |  |
| Animal Habitat Measure Rating  | poor |  |
| Botanical Measures (all except exotics dependent upon community ty   | ype) |  |
| Number of dominant plant taxa observed   | 1    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed  | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 1    |  |
| Botanical Measure Score (min = 5, max = 15)  | 5    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)  | 3    |  |
| Flood and storm water storage (= no. of yes answers)   | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)  | 23   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 S5W121

 Wetland Site
 S5W121

 Date of site visit
 10/14/11

 Total wetland area
 0.04 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 121  |  |
| Polygon Size (acres)   | 0.04 |  |
| Wetland Community Type   | SFB  |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 1    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 1    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 9    |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 8    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   | _    |  |
| Water quality protection (= no. of yes answers)                    | 1    |  |
| Flood and storm water storage (= no. of yes answers)               | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 19   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W122

 Wetland Site
 \$5W122

 Date of site visit
 10/14/11

 Total wetland area
 0.28 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 122  |  |
|  | 0.28 |  |
| Polygon Size (acres)   |      |  |
| Wetland Community Type   | WM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 2    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 1    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 11   |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 6    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 1    |  |
| Flood and storm water storage (= no. of yes answers)               | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 19   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W123

 Wetland Site
 \$5W123

 Date of site visit
 10/14/11

 Total wetland area
 0.18 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 123  |  |
|  |      |  |
| Polygon Size (acres)   | 0.18 |  |
| Wetland Community Type   | WM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 3    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 1    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 12   |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 8    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 5    |  |
| Flood and storm water storage (= no. of yes answers)               | 4    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 29   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W124

 Wetland Site
 \$5W124

 Date of site visit
 10/14/11

 Total wetland area
 0.14 acres

| Deliver Information  |      |  |
|--|------|--|
| Polygon Information  | 124  |  |
| Polygon ID   | 0.14 |  |
| Polygon Size (acres)   |      |  |
| Wetland Community Type   | WM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 3    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 13   |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 8    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 5    |  |
| Flood and storm water storage (= no. of yes answers)               | 4    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 29   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 S5W125

 Wetland Site
 S5W125

 Date of site visit
 10/14/11

 Total wetland area
 7.4 acres

| Polygon Information   |        |        |        |        |
|---|--------|--------|--------|--------|
| Polygon ID  | 125a   | 125d   | 125e   | 125f   |
| Polygon Size (acres)  | 3.75   | 1.03   | 0 33   | 2 29   |
| Wetland Community Type  | WM     | WM     | FF     | FF     |
| Red Flag (Special) Indicators   | VVIVI  | VVIVI  |        | - 11   |
| Special Hydrologic Conditions   | N      | N      | NI.    | N      |
|   | N<br>N | N<br>N | N<br>N | N<br>N |
| Special Community Type  |        |        |        |        |
| Rare-Threatened-Endangered Species                                    | N      | N      | N      | N      |
| Animal Habitat Measures   | _      | _      | _      | _      |
| Wetland size and connectivity   | 2      | 2      | 2      | 2      |
| Surrounding land use  | 2      | 2      | 2      | 2      |
| Standing water  | 2      | 2      | 2      | 1      |
| Dead woody material   | 1      | 1      | 2      | 2      |
| Zonation and interspersion  | 3      | 3      | 3      | 3      |
| Stratification  | 1      | 1      | 3      | 3      |
| Tree canopy   | 1      | 1      | 3      | 3      |
| Mature trees  | 1      | 1      | 3      | 3      |
| Animal Habitat Measure Score (min = 8, max = 24)                      | 13     | 13     | 20     | 19     |
| Animal Habitat Measure Rating   | poor   | poor   | good   | good   |
| Botanical Measures (all except exotics dependent upon community type) |        |        | ·      |        |
| Number of dominant plant taxa observed                                | 1      | 1      | 2      | 2      |
| Conservatism rating   | 2      | 2      | 2      | 2      |
| Total hydrophytic taxa observed                                       | 1      | 1      | 3      | 3      |
| Number of indicator taxa  | 1      | 1      | 1      | 1      |
| Exotic species rating   | 3      | 3      | 3      | 3      |
| Botanical Measure Score (min = 5, max = 15)                           | 8      | 8      | 11     | 11     |
| Botanical Measure Rating  | poor   | poor   | fair   | fair   |
| Hydrology Measures  | -      | •      |        |        |
| Water quality protection (= no. of yes answers)                       | 3      | 4      | 5      | 4      |
| Flood and storm water storage (= no. of yes answers)                  | 3      | 4      | 4      | 4      |
| Site/Hydrology Score (min = 11, max = 33)                             | 23     | 27     | 29     | 27     |
|   | fair   |        | good   | good   |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W126

 Wetland Site
 \$5W126

 Date of site visit
 10/14/11

 Total wetland area
 5 acres

| Delivery Information   |            |  |
|--|------------|--|
| Polygon Information Polygon ID                                       | 126        |  |
| Polygon Size (acres)   | 5.00       |  |
|  | 5.00<br>FF |  |
| Wetland Community Type   | FF         |  |
| Red Flag (Special) Indicators  |            |  |
| Special Hydrologic Conditions  | N          |  |
| Special Community Type   | N          |  |
| Rare-Threatened-Endangered Species                                   | N          |  |
| Animal Habitat Measures  | _          |  |
| Wetland size and connectivity  | 3          |  |
| Surrounding land use   | 3          |  |
| Standing water   | 2          |  |
| Dead woody material  | 2          |  |
| Zonation and interspersion   | 3          |  |
| Stratification   | 3          |  |
| Tree canopy  | 3          |  |
| Mature trees   | 3          |  |
| Animal Habitat Measure Score (min = 8, max = 24)                     | 22         |  |
| Animal Habitat Measure Rating  | good       |  |
| Botanical Measures (all except exotics dependent upon community type | )          |  |
| Number of dominant plant taxa observed                               | 1          |  |
| Conservatism rating  | 2          |  |
| Total hydrophytic taxa observed                                      | 3          |  |
| Number of indicator taxa   | 1          |  |
| Exotic species rating  | 3          |  |
| Botanical Measure Score (min = 5, max = 15)                          | 10         |  |
| Botanical Measure Rating   | fair       |  |
| Hydrology Measures   | -          |  |
| Water quality protection (= no. of yes answers)                      | 6          |  |
| Flood and storm water storage (= no. of yes answers)                 | 5          |  |
| Site/Hydrology Score (min = 11, max = 33)                            | 33         |  |
| Site/Hydrology Rating  | good       |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W127

 Wetland Site
 \$5W127

 Date of site visit
 10/14/11

 Total wetland area
 1.16 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 127  |  |
| Polygon Size (acres)   | 1.16 |  |
| Wetland Community Type   | FF   |  |
|  | FF   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 3    |  |
| Surrounding land use   | 3    |  |
| Standing water   | 2    |  |
| Dead woody material  | 2    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 3    |  |
| Tree canopy  | 3    |  |
| Mature trees   | 3    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 22   |  |
| Animal Habitat Measure Rating                                      | good |  |
| Botanical Measures (all except exotics dependent upon community ty | pe)  |  |
| Number of dominant plant taxa observed                             | 2    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 3    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 11   |  |
| Botanical Measure Rating   | fair |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 4    |  |
| Flood and storm water storage (= no. of yes answers)               | 4    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 27   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W128

 Wetland Site
 \$5W128

 Date of site visit
 04/27/12

 Total wetland area
 2.65 acres

| Polygon Information  |            |  |
|--|------------|--|
| Polygon ID   | 128a       |  |
| Polygon Size (acres)   | 2.65       |  |
| Wetland Community Type   | Z.65<br>FF |  |
|  | ГГ         |  |
| Red Flag (Special) Indicators                                      |            |  |
| Special Hydrologic Conditions                                      | N          |  |
| Special Community Type   | N          |  |
| Rare-Threatened-Endangered Species                                 | N          |  |
| Animal Habitat Measures  |            |  |
| Wetland size and connectivity                                      | 2          |  |
| Surrounding land use   | 2          |  |
| Standing water   | 2          |  |
| Dead woody material  | 3          |  |
| Zonation and interspersion   | 3          |  |
| Stratification   | 3          |  |
| Tree canopy  | 3          |  |
| Mature trees   | 3          |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 21         |  |
| Animal Habitat Measure Rating                                      | good       |  |
| Botanical Measures (all except exotics dependent upon community ty | ype)       |  |
| Number of dominant plant taxa observed                             | 1          |  |
| Conservatism rating  | 1          |  |
| Total hydrophytic taxa observed                                    | 1          |  |
| Number of indicator taxa   | 1          |  |
| Exotic species rating  | 3          |  |
| Botanical Measure Score (min = 5, max = 15)                        | 7          |  |
| Botanical Measure Rating   | poor       |  |
| Hydrology Measures   |            |  |
| Water quality protection (= no. of yes answers)                    | 5          |  |
| Flood and storm water storage (= no. of yes answers)               | 4          |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 29         |  |
| Site/Hydrology Rating  | good       |  |

 Date Report Generated
 3/14/2013

 Data reference #
 S5W145

 Wetland Site
 S5W145

 Date of site visit
 04/26/12

 Total wetland area
 0.06 acres

| Polygon Information   |      |  |
|---|------|--|
|   | 145  |  |
| Polygon ID  |      |  |
| Polygon Size (acres)  | 0.06 |  |
| Wetland Community Type  | WM   |  |
| Red Flag (Special) Indicators                                     |      |  |
| Special Hydrologic Conditions                                     | N    |  |
| Special Community Type  | N    |  |
| Rare-Threatened-Endangered Species                                | N    |  |
| Animal Habitat Measures   |      |  |
| Wetland size and connectivity                                     | 2    |  |
| Surrounding land use  | 2    |  |
| Standing water  | 2    |  |
| Dead woody material   | 1    |  |
| Zonation and interspersion  | 3    |  |
| Stratification  | 3    |  |
| Tree canopy   | 1    |  |
| Mature trees  | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                  | 15   |  |
| Animal Habitat Measure Rating                                     | fair |  |
| Botanical Measures (all except exotics dependent upon community t | ype) |  |
| Number of dominant plant taxa observed                            | 2    |  |
| Conservatism rating   | 2    |  |
| Total hydrophytic taxa observed                                   | 1    |  |
| Number of indicator taxa  | 1    |  |
| Exotic species rating   | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                       | 8    |  |
| Botanical Measure Rating  | poor |  |
| Hydrology Measures  |      |  |
| Water quality protection (= no. of yes answers)                   | 3    |  |
| Flood and storm water storage (= no. of yes answers)              | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                         | 23   |  |
| Site/Hydrology Rating   | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W146

 Wetland Site
 \$5W146

 Date of site visit
 04/26/12

 Total wetland area
 0.14 acres

| Polygon Information  |      |  |
|--|------|--|
| Polygon ID   | 146  |  |
|  |      |  |
| Polygon Size (acres)   | 0.14 |  |
| Wetland Community Type   | FF   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 2    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 1    |  |
| Tree canopy  | 3    |  |
| Mature trees   | 3    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 17   |  |
| Animal Habitat Measure Rating                                      | fair |  |
| Botanical Measures (all except exotics dependent upon community ty | ype) |  |
| Number of dominant plant taxa observed                             | 2    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 2    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 8    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   | •    |  |
| Water quality protection (= no. of yes answers)                    | 3    |  |
| Flood and storm water storage (= no. of yes answers)               | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 23   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W147

 Wetland Site
 \$5W147

 Date of site visit
 04/27/12

 Total wetland area
 0.23 acres

| Daharan Information  |      |  |
|--|------|--|
| Polygon Information  | 4.47 |  |
| Polygon ID   | 147  |  |
| Polygon Size (acres)   | 0.23 |  |
| Wetland Community Type   | FF   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 3    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 3    |  |
| Stratification   | 3    |  |
| Tree canopy  | 3    |  |
| Mature trees   | 3    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 20   |  |
| Animal Habitat Measure Rating                                      | good |  |
| Botanical Measures (all except exotics dependent upon community ty | /pe) |  |
| Number of dominant plant taxa observed                             | 2    |  |
| Conservatism rating  | 2    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 3    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 9    |  |
| Botanical Measure Rating   | fair |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 5    |  |
| Flood and storm water storage (= no. of yes answers)               | 3    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 27   |  |
| Site/Hydrology Rating  | good |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W148

 Wetland Site
 \$5W148

 Date of site visit
 04/27/12

 Total wetland area
 0.09 acres

| Daharan Information  |      |  |
|--|------|--|
| Polygon Information  | 440  |  |
| Polygon ID   | 148  |  |
| Polygon Size (acres)   | 0.09 |  |
| Wetland Community Type   | SM   |  |
| Red Flag (Special) Indicators                                      |      |  |
| Special Hydrologic Conditions                                      | N    |  |
| Special Community Type   | N    |  |
| Rare-Threatened-Endangered Species                                 | N    |  |
| Animal Habitat Measures  |      |  |
| Wetland size and connectivity                                      | 2    |  |
| Surrounding land use   | 1    |  |
| Standing water   | 2    |  |
| Dead woody material  | 1    |  |
| Zonation and interspersion   | 1    |  |
| Stratification   | 1    |  |
| Tree canopy  | 1    |  |
| Mature trees   | 1    |  |
| Animal Habitat Measure Score (min = 8, max = 24)                   | 10   |  |
| Animal Habitat Measure Rating                                      | poor |  |
| Botanical Measures (all except exotics dependent upon community to | ype) |  |
| Number of dominant plant taxa observed                             | 1    |  |
| Conservatism rating  | 1    |  |
| Total hydrophytic taxa observed                                    | 1    |  |
| Number of indicator taxa   | 1    |  |
| Exotic species rating  | 1    |  |
| Botanical Measure Score (min = 5, max = 15)                        | 5    |  |
| Botanical Measure Rating   | poor |  |
| Hydrology Measures   |      |  |
| Water quality protection (= no. of yes answers)                    | 2    |  |
| Flood and storm water storage (= no. of yes answers)               | 2    |  |
| Site/Hydrology Score (min = 11, max = 33)                          | 19   |  |
| Site/Hydrology Rating  | fair |  |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W149

 Wetland Site
 \$5W149

 Date of site visit
 10/13/11

 Total wetland area
 1.27 acres

| Deliver between Con-  |      |       |      |
|---|------|-------|------|
| Polygon Information   | 4.40 | 4.401 | 4.40 |
| Polygon ID  | 149a | 149b  | 149c |
| Polygon Size (acres)  | 0.40 | 0.11  | 0.76 |
| Wetland Community Type  | SM   | SM    | SF   |
| Red Flag (Special) Indicators   |      |       |      |
| Special Hydrologic Conditions   | N    | N     | N    |
| Special Community Type  | N    | N     | N    |
| Rare-Threatened-Endangered Species                                    | N    | N     | N    |
| Animal Habitat Measures   |      |       |      |
| Wetland size and connectivity   | 2    | 2     | 2    |
| Surrounding land use  | 1    | 1     | 1    |
| Standing water  | 2    | 2     | 2    |
| Dead woody material   | 1    | 1     | 2    |
| Zonation and interspersion  | 1    | 1     | 3    |
| Stratification  | 1    | 1     | 3    |
| Tree canopy   | 1    | 1     | 3    |
| Mature trees  | 1    | 1     | 3    |
| Animal Habitat Measure Score (min = 8, max = 24)                      | 10   | 10    | 19   |
| Animal Habitat Measure Rating   | poor | poor  | good |
| Botanical Measures (all except exotics dependent upon community type) | •    | •     |      |
| Number of dominant plant taxa observed                                | 1    | 1     | 1    |
| Conservatism rating   | 3    | 3     | 1    |
| Total hydrophytic taxa observed                                       | 1    | 1     | 2    |
| Number of indicator taxa  | 1    | 1     | 1    |
| Exotic species rating   | 3    | 3     | 3    |
| Botanical Measure Score (min = 5, max = 15)                           | 9    | 9     | 8    |
| Botanical Measure Rating  | fair | fair  | poor |
| Hydrology Measures  | 1411 | IUII  | poor |
| Water quality protection (= no. of yes answers)                       | 4    | 4     | 3    |
| Flood and storm water storage (= no. of yes answers)                  | 5    | 5     | 4    |
| Site/Hydrology Score (min = 11, max = 33)                             | 29   | 29    | 25   |
| Site/Hydrology Score (min = 11, max = 33)                             |      |       | fair |
| эне/пуагоюду катing   | good | good  | tair |

 Date Report Generated
 3/14/2013

 Data reference #
 \$5W150

 Wetland Site
 \$5W150

 Date of site visit
 10/15/11

 Total wetland area
 0.07 acres

| Dalaman Information   |       |  |
|---|-------|--|
| Polygon Information   | 450   |  |
| Polygon ID  | 150   |  |
| Polygon Size (acres)  | 0.07  |  |
| Wetland Community Type  | WM    |  |
| Red Flag (Special) Indicators                                   |       |  |
| Special Hydrologic Conditions                                   | N     |  |
| Special Community Type  | N     |  |
| Rare-Threatened-Endangered Species                              | N     |  |
| Animal Habitat Measures   |       |  |
| Wetland size and connectivity                                   | 2     |  |
| Surrounding land use  | 3     |  |
| Standing water  | 1     |  |
| Dead woody material   | 1     |  |
| Zonation and interspersion                                      | 1     |  |
| Stratification  | 1     |  |
| Tree canopy   | 3     |  |
| Mature trees  | 3     |  |
| Animal Habitat Measure Score (min = 8, max = 24)                | 15    |  |
| Animal Habitat Measure Rating                                   | fair  |  |
| Botanical Measures (all except exotics dependent upon community | type) |  |
| Number of dominant plant taxa observed                          | 1     |  |
| Conservatism rating   | 2     |  |
| Total hydrophytic taxa observed                                 | 1     |  |
| Number of indicator taxa  | 1     |  |
| Exotic species rating   | 3     |  |
| Botanical Measure Score (min = 5, max = 15)                     | 8     |  |
| Botanical Measure Rating  | poor  |  |
| Hydrology Measures  |       |  |
| Water quality protection (= no. of yes answers)                 | 3     |  |
| Flood and storm water storage (= no. of yes answers)            | 3     |  |
| Site/Hydrology Score (min = 11, max = 33)                       | 23    |  |
| Site/Hydrology Rating   | fair  |  |

# Section 5—Final Envir onmental Impact Statement

# APPENDIX F FI |AL WETLAND TECH NICAL REPORT

# TE CHNICAL REPORT APPENDICES

| APP INDIX A | Wetland Site Forms  |
|-------------|---|
| APP :NDIX B | I-69 Wetland Quality<br>Assessment Profile<br>Sheets                                |
| APP :NDIX C | Wetland Matrix for I-69<br>Alternatives Carried<br>Forward for Detailed<br>Analysis |
| APP INDIX D | InWRAP Data Sheets  |
| APP NDIX E  | Wetland Determination   |

Wetland Matrix for I-69 Alternatives To Be Carried Forward For Further Consideration: Section 5 Construction Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

| We     | tland IE | and ID DATA  © Cowardin et al. Classification  Indiana Community Type |                                  |       |              | Alternative 5          |                        | Alterna | ative 6 |                        | Alternative 7 |  |              | Altern       | ative 8 | Refin                  | ed Preferred Alterna | ative 8                |          |
|--------|----------|---|----------------------------------|-------|--------------|------------------------|------------------------|---------|---------|------------------------|---------------|--|--------------|--------------|---------|------------------------|----------------------|------------------------|----------|
|        | : Yes    | Cowardin et al. Classification<br>Indiana Community Type              |                                  |       | PEM<br>WM    |                        |                        |         |         |                        |               |  |              |              |         |                        |                      |                        |          |
|        | diction  | Size (acres) Impact (acres)   |                                  |       | 0.03         |                        |                        |         |         |                        |               |  |              |              |         |                        |                      |                        |          |
|        | Jurisd   | Animal Habitat  |                                  |       | poor         |                        |                        |         |         |                        |               |  |              |              |         |                        |                      |                        |          |
| 7000   | ACE,     | Botanical<br>Hydrology  |                                  |       | poor<br>fair |                        |                        |         |         |                        |               |  |              |              |         |                        |                      | $\vdash \vdash \vdash$ | $\vdash$ |
| SS     |          | Red Flags Cowardin et al. Classification                              | PEM                              |       | N<br>PEM     |                        | PEM                    |         |         | PEM                    |               |  | PEM          |              |         | PEM                    |                      | $\blacksquare$         |          |
|        | oN :     | Indiana Community Type  | WM                               |       | WM           |                        | WM                     |         |         | WM                     |               |  | WM           |              |         | WM                     |                      |                        |          |
|        | dictio   | Size (acres) Impact (acres)   | 0.01                             |       | 0.01         |                        | 0.01                   |         |         | 0.01                   |               |  | 0 01<br>0 01 |              |         | 0 01                   |                      | $\vdash$               |          |
| _      | Juris    | Animal Habitat Botanical  | poor<br>poor                     |       | poor<br>poor |                        | poor<br>poor           |         |         | poor<br>poor           |               |  | poor<br>poor |              |         | poor<br>poor           |                      |                        |          |
| 5W011  | SACE     | Hydrology   | fair                             |       | fair         |                        | fair                   |         |         | fair                   |               |  | fair         |              |         | fair                   |                      |                        |          |
| S5     | S        | Red Flags  Cowardin et al. Classification                             | N PEM                            | + + + | PEM          |                        | N<br>PEM               |         |         | PEM                    |               |  | N<br>PEM     |              |         | N<br>PEM               |                      | $\vdash \vdash$        |          |
|        | on: Y    | Indiana Community Type Size (acres)                                   | SFB 0.13                         |       | SFB<br>0.13  |                        | SFB<br>0.13            |         |         | SFB<br>0.13            |               |  | SFB<br>0.13  |              |         | SFB<br>0.13            |                      |                        |          |
|        | sdicti   | Impact (acres)  | 0.13                             |       | 0.13         |                        | 0.13                   |         |         | 0.13                   |               |  | 0.13         |              |         | 0.13                   |                      |                        |          |
| 72     | E Jur    | Animal Habitat Botanical  | poor poor                        |       | poor         |                        | poor<br>poor           |         |         | poor<br>poor           |               |  | poor<br>poor |              |         | poor                   |                      | $\vdash \vdash$        | -        |
| S5W0   | JSAC     | Hydrology<br>Red Flags  | fair<br>N                        |       | fair<br>N    |                        | fair<br>N              |         |         | fair<br>N              |               |  | fair<br>N    |              |         | fair<br>N              |                      | $\vdash$               |          |
| 97     | Yes      | Cowardin et al. Classification  | PSS PEM PSS                      |       | PSS          | PEM PSS                |                        |         |         |                        |               |  |              |              |         |                        |                      |                        |          |
|        | tion:    | Indiana Community Type Size (acres)                                   | SC SHM SC 0.02 0.14 0.08         |       |              | SHM SC<br>0.14 0 08    |                        |         |         |                        |               |  |              |              |         |                        |                      |                        |          |
|        | ırisdic  | Impact (acres) Animal Habitat   | 0.01 0.02 0.00<br>poor poor poor |       |              | 0 02 0 00<br>poor poor |                        |         |         |                        |               |  |              |              |         |                        |                      | $\vdash$               |          |
| 024    | CE JL    | Botanical   | poor poor poor                   |       | poor         | poor poor              |                        |         |         |                        |               |  |              |              |         |                        |                      |                        |          |
| S5W    | - A      | Hydrology<br>Red Flags  | fair fair fair<br>N N N          |       | fair<br>N    | fair fair<br>N N       |                        |         |         |                        |               |  |              |              |         |                        |                      |                        |          |
|        | Yes      | Cowardin et al. Classification<br>Indiana Community Type              | PAB PFO DM FF                    |       | PAB<br>DM    | PFO FF                 | PAB PFO DM FF          |         |         | PAB PFO<br>DM FF       |               |  | PAB<br>DM    | PFO<br>FF    |         | PAB PFO<br>DM FF       |                      |                        |          |
|        | ction:   | Size (acres)  | 1.47 1.78                        |       | 1.47         | 1.78                   | 1.47 1.78              |         |         | 1.47 1.78              |               |  | 1.47         | 1.78         |         | 1.47 1.78              |                      |                        |          |
|        | urisdi   | Impact (acres) Animal Habitat   | 0.03 0.19<br>fair fair           |       | 0.20<br>fair | 0 33<br>fair           | 0.06 0.13<br>fair fair |         |         | 0.00 0.11<br>fair fair |               |  | 0 08<br>fair | 0.19<br>fair |         | 0 02 0.13<br>fair fair |                      |                        |          |
| V062   | ζĒ,      | Botanical<br>Hydrology  | fair poor<br>fair good           |       |              | poor<br>good           | fair poor<br>fair good |         |         | fair poor<br>fair good |               |  | fair<br>fair | poor<br>good |         | fair poor<br>fair good |                      | $\vdash \vdash \vdash$ |          |
| S5W    | /SU      | Red Flags   | N N                              |       | N            | N                      | N N                    |         |         | N N                    |               |  | N            | N            |         | N N                    |                      |                        |          |
|        | T. Yes   | Cowardin et al. Classification Indiana Community Type                 |                                  |       | SM           | PFO FF                 | PEM PFO<br>SM FF       |         |         | PEM PFO<br>SM FF       |               |  | PEM<br>SM    | FF           |         |                        |                      |                        |          |
|        | diction  | Size (acres) Impact (acres)   |                                  |       |              | 0 60                   | 1.44 0 60<br>1.22 0 60 |         |         | 1.44 0 60<br>0.58 0.18 |               |  | 1.44<br>1.17 | 0.60         |         |                        |                      | $\vdash \vdash \vdash$ |          |
|        | Juriso   | Animal Habitat  |                                  |       | fair         | fair                   | fair fair              |         |         | fair fair              |               |  | fair         | fair         |         |                        |                      |                        |          |
| W063   |          | Botanical<br>Hydrology  |                                  |       |              | poor<br>good           | poor poor<br>good good |         |         | poor poor<br>good good |               |  | poor<br>good | poor<br>good |         |                        |                      |                        |          |
| SS     | S US     | Red Flags  Cowardin et al. Classification                             | PFO                              |       | N<br>PFO     | N                      | N N<br>PFO             |         |         | N N<br>PFO             |               |  | N<br>PFO     | N            |         |                        |                      | $\vdash$               |          |
|        | on: Ye   | Indiana Community Type  | SF<br>0.71                       |       | SF<br>0.71   |                        | SF<br>0.71             |         |         | SF<br>0.71             |               |  | SF<br>0.71   |              |         |                        |                      |                        |          |
|        | sdictic  | Size (acres)<br>Impact (acres)  | 0.36                             |       | 0.71         |                        | 0.71                   |         |         | 0.18                   |               |  | 0.71         |              |         |                        |                      |                        |          |
| ξ      | E Juri   | Animal Habitat Botanical  | good<br>poor                     | + + + | good<br>poor |                        | good<br>poor           |         |         | good<br>poor           |               |  | good<br>poor |              |         |                        |                      | $\vdash$               | $\vdash$ |
| S5W065 | USACE    | Hydrology<br>Red Flags  | good                             |       | good<br>N    |                        | good<br>N              |         |         | good                   |               |  | good<br>N    |              |         |                        |                      |                        |          |
| S      | Yes      | Cowardin et al. Classification  | PEM                              |       | PEM          |                        | PEM                    |         |         | PEM                    |               |  | PEM          |              |         | PEM                    |                      |                        |          |
|        | tion:    | Indiana Community Type Size (acres)                                   | 0.15                             |       | 0.15         |                        | 0.15                   |         |         | 0.15                   |               |  | SFB<br>0.15  |              |         | 0.15                   |                      | $\vdash \vdash \vdash$ |          |
|        | risdict  | Impact (acres) Animal Habitat   | 0.15<br>fair                     |       | 0.15<br>fair |                        | 0.12<br>fair           |         |         | 0.08<br>fair           |               |  | 0.15<br>fair |              |         | 0.12<br>fair           |                      |                        |          |
| 99(    | ZE Jui   |   | poor                             |       | poor         |                        | poor                   |         |         | poor                   |               |  | poor         |              |         | poor                   |                      |                        |          |
| S5W066 | USACE    | Hydrology<br>Red Flags  | good<br>N                        |       | good<br>N    |                        | good<br>N              |         |         | good<br>N              |               |  | good<br>N    |              |         | good<br>N              |                      | $\vdash$               |          |
|        | Yes      | Cowardin et al. Classification<br>Indiana Community Type              | PEM<br>WM                        |       | PEM<br>WM    |                        | PEM<br>WM              |         |         | PEM<br>WM              |               |  | PEM<br>WM    |              |         | PEM<br>WM              |                      | <u> </u>               |          |
|        | ction:   | Size (acres)  | 0.16                             |       | 0.16         |                        | 0.16                   |         |         | 0.16                   |               |  | 0.16         |              |         | 0.16                   |                      |                        |          |
|        | urisdi   | Impact (acres) Animal Habitat   | 0.16<br>poor                     |       | 0.16<br>poor |                        | 0.16<br>poor           |         |         | <br>0.08<br>poor       |               |  | 0 01<br>poor |              |         | 0 01<br>poor           |                      | $\vdash \vdash \vdash$ |          |
| S5W068 | ACE JU   | Botanical<br>Hydrology  | poor<br>good                     |       | poor         |                        | poor<br>good           |         |         | poor                   |               |  | poor<br>good |              |         | poor<br>good           |                      |                        |          |
| S5W    | USA      | Red Flags   | N                                |       | N            |                        | N N                    |         |         | N                      |               |  | yood<br>N    |              |         | N                      |                      |                        |          |

Wetland Matrix for I-69 Alternatives To Be Carried Forward For Further Consideration: Section 5 Construction Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

| Wetla   | .0        |  |                       |                                      |      |      |                               |                       |                      |                                     |      | Alternative           | e 6          |                      |                      |                                    | Alterna              | ative 7      |                      |      |                      |      | Alternative 8        |                       |                                    |      | Refined | Preferred            | d Alternativ         | ve 8                 |                      |                                     |
|---------|-----------|--|-----------------------|--------------------------------------|------|------|-------------------------------|-----------------------|----------------------|-------------------------------------|------|-----------------------|--------------|----------------------|----------------------|------------------------------------|----------------------|--------------|----------------------|------|----------------------|------|----------------------|-----------------------|------------------------------------|------|---------|----------------------|----------------------|----------------------|----------------------|-------------------------------------|
|         | n: Ye     | Indiana Community Type   | SFB                   | FF SHM                               | SHM  | SOW  | DM SFB                        | PFO<br>FF             | PEM<br>SHM           | SHM SOW                             | DM   | PSS<br>SFB            | FF           | SHM                  | PSS<br>SHM           | PAB PEN<br>SOW DN                  | 1 SFB                | FF.          | PEM                  | SHM  | PAB<br>SOW           | DM   | SFB                  | PFO<br>FF             | SHM SHM                            | SOW  | DM      | SFB                  | FF                   | PEM                  | PSS<br>SHM           | PAB PEM<br>SOW DM                   |
|         | sdict     | Size (acres) Impact (acres) Animal Habitat                               | 0.72<br>0.00<br>poor  | 1.67 0 02<br>0.00 0 02<br>good fair  | 0.07 | 0.17 | 0.72<br>0.00<br>0 poor        | 1 67<br>0 00<br>good  | 0 02<br>0 02<br>fair | 0.07 0.76<br>0.07 0.20<br>fair poor | 0.27 | 0.72<br>0.02<br>poor  | 0 05         | 0.02<br>0.02<br>fair | 0.07<br>0.07<br>fair | 0.76 0.28<br>0.11 0.28<br>poor poo | 0 01                 | 0 00         | 0.02<br>0.02<br>fair | 0 07 | 0.76<br>0.00<br>poor | 0.28 | 0.72<br>0 00<br>poor | 1.67<br>0.00<br>good  | 0.02 0 07<br>0.02 0 07<br>fair fai | 0.06 | 0.27    | 0.72<br>0 00<br>poor | 1.67<br>0.00<br>good | 0 02<br>0 02<br>fair | 0 07<br>0 04<br>fair | 0.76 0 28<br>0.00 0 27<br>poor poor |
| :5W069  | ACE       | Botanical<br>Hydrology<br>Red Flags                                      | fair<br>good          | poor poor<br>good fair<br>N N        | good | fair | fair fair<br>fair good<br>N N | poor<br>good<br>N     | poor<br>fair         | fair fair<br>good fair<br>N N       |      | fair<br>good<br>N     |              | poor<br>fair<br>N    | fair<br>good<br>N    | fair fai                           |                      | l good       | poor<br>fair<br>N    | good | fair<br>fair<br>N    | fair | fair<br>good         | poor<br>good<br>N     | poor fair good                     | fair | fair    | fair<br>good<br>N    | poor<br>good<br>N    | poor<br>fair<br>N    | fair<br>good<br>N    | fair fair<br>fair fair<br>N N       |
| 0)      | es l      | Cowardin et al. Classification Indiana Community Type                    | PEM<br>SHM            | PFO PEM<br>SF SHM                    |      | IX.  | PEM<br>SHM                    | PFO<br>SF             | PEM<br>SHM           | N N                                 |      | PEM<br>SHM            | PFO<br>SF    | PEM<br>SHM           |                      |                                    | PEM<br>SHM           | PFO<br>SF    | PEM<br>SHM           |      | .,                   |      | SHM                  | PFO<br>SF             | PEM<br>SHM                         | .,   | , in    | PEM<br>SHM           | PFO<br>SF            | PEM<br>SHM           |                      |                                     |
|         | sdict     | Size (acres) Impact (acres) Animal Habitat                               | 0.54<br>0.05          | 10.29 0 09<br>2.44 0 09<br>good fair | )    |      | 0.54<br>0.40<br>fair          | 10 29<br>3.76<br>good | 0 09<br>0 09<br>fair |                                     |      | 0.54<br>0.40<br>fair  |              | 0.09<br>0.09<br>fair |                      |                                    | 0.54<br>0.00<br>fair | 0.48         | 0.09<br>0.00<br>fair |      |                      |      | 0 31                 | 10.29<br>2.79<br>good | 0.09<br>0.08<br>fair               |      |         | 0.54<br>0.14         |                      | 0 09<br>0 00<br>fair | <del></del>          |                                     |
| 5W070   | SACI      | Botanical<br>Hydrology   | poor<br>good          | poor poor<br>good good               |      |      | poor<br>good                  | poor<br>good          | poor<br>good         |                                     |      | poor<br>good          | poor<br>good | poor<br>good         |                      |                                    | poor                 | poor<br>good | poor                 |      |                      |      | poor<br>good         | poor<br>good          | poor<br>good                       |      |         | poor<br>good         | poor<br>good         | poor<br>good         | =                    |                                     |
| S       | es        | Red Flags Cowardin et al. Classification Indiana Community Type          | PFO<br>FF             | N N                                  |      |      | PFO<br>FF                     | N                     | IN                   |                                     |      | PFO<br>FF             | IN           | N                    |                      |                                    | N                    | I N          | N                    |      |                      |      | 14                   | N                     | N                                  |      |         | N                    | N                    | N                    |                      |                                     |
|         | sdic      | Size (acres) Impact (acres) Animal Habitat                               | 31.75<br>0.05<br>good |                                      |      |      | 31.75<br>0.05<br>good         |                       |                      |                                     |      | 31.75<br>0.02<br>good |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      | $\Rightarrow$        | =                    |                                     |
| 5W071   | SACE JU   | Botanical<br>Hydrology   | fair<br>fair          |                                      |      |      | fair<br>fair                  |                       |                      |                                     |      | fair<br>fair<br>N     |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      |                      |                      |                                     |
| S       | , es      | Red Flags  Cowardin et al. Classification  Indiana Community Type        | IN                    |                                      |      |      | IN                            |                       |                      |                                     |      | PFO<br>FF             |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      |                      |                      |                                     |
|         | sdict     | Size (acres) Impact (acres) Animal Habitat                               |                       |                                      |      |      |                               |                       |                      |                                     |      | 0.56<br>0.01<br>good  |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      | <u></u>              | <del>-</del>         |                                     |
| :5W080  | ACE J     | Botanical Hydrology Red Flags  |                       |                                      |      |      |                               |                       |                      |                                     |      | fair<br>fair<br>N     |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      | <u></u>              |                      |                                     |
| o       | n: Yes    | Cowardin et al. Classification<br>Indiana Community Type                 | PSS<br>SFB            |                                      |      |      | PSS<br>SFB                    |                       |                      |                                     |      | PSS<br>SFB            |              |                      |                      |                                    | PSS<br>SFB           | 3            |                      |      |                      |      | PSS<br>SFB           |                       |                                    |      |         | PSS<br>SFB           |                      |                      |                      |                                     |
|         | sdict     | Size (acres) Impact (acres) Animal Habitat                               | 0.88<br>0.88<br>fair  |                                      |      |      | 0.88<br>0.88<br>fair          |                       |                      |                                     |      | 0.88<br>0.88<br>fair  |              |                      |                      |                                    | 0.88<br>0.88<br>fair | 3            |                      |      |                      |      | 0 88<br>0 88<br>fair |                       |                                    |      |         | 0 88<br>0 88<br>fair |                      |                      | <del></del>          |                                     |
| \$5W091 | SACI      | Botanical<br>Hydrology<br>Red Flags                                      | poor<br>fair<br>N     |                                      |      |      | poor<br>fair<br>N             |                       |                      |                                     |      | poor<br>fair<br>N     |              |                      |                      |                                    | poor<br>fair<br>N    | r            |                      |      |                      |      | poor<br>fair<br>N    |                       |                                    |      |         | poor<br>fair<br>N    |                      |                      |                      |                                     |
| 9       | n: Yes I  | Cowardin et al. Classification<br>Indiana Community Type                 |                       |                                      |      |      |                               |                       |                      |                                     |      |                       |              |                      |                      |                                    | PFO<br>FF            | )            |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      |                      |                      |                                     |
|         | sdict     | Size (acres) Impact (acres) Animal Habitat                               |                       |                                      |      |      |                               |                       |                      |                                     |      |                       |              |                      |                      |                                    | 0.19<br>0.01<br>fair |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      |                      |                      |                                     |
| S5W095  | SACE      | Botanical<br>Hydrology<br>Red Flags                                      |                       |                                      |      |      |                               |                       |                      |                                     |      |                       |              |                      |                      |                                    | poor<br>good<br>N    | i            |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      | #                    | 4                    |                                     |
|         | n: Yes I  | Cowardin et al. Classification<br>Indiana Community Type                 | PEM<br>SM<br>0.40     |                                      |      |      | PEM<br>SM                     |                       |                      |                                     |      |                       |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      | $\Rightarrow$        | $\equiv$             |                                     |
|         | Jurisdict | Size (acres) Impact (acres) Animal Habitat                               | 0.25<br>poor          |                                      |      |      | 0.40<br>0.25<br>poor          |                       |                      |                                     |      |                       |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      |                      |                      |                                     |
| S5W104  | ACI       | Botanical<br>Hydrology<br>Red Flags                                      | fair<br>good<br>N     |                                      |      |      | fair<br>good<br>N             |                       |                      |                                     |      |                       |              |                      |                      |                                    |                      |              |                      |      |                      |      |                      |                       |                                    |      |         |                      |                      | $\Rightarrow$        | $= \downarrow$       |                                     |
|         | n: K      | Cowardin et al. Classification<br>Indiana Community Type<br>Size (acres) | PSS<br>SC<br>1.01     |                                      |      |      | PSS<br>SC<br>1.01             |                       |                      |                                     |      | PSS<br>SC<br>1.01     |              |                      |                      |                                    | PSS<br>SC<br>1.01    | ;            |                      |      |                      |      | PSS<br>SC<br>1 01    |                       |                                    |      |         | PSS<br>SC<br>1 01    |                      | =                    | =                    |                                     |
|         | Jurisdict | Impact (acres) Animal Habitat  | 0.37<br>poor          |                                      |      |      | 0.38<br>poor                  |                       |                      |                                     |      | 0.12<br>poor          |              |                      |                      |                                    | 0.15<br>poor         | s<br>r       |                      |      |                      |      | 0.12<br>poor         |                       |                                    |      |         | 0.12<br>poor         |                      | #                    | <u></u>              |                                     |
| S5W109  | SAC       | Botanical<br>Hydrology<br>Red Flags                                      | poor<br>fair<br>N     |                                      |      |      | poor<br>fair<br>N             |                       |                      |                                     |      | poor<br>fair<br>N     |              |                      |                      |                                    | poor<br>fair<br>N    | r            |                      |      |                      |      | poor<br>fair<br>N    |                       |                                    |      |         | poor<br>fair<br>N    |                      |                      |                      |                                     |
|         | .: ×      | Cowardin et al. Classification<br>Indiana Community Type<br>Size (acres) | PEM<br>SFB<br>0.05    |                                      |      |      | PEM<br>SFB<br>0.05            |                       |                      |                                     |      | PEM<br>SFB<br>0.05    |              |                      |                      |                                    | PEM<br>SFB<br>0.05   | 3            |                      |      |                      |      | PEM<br>SFB<br>0 05   |                       |                                    |      |         | PEM<br>SFB<br>0 05   |                      | #                    | $\equiv$             |                                     |
|         | Jurisdia  | Impact (acres)<br>Animal Habitat   | 0.05<br>poor          |                                      |      |      | 0.05<br>poor                  |                       |                      |                                     |      | 0.05<br>poor          |              |                      |                      |                                    | 0.05<br>poor         | i<br>r       |                      |      |                      |      | 0 05<br>poor         |                       |                                    |      |         | 0 05<br>poor         |                      | $\Rightarrow$        | #                    |                                     |
| S5W119  | SAC       | Botanical<br>Hydrology<br>Red Flags                                      | poor<br>poor<br>N     |                                      |      |      | poor<br>poor<br>N             |                       |                      |                                     |      | poor<br>poor<br>N     |              |                      |                      |                                    | poor<br>poor<br>N    | r            |                      |      |                      |      | poor<br>poor<br>N    |                       |                                    |      |         | poor<br>poor<br>N    |                      |                      |                      |                                     |

Wetland Matrix for I-69 Alternatives To Be Carried Forward For Further Consideration: Section 5 Construction Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

| 100                                     | D DATA  |                  | Alternative 4    |   |              | Alternat  | tive 5    |                  |            |           | Alternati      | ive 6     |  |             |      | Alternative 7 |   |   |              | Altern         | ative 8  |   |            | Refine  | d Preferred Alterna | tive 8 |  |
|---|---|------------------|------------------|---|--------------|-----------|-----------|------------------|------------|-----------|----------------|-----------|--|-------------|------|---------------|---|---|--------------|----------------|--|---|------------|---------|---------------------|--------|--|
| • | Cowardin et al. Classification                        | PEM              | Alternative      |   | PEM          | Atternal  |           |                  | PEM        |           | Aiternati      | 1100      |  | PEM         |      | Anternative   |   |   | PEM          | Altern         |  |   | PEM        | rtennet | a ricierica Alterna |        |  |
| , e                                     | Indiana Community Type                                | SFB              |                  |   | SFB          |           |           |                  | SFB        |           |                |           |  | SFB         |      |               |   |   | SFB          |                |  |   | SFB        |         |                     |        |  |
| tion                                    | Size (acres)  | 0.20             |                  |   | 0.20         |           |           |                  | 0.20       |           |                |           |  | 0.20        |      |               |   |   | 0 20         |                |  |   | 0 20       |         |                     |        |  |
| ggi                                     | Impact (acres)  | 0.02             |                  |   | 0.02         |           |           |                  | 0.06       |           |                |           |  | 0.06        |      |               |   |   | 0 04         |                |  |   | 0 06       |         |                     |        |  |
| iri i                                   | Animal Habitat  | poor             |                  |   | poor         |           |           |                  | poor       |           |                |           |  | poor        |      |               |   |   | poor         |                |  |   | poor       |         |                     |        |  |
| W120<br>ACE J                           | Botanical   | poor             |                  |   | poor         |           |           |                  | poor       |           |                |           |  | poor        |      |               |   |   | poor         |                |  |   | poor       |         |                     |        | <u> </u>   |
| 55W1<br>JSAC                            | Hydrology   | fair             |                  |   | fair         |           |           |                  | fair       |           |                |           |  | fair        |      |               |   |   | fair         |                |  |   | fair       |         |                     |        | <b></b>  |
| S5.                                     | Red Flags   | N                |                  |   | N            |           |           |                  | N          |           |                |           |  | N           |      |               |   |   | N            |                |  |   | N          |         |                     | '      | <del></del>                                      |
| , se                                    | Cowardin et al. Classification                        | PEM              |                  |   | PEM          |           |           |                  | PEM<br>SFB |           |                |           |  | PEM         |      |               |   |   | PEM<br>SFB   |                |  |   | PEM<br>SFB |         |                     | '      | ├──  |
| i ii                                    | Indiana Community Type Size (acres)                   | 0.04             |                  |   | SFB<br>0.04  |           | +         |                  | 0.04       |           |                |           |  | SFB<br>0.04 |      |               |   | _ | 0 04         |                |  |   | 0 04       |         | -                   |        | <del>                                     </del> |
| Jicti                                   | Impact (acres)  | 0.04             |                  |   | 0.04         |           |           |                  | 0.04       |           |                |           |  | 0.04        |      |               |   |   | 0 04         |                |  |   | 0 04       |         | -+                  |        | <b> </b>   |
| lrisc                                   | Animal Habitat  | poor             |                  |   | poor         |           |           |                  | poor       |           |                |           |  | poor        |      |               |   |   | poor         |                |  |   | poor       |         |                     |        | <del>                                     </del> |
| 21<br>H JL                              | Botanical   | poor             |                  |   | poor         |           |           |                  | poor       |           |                |           |  | poor        |      |               |   |   | poor         |                |  |   | poor       |         |                     |        |  |
| W1;                                     | Hydrology   | fair             |                  |   | fair         |           |           |                  | fair       |           |                |           |  | fair        |      |               |   |   | fair         |                |  |   | fair       |         |                     |        |  |
| SS                                      | Red Flags   | N                |                  |   | N            |           |           |                  | N          |           |                |           |  | N           |      |               |   |   | N            |                |  |   | N          |         |                     |        |  |
| es                                      | Cowardin et al. Classification                        | PEM              |                  |   | PEM          |           |           |                  | PEM        |           |                |           |  | PEM         |      |               |   |   | PEM          |                |  |   | PEM        |         |                     |        |  |
| <u>≻</u>                                | Indiana Community Type                                | WM               |                  |   | WM           |           |           |                  | WM         |           |                |           |  | WM          |      |               |   |   | WM           |                |  |   | WM         |         |                     | '      | <b>↓</b>   |
| ctio                                    | Size (acres)  | 0.28             |                  |   | 0.28         |           |           |                  | 0.28       |           |                |           |  | 0.28        |      |               |   |   | 0 28         |                |  | 1 | 0 28       |         |                     | '      | ₩  |
| isdi                                    | Impact (acres) Animal Habitat                         | 0.28             |                  |   | 0.28         |           |           |                  | 0.01       |           |                |           | <del>                                     </del> | 0.01        |      |               |   |   | 0 01         |                |  | + | 0 01       |         |                     |        | <del></del>                                      |
| 22<br>E Jur                             | Data dad  | poor<br>poor     |                  |   | poor<br>poor |           |           |                  | poor       |           |                |           |  | poor        |      |               |   | 1 | poor<br>poor | 1              |  | + | poor       | -       |                     |        | <del>                                     </del> |
| W122                                    | Hydrology   | fair             |                  |   | fair         | +         |           |                  | fair       |           | <del>- +</del> |           |  | fair        | +    |               | + |   | fair         |                |  | 1 | fair       |         | -+                  |        | <b> </b>   |
| S5V<br>US/                              | Red Flags   | N                |                  |   | N            |           |           |                  | N          |           |                |           |  | N           |      |               |   |   | N            | 1              |  |   | N          |         |                     |        |  |
| Se                                      | Cowardin et al. Classification                        | PEM              |                  | † | PEM          |           |           |                  | PEM        |           |                |           |  |             |      | †             |   |   | PEM          | †              |  |   |            |         |                     |        |  |
| خ ا                                     | Indiana Community Type                                | WM               |                  |   | WM           |           |           |                  | WM         |           |                |           |  |             |      |               |   |   | WM           |                |  |   |            |         |                     |        |  |
| l jë                                    | Size (acres)  | 0.18             |                  |   | 0.18         |           |           |                  | 0.18       |           |                |           |  |             |      |               |   |   | 0.18         |                |  |   |            |         |                     | '      | <u> </u>   |
| sdic                                    | Impact (acres)  | 0.10             |                  |   | 0.12         |           |           |                  | 0.02       |           |                |           |  |             |      |               |   |   | 0 01         |                |  |   |            |         |                     | '      | <b></b>  |
| Juri                                    | Animal Habitat  | poor             |                  |   | poor         |           |           |                  | poor       |           |                |           |  |             |      |               |   |   | poor         |                |  |   |            |         |                     | '      | <del>                                     </del> |
| 123<br>CE ,                             | Botanical   | poor             |                  |   | poor         |           |           |                  | poor       |           |                |           |  |             |      |               |   |   | poor         |                |  |   |            |         |                     | '      | —  |
| S5W                                     | Hydrology<br>Red Flags                                | good<br>N        |                  |   | good<br>N    |           | +         |                  | good<br>N  |           |                |           |  |             |      |               |   | - | good<br>N    |                |  |   | -          |         | -                   |        | <del>                                     </del> |
| 0) <u>J</u>                             | Cowardin et al. Classification                        | PEM              |                  |   | PEM          |           |           |                  | - 1        |           |                |           |  |             |      |               |   |   | - '          |                |  |   |            |         |                     |        | $\vdash$   |
| Α,                                      | Indiana Community Type                                | WM               |                  |   | WM           |           |           |                  |            |           |                |           |  |             |      |               |   | 1 |              |                |  |   |            |         |                     |        |  |
| fj                                      | Size (acres)  | 0.140            |                  |   | 0.140        |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        |  |
| ggi                                     | Impact (acres)  | 0.110            |                  |   | 0.130        |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        |  |
| Juris                                   | Animal Habitat  | poor             |                  |   | poor         |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     | '      | <u> </u>   |
| '124<br>.CE                             | Botanical   | poor             |                  |   | poor         |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     | '      | <del>                                     </del> |
| S5W                                     | Hydrology   | good<br>N        |                  |   | good<br>N    |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        | ₽  |
| <u>ν</u> ⊃                              | Red Flags  Cowardin et al. Classification             | PEM PEM          | PFO PFO          |   | PEM          | PEM PFO   | PFO       |                  | PEM        | PEM       | PFO            | PFO       |  | PEM         | PEM  | PFO PFO       |   |   | PEM          | PEM PFO        | PFO  |   | PEM        | PEM     | PFO PFO             |        | <del></del>                                      |
| , e                                     | Indiana Community Type                                | WM WM            | FF FF            |   | WM           | WM FF     | FF        |                  | WM         | WM        | FF             | FF        |  | WM          | WM   | FF FF         |   |   | WM           | WM FF          | FF   |   | WM         | WM      | FF FF               |        | <del>                                     </del> |
| ijon                                    | Size (acres)  | 3.75 1.03        | 0 33 2.29        |   | 3.75         |           | 2.29      |                  | 3.75       | 1 03      | 0.33           | 2.29      |  | 3.75        | 1 03 | 0.33 2 29     |   |   | 3.75         | 1.03 0.33      | 2 29   |   | 3.75       | 1.03    | 0 33 2.29           |        |  |
| gi                                      | Impact (acres)  | 1.07 0.21        | 0 32 0.87        |   | 1.07         | 0 23 0 31 | 0.86      |                  | 0.69       | 0 00      | 0.00           | 0.21      |  | 0.62        | 0 00 | 0.00 0 09     |   |   | 0 68         | 0.00 0.00      | 0 21   |   | 0.43       | 0.00    | 0 00 0.05           |        |  |
| iri i                                   | Animal Habitat  | poor poor        | good good        |   | poor         | poor good | good      |                  | poor       | poor      | good           | good      |  | poor        | poor | good good     |   |   | poor         | poor good      | good   |   | poor       | poor    | good good           |        |  |
| /125                                    | Botanical   | poor poor        | fair fair        |   | poor         | poor fair | fair      |                  | poor       | poor      | fair           | fair      |  | poor        | poor | fair fair     |   |   | poor         | poor fair      | fair   |   | poor       | poor    | fair fair           |        | <b></b>  |
| 5W.                                     | Tydrology   | fair good<br>N N | good good<br>N N |   | fair<br>N    | good good | good<br>N |                  | fair       | good<br>N | good           | good<br>N | $\vdash$   | fair        | good |               |   |   | fair         |                | good<br>N  | 1 | fair       | good    | good good<br>N N    |        | <del> </del>                                     |
| <u>ν</u> ⊃                              | Red Flags  Cowardin et al. Classification             | N N<br>PFO       | IN IN            | + | PFO          | N N       | IN        |                  | N          | N         | N              | IN        |  | IN          | N    | N N           |   |   | N            | N N            | IN   |   | N          | N       | N N                 |        | <del></del>                                      |
| , Ke                                    |   | FF               | +                |   | FF           | +         |           |                  |            | +         |                |           |  | +           | 1    |               | + |   |              | <del>-  </del> | <del>                                     </del> | + | <b>-</b>   | -+      |                     |        | <u> </u>   |
| jon:                                    | Size (acres)  | 5.00             |                  |   | 5.00         |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        |  |
| dict                                    | Impact (acres)  | 1.37             |                  |   | 1.37         |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        |  |
| luris                                   | Animal Habitat  | good             |                  |   | good         |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        |  |
| 126<br>CE,                              | Botanical   | fair             |                  |   | fair         |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        | <b></b>  |
| S5W126<br>USACE J                       | Hydrology   | good             |                  |   | good         |           |           |                  |            |           |                |           |  |             |      |               |   |   |              |                |  |   |            |         |                     |        | <del>                                     </del> |
| ö ⊃                                     | rteu i laga   | N                |                  |   | N<br>DEO     |           |           |                  | DEO        |           |                |           |  | DEO         |      |               |   |   | PEG          |                |  |   | DEO        |         |                     |        | <del></del>                                      |
| , es                                    | Cowardin et al. Classification Indiana Community Type | PFO<br>FF        | + +              |   | PFO<br>FF    |           |           | <del>     </del> | PFO<br>FF  |           |                |           | <del>   </del>                                   | PFO<br>FF   |      |               |   |   | PFO<br>FF    | +              |  |   | PFO<br>FF  |         |                     |        | <del>                                     </del> |
| o<br>U                                  | Size (acres)  | 1.16             |                  |   | 1.16         | +         |           | <del>-  </del>   | 1.16       |           |                |           |  | 1.16        |      |               |   |   | 1.16         |                |  | + | 1.16       |         |                     |        |  |
| dicti                                   | Impact (acres)  | 0.44             |                  |   | 0.44         |           |           |                  | 0.35       |           |                |           |  | 0.16        |      |               |   |   | 0 35         | <u> </u>       |  |   | 0.10       |         |                     |        |  |
| uris                                    | Animal Habitat  | good             |                  |   | good         |           |           |                  | good       |           |                |           |  | good        |      |               |   |   | good         |                |  |   | good       |         |                     |        |  |
| 27<br>E Ji                              | Botanical   | fair             |                  |   | fair         |           |           |                  | fair       |           |                |           |  | fair        |      |               |   |   | fair         |                |  |   | fair       |         |                     |        |  |
| S5W127<br>USACE J                       | Hydrology   | good             |                  |   | good         |           |           |                  | good       |           |                |           |  | good        |      |               |   |   | good         |                |  |   | good       |         |                     |        |  |
| SS D                                    |   | N                |                  |   | N            |           |           |                  | N          |           |                |           | ļl   | N           |      |               |   |   | N            |                |  |   | N          |         |                     | '      | <b></b>  |
| Yes                                     | Cowardin et al. Classification                        | PFO              |                  |   | PFO          |           |           |                  |            |           |                |           | $\vdash$   | PFO         | -    |               |   |   | PFO          |                |  | 1 | PFO        |         |                     |        | <del> </del>                                     |
| ,<br>E                                  | Indiana Community Type Size (acres)                   | FF 2.65          |                  |   | FF<br>2.65   |           |           |                  |            |           |                |           |  | FF<br>2.65  |      |               |   |   | FF<br>2 65   |                |  | 1 | FF<br>2 65 |         | $\longrightarrow$   |        | +  |
| ligi                                    | Size (acres) Impact (acres)                           | 0.32             | + +              |   | 0.32         |           |           |                  | -          | -         |                |           |  | 0.21        |      |               |   |   | 0 21         | +              | <del>                                     </del> | + | 0 21       | -+      |                     |        | <del>                                     </del> |
| ırisd                                   | Animal Habitat  | good             |                  |   | good         |           |           |                  |            |           | -              |           |  | good        |      |               |   |   | good         | <del>-  </del> |  |   | good       | -+      | -+                  |        |  |
| 28<br> -<br> -                          | Date date   | poor             |                  |   | poor         | 1         |           |                  | <u> </u>   |           |                |           |  | poor        |      |               |   | 1 | poor         |                |  |   | poor       |         |                     |        |  |
| S5W128<br>USACE J                       | Hydrology   | good             |                  |   | good         |           |           |                  |            |           |                |           |  | good        |      |               |   |   | good         |                |  |   | good       |         |                     |        |  |
| (1)                                     | Red Flags   | N                |                  |   | N            |           |           |                  |            |           |                |           |  | N           |      |               |   |   | N            |                |  |   | N          |         |                     |        | 1  |

### Wetland Matrix for I-69 Alternatives To Be Carried Forward For Further Consideration: Section 5 Construction Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

| We   | tland II  | land ID DATA  Alternative 4  Cowardin et al. Classification  PEM |                |   | Alternative 5 |             |           | Alterna    | ative 6 |        | Altern    | rnative 7 |   |      | Altern                                | ative 8  |   | Refine    | d Preferred Alterna | ative 8       |
|------|-----------|--|----------------|---|---------------|-------------|-----------|------------|---------|--------|-----------|-----------|---|------|---------------------------------------|----------|---|-----------|---------------------|---------------|
|      | (0        |  |                |   | EM I III      | <del></del> | PEM       | 7 11101111 |         | PEM    | 7         | 1         |   | PEM  | 71110111                              | 1        | 1 | PEM       |                     |               |
|      | ě         | Indiana Community Type   | WM             |   | /M            |             | WM        |            |         | WM     | +         | +         |   | WM   |                                       |          |   | WM        |                     | <del> </del>  |
|      | on:       | Size (acres)   | 0.06           |   | .06           |             | 0.06      |            |         | 0.06   | +         | +         |   | 0 06 |                                       |          |   | 0 06      |                     | <del> </del>  |
|      | dicti     | Impact (acres)   | 0.06           |   | .06           |             | 0.06      |            |         | 0.01   |           |           |   | 0 06 |                                       |          |   | 0 06      |                     |               |
|      | ris       | Animal Habitat   | fair           |   | fair          |             | fair      |            |         | fair   |           | +         |   | fair |                                       |          |   | fair      |                     |               |
| 45   | 1 3       | Botanical  | poor           |   | oor           |             | poor      |            |         | poor   |           |           |   | poor |                                       |          |   | poor      |                     |               |
| 14   | YCE.      | Hydrology  | fair           |   | fair          |             | fair      |            |         | fair   |           |           |   | fair |                                       |          |   | fair      |                     |               |
| S5V  | JS/       | Red Flags  | N N            |   | N             |             | N         |            |         | N      |           |           |   | N    |                                       |          |   | N         |                     |               |
| - 07 | S         | Cowardin et al. Classification                                   | PFO            |   | FO            |             | PFO       |            |         | PFO    |           |           |   | PFO  |                                       |          |   | PFO       |                     |               |
|      | ×         | Indiana Community Type   | FF             |   | FF            |             | FF        |            |         | FF     |           |           |   | FF   |                                       |          |   | FF        |                     |               |
|      | ion       | Size (acres)   | 0.14           |   | .14           |             | 0.14      |            |         | 0.14   |           |           |   | 0.14 |                                       |          |   | 0.14      |                     |               |
|      | dict      | Impact (acres)   | 0.14           |   | .14           |             | 0.01      |            |         | 0.11   |           |           |   | 0.14 |                                       |          |   | 0 01      |                     |               |
|      | ıris      | Animal Habitat   | fair           |   | fair          |             | fair      |            |         | fair   |           |           |   | fair |                                       |          |   | fair      |                     |               |
| 46   | 15        | Botanical  | poor           |   | oor           |             | poor      |            |         | poor   |           |           |   | poor |                                       |          |   | poor      |                     |               |
| -    |           | Hydrology  | fair           |   | fair          |             | fair      |            |         | fair   |           |           |   | fair |                                       |          |   | fair      |                     |               |
| S5W  | US        | Red Flags  | N              |   | N             |             | N         |            |         | N      |           |           |   | N    |                                       |          |   | N         |                     |               |
|      | Se        | Cowardin et al. Classification                                   | PFO            |   | FO            |             |           |            |         | PFO    |           |           |   | PFO  |                                       |          |   | PFO       |                     |               |
|      | \ \cdot \ | Indiana Community Type   | FF             |   | FF            |             |           |            |         | FF     |           |           |   | FF   |                                       |          |   | FF        |                     |               |
|      | io        | Size (acres)   | 0.23           |   | 23            |             |           |            |         | 0.23   |           |           |   | 0 23 |                                       |          |   | 0 23      |                     |               |
|      | g         | Impact (acres)   | 0.06           |   | 23            |             |           |            |         | 0.11   |           |           |   | 0 07 |                                       |          |   | 0 07      |                     |               |
|      | uris      | Animal Habitat   | good           | g | od            |             |           |            |         | good   |           |           |   | good |                                       |          |   | good      |                     |               |
| 47   | П         | Botanical  | fair           |   | fair          |             |           |            |         | fair   |           |           |   | fair |                                       |          |   | fair      |                     |               |
| ×    | AC        | Hydrology  | good           | g | od            |             |           |            |         | good   |           |           |   | good |                                       |          |   | good      |                     |               |
| S5.  | ns        | Red Flags  | N              |   | N             |             |           |            |         | N      |           |           |   | N    |                                       |          |   | N         |                     |               |
|      | es        | Cowardin et al. Classification                                   | PEM            | ı | ΞM            |             | PEM       |            |         | PEM    |           |           |   | PEM  |                                       |          |   | PEM       |                     |               |
|      | , i       | Indiana Community Type   | SM             |   | SM            |             | SM        |            |         | SM     |           |           |   | SM   |                                       |          |   | SM        |                     |               |
|      | ţi        | Size (acres)   | 0.09           |   | 09            |             | 0.09      |            |         | 0.09   |           |           |   | 0 09 |                                       |          |   | 0 09      |                     |               |
|      | gi        | Impact (acres)   | 0.08           |   | .08           |             | 0.08      |            |         | 0.08   |           |           |   | 0 08 |                                       |          |   | 0 08      |                     |               |
|      | Ē         | Animal Habitat   | poor           |   | por           |             | poor      |            |         | poor   |           |           |   | poor |                                       |          |   | poor      |                     |               |
| 84   | i ii      | Botanical  | poor           |   | oor           |             | poor      |            |         | poor   |           |           |   | poor |                                       |          |   | poor      |                     |               |
| S5W1 | l 8       | Hydrology  | fair           |   | fair          |             | fair      |            |         | fair   |           |           |   | fair |                                       |          |   | fair      |                     | <u> </u>      |
| SS   | Sn        | Red Flags  | N              |   | N             |             | N         |            |         | N      |           |           |   | N    |                                       |          |   | N         |                     |               |
|      | ,es       | Cowardin et al. Classification                                   | PEM PEM PFO    |   | EM PEM PFO    |             | PEM PEM   |            |         |        | PEM PFO   |           |   | PEM  |                                       |          |   | PEM PEM   | PFO                 |               |
|      | Ë         | Indiana Community Type   | SM SM SF       |   | SM SM SF      |             | SM SM     | SF         |         | _      | SM SF     |           |   | SM   | SM SF                                 | ļļ       |   | SM SM     | SF                  | <b></b>       |
|      | g.        | Size (acres)   | 0.40 0.11 0.76 |   | 40 0.11 0.76  |             | 0.40 0.11 | 0.76       |         |        | 0.76      |           |   | 0.40 |                                       |          |   | 0.40 0.11 | 0.76                |               |
|      | sdi       | Impact (acres)   | 0.26 0.11 0 00 |   | 26 0.11 0.00  |             | 0.39 0.11 | 0.04       |         |        | 0.00      |           |   | 0 25 |                                       |          |   | 0 24 0.11 | 0 00                | <del></del> ' |
|      | Juri      | Animal Habitat   | poor poor good |   | oor poor good |             | poor poor | good       |         |        | oor good  |           |   | poor |                                       |          |   | poor poor | good                |               |
| 149  |           | Botanical  | fair fair poor |   | fair poor     |             | fair fair | poor       |         |        | fair poor |           |   | fair | fair poor                             |          |   | fair fair | poor                | <b></b>       |
| Š    | SAC       | Hydrology  | good good fair | 9 | od good fair  |             | good good | fair       |         | good g | ood fair  |           |   | good | · · · · · · · · · · · · · · · · · · · |          |   | good good | fair                | <b></b>       |
| S5   | Ď         | Red Flags  | N N N          |   | N N N         |             | N N       | N          |         | N      | N N       | N         |   | N    | N N                                   |          |   | N N       | N                   |               |
|      | ≺es       | Cowardin et al. Classification                                   | PEM            |   |               |             |           |            |         |        |           |           |   | 1    |                                       |          |   |           |                     | <del></del>   |
|      | تِ ا      | Indiana Community Type   | WM             |   |               |             |           |            |         |        |           |           |   | 1    |                                       |          |   |           |                     | <del></del>   |
|      | gi        | Size (acres)   | 0.07           |   |               |             |           |            |         |        |           | $\bot$    |   |      |                                       |          |   |           |                     | <del></del>   |
|      | isdi      | Impact (acres)   | 0.07           |   |               |             |           |            |         |        |           | 1         |   | -    |                                       |          |   |           |                     | <del></del> ' |
|      | Juri      | Animal Habitat   | fair           |   |               |             |           |            |         |        |           |           |   | 1    |                                       |          |   |           |                     | <del></del>   |
| 150  | H         | Botanical  | poor           |   |               |             |           |            |         |        |           | 1         |   | -    |                                       |          |   |           |                     | <del></del> ' |
| 2M   | SAC       | Hydrology  | fair<br>N      |   |               |             |           |            |         |        |           | 1         |   | -    |                                       |          |   |           |                     | <del></del> ' |
| Ø    |           | Red Flags  | IN N           |   |               |             |           |            |         |        |           |           | 1 | I    |                                       | <u> </u> |   |           | 1                   |               |

Indiana Community Type Abbreviations
B = bog
DM = deep marsh
F = fen
FF = floodplain forest
SMF - sand/muck flat
SFB = seasonally flooded basin
SM = sedge meadow
SHM = shallow marsh
SOW = shallow open water
SC = scrub-carr
SW = swamp forest
WM = wet meadow
WP = wet prairie
Cowardin et al. Classifications
PEM = palustrine emergent
PSS = pallustrine scrub/shrub
PFO = palustrine forest
PAB = palustrine forest
PAB = palustrine aquatic bed Indiana Community Type Abbreviations

PAB = palustrine aquatic bed

Red Flag Indicators (for specific information regarding the nature of a red flag indicator designated by "Y", consult the InWRAP data sheets)

Y = yes

N = no

Note: USACE jurisdictional status is based on professional opinion only. Official corresdpondace on jurisdictional verification will be completed during permitting

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

# Section 5—Final Envir onmental Impact Statement

# APPENDIX F FI | AL WETLAND TECH NICAL REPORT

# TE CHNICAL REPORT APPENDICES

| APP INDIX A | Wetland Site Forms  |
|-------------|---|
| APP :NDIX B | I-69 Wetland Quality<br>Assessment Profile<br>Sheets                                |
| APP :NDIX C | Wetland Matrix for I-69<br>Alternatives Carried<br>Forward for Detailed<br>Analysis |
| APP :NDIX D | InWRAP Data Sheets  |
| APP NDIX E  | Wetland Determination Data Forms  |

# **IN-WRAP Summary Sheet**

| Date Re   | port Generated:10/18/2011   |
|-----------|---|
| Wetland   | site name: S5W007   |
| Data Re   | ference #: 7  |
| Date of S | Site Visit: 10/11/2011  |
| NWI poly  | ygons in Site (quadrangle and NWI id. numbers: Bloomington                                |
|           |   |
| TIER 1    | SUMMARY:  |
| a.        | Total wetland area (hectares): 0.010 (0.03 acre)  |
| b.        | Wetland size and connectivity – contribution to animal habitat:                           |
|           | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |
| C.        | Surrounding land use – numerical rank (max. = 1): 0.15                                    |
| d.        | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☒ Low                |
|           |   |
| TIER 2    | SUMMARY: NWI Polygon Id. 7  |
| a.        | Indiana Wetland community type: Wet meadow  |
| b.        | Standing water – contribution to animal habitat:   Valuable Favorable   Neutral           |
| C.        | Disturbances to site: None  |
| d.        | Exotic species rating:  Good Medium Poor  |
| e.        | Special Hydrologic Conditions Observed: None  |
| f.        | Special Community Type: None  |
| g.        | Rare-Threatened-Endangered Species: None  |
| h.        | Polygon Quality Description: Good Medium Poor   |
|           |   |
| TIER 3    | A SUMMARY:  |
| a.        | Dead woody material as indicator of animal habitat:   Valuable Favorable Neutral          |
| b.        | Water quality protection – numerical rank (6 max): 2 Rating: ☐ Good ☐ Medium ☒ Poor       |
| C.        | Flood and storm water storage – numerical rank (5 max): 2 Rating: Good Medium Poor        |
|           |   |
| TIER 3    | B SUMMARY:  |
| a.        | Zonation and interspersion as indicator of animal habitat:   Valuable Favorable   Neutral |
| b.        | Stratification as indicator of animal habitat:   Valuable   Neutral                       |
| C.        | Number of dominant plant taxa observed: 1 Rating: ☐ Good ☐ Medium ☒ Poor                  |
| d.        | Average coefficient of conservatism: 1 Rating: Good Medium Poor                           |
| e.        | Tree canopy as indicator of animal habitat:   |
| f.        | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral             |
| g.        | Total hydrophytic taxa observed: 3 Rating: ☐ Good ☐ Medium ☒ Poor                         |
| h.        | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                 |

# **Indiana Wetland Routine Assessment Protocol**

Data Reference # \$5W007

TERG May 2000

# **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W0                                    | 07                    |                         |                               |                               |             |
|--|-----------------------|-------------------------|-------------------------------|-------------------------------|-------------|
| Ownership (if known):                                      |                       |                         |                               |                               |             |
| USGS Topographic Quadrar                                   | ngle(s): Bloomingt    | ton                     |                               |                               |             |
| USGS Watershed map 14-D                                    | igit HUC: Clear C     | reek-Jackson C          | reek 0512020809               | 90010                         |             |
| •  |                       |                         |                               |                               |             |
| Identify each NWI Polygon wit NWI Polygon ID Number        | nin the vvetland Site | e (Polygon spec         | ific data)                    |                               |             |
| Cowardin Classification                                    | PEMC                  |                         |                               |                               |             |
| Polygon Size (hectares)                                    | 0.01 (0.03 acre)      |                         |                               |                               |             |
| NWI Polygon ID Number                                      |                       |                         |                               |                               |             |
| Cowardin Classification                                    |                       |                         |                               |                               |             |
| Polygon Size (hectares)                                    |                       |                         |                               |                               |             |
| 1.2 Site Visit:  |                       |                         |                               |                               |             |
| Team Members: K. Schroe                                    | eder & D. White       |                         |                               |                               |             |
| Agency: INDOT  |                       |                         |                               |                               |             |
| Date assessed: 10/11/20                                    | <br> 1                | Time                    | assessed: 10:30               | am                            |             |
| Weather conditions: 75°F                                   | =                     |                         |                               |                               |             |
| Nata and market and market                                 |                       | in the control of the c |                               | vide in their conditions of a |             |
| Note any unusual weather everecent heavy rains, an unusual |                       |                         |                               | within this wetland s         | ystem (e.g. |
|  | ,,,                   |                         | - F · · · · · · · · · · · · · |                               |             |
| 1.3 Wetland Size:  |                       |                         |                               |                               |             |
| Size of site under assessmen                               | nt: 0.01 hectare (    | 0 03 acre)              |                               |                               |             |
| Size of total wetland complex                              |                       | ,                       | 0.01 hectare (0               | ) 03 acre)                    |             |
| ·  | (all commucus free    | iana pongono).          |                               | 3.00 40.07                    |             |
| <b>1.4 Site Setting:</b> Degree of isolation from other    | wetlands or wetland   | d complexes:            |                               |                               |             |
| The site is connected u                                    |                       | •                       | er wetlands                   |                               |             |
| The site is only connect                                   | cted upstream with o  | ther wetlands           |                               |                               |             |
| The site is only connect                                   | -                     |                         | S                             |                               |             |
| Other wetlands are near                                    |                       |                         |                               |                               |             |
| X The wetland site is isol                                 | ated                  | •                       |                               |                               |             |
| (General assessment of adjac                               | eant land use / land  | cover in the are        | a within 50 maters            | of the perimeter of t         | ho wotland  |
| site (indicate the % abundance                             |                       | cover in the are        | a within 50 meters            | of the perimeter of t         | ne welland  |
| Native Vegetation - wo                                     | odland                | _50                     | _ Road / highway              | / railroad bed / parki        | ng lot      |
| Native Vegetation - old                                    | l field / scrub       |                         | <br>Industrial                |                               |             |
| Agricultural- tilled                                       |                       |                         | Residential – sir             | ngle family                   |             |
| Agricultural - pasture                                     |                       | 50                      | <u> </u>                      | nultifamily residentia        | ıl          |
| Recreation - green spa                                     | ice, mowed            |                         | _                             | -                             |             |
|  |                       |                         |                               |                               |             |

| NWI Polygon # 7 (see table on page one)   | Data Reference #        | S5W007              | InWRAP, TERG May 2000              |
|---|-------------------------|---------------------|------------------------------------|
| Tier 2 Individual Polygon: Preliminary As in the wetland)   | ssessment (to be o      | completed on-site f | or <u>each</u> NWI polygon present |
| 2.1 Wetland Geomorphic Setting and Surface. W  X Depressional Slope Riverine (within the river/stream banks)  | -                       | e):<br>odplain      | Lacustrine                         |
| 2.2 Presence of Standing Water:   |                         |                     |                                    |
| Is standing water normally present in the polygon?  • If standing water is present, is the water ground in the polygon?  Is standing water normally present in an adjacent present in an adjacent present in the polygon? | eater than 2 meters in  | depth? No           |                                    |
| 2.3 Apparent Hydroperiod (check one):   |                         |                     |                                    |
| Permanently Flooded   | Artific                 | ially Flooded       |                                    |
| X Seasonally Flooded Saturated (surface water seldom present)   | Artific                 | ially Drained       |                                    |
| 2.4 Soil Type: Organic (i.e. peat, etc.) X  | Mineral                 | Both Mi             | neral and Organic Present          |
| 2.5 Wetland Community Type for this NWI polygwet meadow   | on (see Key to Wetla    | and Communities     | of Indiana):                       |
| 2.6 Disturbances of Hydrology (check all that ap  | ply):                   |                     |                                    |
| Ditching  | X Culvert               |                     |                                    |
| Tiles Dams  | Other Hu                | man Disturbances    | to the Hydrology (explain):        |
| Road or Railroad Embankment   |                         |                     |                                    |
| 2.7 Presence of Invasive Exotics (Score as: S = S   | Scattered, F = Freque   | ent, or C = Comm    | on):                               |
| Garlic Mustard G  | lossy Buckthorn         |                     |                                    |
| Phragmities R   | eed canary grass        |                     |                                    |
| Purple loosestrife C O  | ther (list): Cattail (T | ypha angustifolia)  |                                    |
| 2.8 Presence of Special Hydrologic Conditions (i  | • •                     | s, floating mat):   |                                    |
| 2.9 Presence of Special Community Types: Bog Fen  | We                      | et Sand / Muck Fla  | ts or Mari Seeps                   |
| 2.10 Presence of Known Federal or Indiana Rare  | , Threatened or End     | angered Species:    |                                    |
| X None observed or known to be present RTES Present (list)  |                         |                     |                                    |
| 2.11 Wetland Polygon Quality Descriptor (see: M   | /etland Quality Desc    | riptions and chec   | k one):                            |
| Good Medium   | _X Po                   | or                  |                                    |

| NWI F       | Poly | go         | n # | <b>#</b> | 7 Data Reference   | ce#_       | S5W007       | •               |            |        |       |
|-------------|------|------------|-----|----------|--|------------|--------------|-----------------|------------|--------|-------|
| Tier 3      | a lı | ndi        | vi  | dua      | al Polygon: Rapid Hydrology Indicators   |            |              |                 |            |        |       |
| 3a.1 No     | otak | le         | Fe  | atur     | res that influence water quality and hydrology:  |            |              |                 |            |        |       |
| Estima      | ated | he         | rba | acec     | ous plant cover (percentage) in the polygon X 1  | 100-75     | 7            | <b>′</b> 5-50   | 50-25      |        | <25   |
| Estima      | ated | wo         | 000 | ly pl    | plant foliar cover in the polygon1   | 100-75     | 7            | '5-50 <u> </u>  | 50-25      | Χ      | <25   |
| Amour       | nt o | de         | ad  | l wo     | oody material on the soil surface:  X nil (<5% cover) scattered (5-2)  | 15% co     | over) _      | Freque          | ent (>20   | % co   | vers) |
| 3a.2 W      | ate  | · Qı       | ua  | lity l   | Protection Questions:  |            |              |                 |            |        |       |
| <b>1.</b> , | ΧY   | ,          |     | N        | Does the wetland have a significant amount of vegetative density to potentially uptake dissolved nutrients?                        | ve (spe    | ecifically p | perennial an    | d wood     | y plar | nt)   |
| 2.          | ١    | <b>,</b> ; | Χ   | N        | Managed water (e.g. municipal or road stormwater drain or municipal wastewater) is <b>not</b> discharged into the wet              | •          | _            | al drainage     | outlet, ii | ndust  | rial  |
| 3.          |      |            |     |          | If wetland in question is a depressional wetland answer  | 3a, if ı   | not, answ    | er 3b           |            |        |       |
| 3a. 2       | ΧY   | ,          |     | N        | Does the wetland have a shape or flow that allows for the before the water reaches the center of the wetland?                      | he sett    | ling out o   | f suspended     | d materi   | als    |       |
| 3b.         | ١    | ,          |     | N        | Is the position of the wetland in the landscape such that surface body of water down gradient?                                     | t run-o    | ff is held   | or filtered be  | efore en   | tering | ga    |
| 4.          | ١    | <b>,</b> ; | X   | N        | Does the wetland <b>lack</b> steep slopes (>12%), large impe with row cropping, or areas with severe overgrazing with              |            |              |                 |            | 12%)   |       |
| 5.          | ١    | <b>,</b> ; | X   | N        | Are there recreational lakes, navigable watercourses, or down gradient in the local watershed?                                     | r wate     | r supply s   | sources loca    | ted with   | in a r | mile  |
| 6.          | ١    | <b>7</b> ] | X   | N        | Is a vegetative buffer area (>15 m wide) or another wetl could be filtered) located upland and adjacent to the we width and slope. |            |              |                 |            |        |       |
|             |      |            |     |          | Average width of buffer area (in meters)   | Approxi    | mate slo     | pe (percent)    |            |        |       |
| 3a.3 Fl     | ood  | an         | d   | Stor     | ormwater Storage / Attenuation Questions:  |            |              |                 |            |        |       |
| 1.          |      |            |     |          | If wetland in question is a depressional wetland answer  | · 1a, if ı | not, answ    | ver 1b          |            |        |       |
| 1a.         | ١    | <b>7</b> ) | X   | N        | Around the wetland is there a buffer strip of natural vego slow overland flow into the wetland?                                    | etation    | (foreste     | d, old field, s | scrub) th  | nat wi | II    |
| 1b.         | ١    | ,          |     | N        | Is there a significant amount of microtopography or vegothe velocity of the water leaving the wetland?                             | jetative   | density      | within the w    | etland to  | o redu | ıce   |
| 2.          | ١    | <b>,</b> ; | Χ   | N        | Does the wetland <b>lack</b> man-made structures that would (tiles, culverts, ditches)?  | d speed    | the flow     | of water fro    | m the w    | /etlan | ıd    |
| <b>3.</b>   | ΧY   | ,          |     | N        | Is the flood potential high in the sub-watershed in which damages)?  | n the w    | etland is    | located (his    | tory of f  | lood   |       |
| 4.          | ١    | <b>,</b> ; | X   | N        | Is the wetland located in a watershed where the majority impermeable, or is bedrock within two feet of the top of                  |            |              |                 | yey and    | t      |       |
| <b>5.</b>   | ΧY   | ,          |     | N        | Is the wetland located in a local watershed which has hi existing development (e.g. >50% area in row crop, com                     |            |              |                 |            | e to   |       |

| NWI Polygon #                       | _7                        |   | _ Data Refere     | nce # <u>S5W007</u>                                  | _                       |
|-------------------------------------|---------------------------|---|-------------------|--|-------------------------|
| Tier 3b Individu                    | ıal Polygon: Rap          | oid Vegetation D                              | escription        |  |                         |
| <b>3b.1 Zonation and</b> 1. How man | •                         | are evident in this we                        | tland polygon?    | 1  |                         |
| 1b. If only one                     | e vegetation zone is      | evident, which best                           | describes the s   | ite?   |                         |
|                                     |                           | d of a mosaic of sma<br>tures across the poly |                   | tches, hummocks, or t                                | tussocks;               |
| X                                   | Polygon composed polygon. | d of a single vegetati                        | on type with mo   | ore or less uniform text                             | ture across the         |
| the distribut                       | ion of these zones?       |   | olygon, which ir  |  | nost closely represents |
| Туре                                | e One Interspersion       | า   |                   | Type Two Inter                                       | rspersion               |
| (                                   |                           |   |                   |  |                         |
| 3b.2 Dominant Pla                   | nt Species: Vegeta        | tion zone A                                   |                   | Observation F Photo number(s) te: V-mark location on |                         |
| What % of the polyg                 | gon does this vegeta      | tive zone occupy?                             |                   |  | 1 - 73 - 7              |
| 10 – 25%                            | 25 - 50                   | ) %   | 50 – 75%          | 75 – 90%   | X >90%                  |
| Is there notable laye               | ering/stratification in   | this vegetation zone                          | ? <u>No</u>       |  |                         |
|                                     | es that forms extensi     | overing more than 1<br>ve monocultural pate   |                   |  | ative abundance. (Mark  |
| b                                   |                           |   | е                 |  |                         |
| С                                   |                           |   | f                 |  |                         |
| •                                   | oecies listed in order    | of relative abundand                          | ce.               |  |                         |
| _                                   |                           |   |                   |  |                         |
| b                                   |                           |   | d                 |  |                         |
| Dominant <b>Tree</b> Spe            | cies listed in order o    | of relative abundance                         |                   |  |                         |
| b                                   |                           |   | d                 |  |                         |
|                                     | y: X nil _                | separate, seldom                              |                   | often touching                                       | More or less closed     |
| Mature trees (>12"                  | dbh) present:             | yes   | X no              |  |                         |
| Other remarks (inc                  | lude personal comm        | nents about what add                          | ls to or detracts | s from the quality of thi                            | s wetland site).        |

| NWI Polygon # | 7 | Data Reference # | S5W007 |
|---------------|---|------------------|--------|
|               |   |                  |        |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| (IV = Notifieth Indiana SW = Southwestern Indiana numb          | ers – 0-coemicients – species with high conservationism |
|---|---|
| Herbs: non-seed plants  | Herbs: wide-leafed monocots                             |
| horsetail, scouring rush spp. (Equisetum) 2                     | *arrow arum (Peltandra virginica, N) 6                  |
| *ferns: marsh shield fern spp. (Dryopteris) 7                   | arrow-head spp. (Sagittaria) 4                          |
| *cinnamon fern (Osmunda cinnamomea) 9                           | *green dragon (Arisaema dracontium) 6                   |
| *royal fern (Osmunda regalis) 8                                 | Jack-in-the-pulpit (Arisaema triphyllum) 4              |
| sensitive fern (Onoclea sensibilis) 4                           |   |
| *other: species (if known)                                      | pickerel weed (Pontederia cordata, N) 5                 |
| marsh club moss (Selaginella apoda) 4                           | *skunk cabbage (Symplocarpus foetidus) 8                |
|   | *water arum (Calla palustris, N) 10                     |
| *Sphagnum moss spp. <i>(Sphagnum,</i> N) 10                     | water plantain (Alisma plantago-aquat.) 2               |
| Herbs: Ivs. floating or submergent                              | Herbs: dicots - Ivs. opposite/whorled                   |
| *bladderwort spp. (Utricularia, N) 10                           | *bedstraw spp. (Galium) 6                               |
| coontail (Ceratophyllum demersum, N) 1                          | beggar's tick spp. (Bidens) 3                           |
| duckweed spp. (Lemnaceae) 3                                     | blue vervain (Verbena hastata) 3                        |
| *pondweed spp. (Potamogeton) 8 (except 0 for                    | boneset (Eupatorium perfoliatum) 4                      |
| introduced <i>P. crispus</i> )                                  | bugleweed spp. (Lycopus) 5                              |
| *water lily (Nymphaea tuberosa, N) 6                            | clearweed spp. (Pilea) 3                                |
| water shield (Brasenia schreberi, N) 4                          |   |
| *yellow spatterdock spp. (Nuphar) 6                             | cup plant (Silphium perfoliatum) 4                      |
| yellow spatterdook spp. (Naphar) o                              | false nettle (Boehmeria cylindrica) 3                   |
| Herbs: insectivorous plants                                     | *fen betony (Pedicularis lanceolata) 6                  |
| *pitcher plant (Sarracenia purpurea,N) 10                       | *gentian spp. (Gentiana & Gentianopsis) 8               |
| *sundew spp. (Drosera, N) 10                                    | giant ragweed (Ambrosia trifida) 0                      |
|   | Indian hemp (Apocynum cannabinum) 2                     |
| Herbs: linear-lvs. or leafless ± monocots                       | Joe-pye weed spp. (Eupatorium) 5                        |
| *beak rush spp. (Rhynchospora, N) 10                            | *loosestrife spp. (Lysimachia) 6                        |
| blueflag iris (Iris virginica) 5                                | meadow beauty (Rhexia virginica) 5                      |
| bulrush spp. (Scirpus / Schoenoplectus) 5                       | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5       |
| *bur reed spp. (Sparganium) 9                                   | moneywort (Lysimachia nummularia) 0                     |
| 1 cat-tail spp. (Typha) 1                                       | monkey flower spp. (Mimulus) 4                          |
| *cotton grass spp. ( <i>Friophorum</i> , N) 10                  | nettle (Urtica pro cera) 1                              |
| collon grass spp. (Enophorum, N) To                             | purple loosestrife (Lythrum salicaria) 0                |
| Grasses (family Gramineae) - indicate types & number of species | *richweed (Collinsonia canadensis) 8                    |
| <sup>a.</sup> *wild rice <i>(Zizania aquatica,</i> N) 10        | *St. John's wort spp.(Hypericum/Triandeum)8             |
| b. most native perennial grass spp. 4: e.g.                     | sunflower spp. (Helianthus) 4                           |
| cut-grass, manna-g, Canada bluejoint, foxtail                   | *swamp loosestrife (Decodon verticillatus, N) 8         |
| [Alopecurus]; other   | swamp milkweed (Asclepias incarnata) 4                  |
| c. introduced grass spp. 0: reed canary                         | toothcup spp. (Ammania & Rotala) 2                      |
| grass [Phalaris], reed [Phragmites], annual                     |   |
| grasses such as annual foxtail [Setaria] &                      | *turtlehead spp. (Chelone) 8                            |
| barnyard grass <i>Echinochloa</i> ]                             | virgin's bower (vine) (Clematis virginiana) 3           |
| needle sedge spp. (Eleocharis) sp.1 =2                          | water puslane (Ludwigia palustris) 3                    |
| *additional=8   | winged loosestrife (Lythrum alatum) 5                   |
| nutsedge spp. (Cyperus) 2                                       | Hada (2004) Parta ka altamata an basal                  |
| *orchid spp.: species (if known)                                | Herbs: (vines): dicots - Ivs. alternate or basal        |
| rush spp. (Juncus) 4  | and simple  |
| sedge spp. (Carex) sp.1=3 *additional=7                         | Amer. bellflower (Campanula americana) 4                |
| *spiderlily (Hymenocallis occidentalis) 9                       | *asters: bristly aster (Aster puniceus) 7               |
|   | *flat-topped aster (A. umbellatus) 8                    |
| sweet flag (Acorus calamus) 0                                   | other aster spp. (e.g. New Engl, panicled-a) 3          |
| *3-way sedge (Dulichium arundinaceum) 10                        | *black-eyed Susan (Rudbeckia fulgida) 8                 |
| *twig rush (Cladium mariscoides, N) 10                          | cardinal flower (Lobelia cardinalis) 4                  |
| *umbrella sedge (Fuirena squarrosa, N) 10                       |   |
| wild hyacinth (Camassia scilloides) 5                           | InWrap, Terg revised June 2005                          |

\*yellow-eyed grass (Xyris torta, N) 9

|        | (O) 4  | Chamba ha altamata   |
|--------|--|--|
|        | cress spp. (Cardamine) 4   | Shrubs - Ivs. alternate  |
|        | dock spp.: swamp-, water-, pale- (Rumex) 4                                 | *cranberry spp. (Vaccinium, N) 10                              |
|        | garlic mustard (Alliaria petio/ata) 0                                      | *dwarf birch (Betula pumila, N) 10                             |
|        | golden ragwort (Senecio aureus) 4  | *high bush blueberry (V. corymbosum, N) 9                      |
|        | *goldenrod spp. (Solidago ohioensis, S.                                    | *leatherleaf (Chamaedaphne calycul., N) 10                     |
|        | patula, S. riddellil) 9  | meadowsweet & hardhack <i>spp.(Spiraea) 4</i>                  |
|        | *grass of Parnassus (Parnassia glauca) 10                                  | *ninebark (Physocarpus opulifoius) 7                           |
|        | *Indian plantain (Cacalia plantaginea) 10                                  | *shrubby cinquefoil (Potentilla fruticosa) 9                   |
|        | ironweed spp. (Vernonia) 4   | spice bush (Lindera benzoin) 5                                 |
|        | jewelweed, touch-me-not spp. (Impatiens) 3                                 | *swamp dewberry (Rubus hispidus) 6                             |
|        | lizard's tail (Saururus cernuus) 4   | *swamp holly & winterberry (/lex spp.) 7                       |
|        | lobelia spp. (Lobelia) 4   | swamp rose (Rosa palustris) 5                                  |
|        | *marsh marigold (Caltha palustris) 7                                       | Trace lue needle chaned  |
|        | *moonseed (vine) (Menispermum canadense) 6                                 | Trees - Ivs. needle shaped<br>*tamarack (Larix laricina, N) 10 |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3                                | tamarack (Lanx lancina, N) 10                                  |
|        | rose mallow spp. (Hibiscus) 4  | Trees - Ivs. compound  |
| 1_     | smartweed spp.: incl. jumpseed, pinkweed,                                  | *ash, black (Fraxinus nigra) 7                                 |
|        | tearthumb, water-pepper, water-sm.   | ash, green (Fraxinus pensylvanica) 3                           |
|        | (Polygonum) 4 [Except *for P. arifolium 10]                                | *ash, pumpkin (Fraxinus tomentosa, SW) 8                       |
|        | sneezeweed (Helenium autumnale) 3  | boxelder (Acer negundo) 1                                      |
|        | stinging nettle (Laportea canadensis) 2                                    | hickory, bitternut (Carya cordiformis) 5                       |
|        | *swamp saxifrage (Saxifraga pa.) 10  | *hickory, shell bark (Carya laciniosa) 8                       |
|        | *Virginia bluebells (Mertensia virginica) 6                                | honey locust (Gleditsia triacanthos) 1                         |
|        | waterhemp (Amaranthus tuberculatus) 1                                      | *poison sumac (Rhus vernix) 10                                 |
|        | wingstem (Actinomeris alternifolia) 3                                      | poloon sumae (rinas vornix) to                                 |
| Uarbe: | dicots - Ivs. basal or alternate and                                       | Trees – Ivs. simple and opposite                               |
|        | ound or deeply lobed   | red maple (Acer rubrum) 5                                      |
| compo  | aven spp.: rough a., white a. <i>(Geum)</i> 2                              | silver maple (A. saccharinum) 1                                |
|        | *buttercup spp: e.g. cursed b., hooked b.,                                 |  |
| -      | swamp b. (Ranunculus) 6  | Trees – Ivs. simple and alternate                              |
|        | chervil (Chaerophyllum procumbens) 3                                       | *alder, speckled (Alnus rugosa) 9                              |
|        | *cowbane (Oxypolis rigidior) 7   | birch, river (Betula nigra) 2                                  |
| -      | *great angelica (Angelica atropurpurea) 6                                  | black gum (Nyssa sylvatica) 5                                  |
| -      | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5                             | cottonwood, eastern (Populus deltoides) 1                      |
|        | honewort (Cryptotaenia canadensis) 3                                       | *cottonwood, swamp (P. heterophylla, SW) 8                     |
|        | meadow rue spp. (Thalictrum) 5   | elm, Amer. (Ulmus americana) 3                                 |
|        | poison ivy (vine) (Rhus radicans) 1  | hackberry (Celtis occidentalis) 3                              |
|        | *queen-of-the-prairie (Filipendula rubra) 9                                | ironwood (Carpinus caroliniana) 5                              |
|        | senna spp. (Cassia) 4  | oak, pin or white (Quercus) 4                                  |
|        |  | *oak, Shumard's, sw. chestnut, sw. white 7                     |
|        | swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 | *papaw (Asimina triloba) 6                                     |
| 1      | tall coneflower (Rudbeckia laciniata) 3                                    | *sugarberry (Celtis laevigata, S) 7                            |
|        | *water hemlock spp. (Cicuta) 7   | sweet gum (Liquidambar styraciflua) 4                          |
|        | water parsnips (Sium suave) 5  | sycamore, Amer. (Platanus occidentalis) 3                      |
| -      | water parships (Sium suave) 5  | willow spp. (Salix) sp.1=3; *additional=7                      |
| Shrubs | s - leaves opposite or whorled   | OTHER  |
|        | bladdernut (Staphylea trifolia) 5  | OTHER  |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0                              |  |
|        | button bush (Cepha/anthus occidentalis) 5                                  |  |
|        | dogwood, red-osier (Cornus stolonifera) 4                                  |  |
|        | *dogwood, blue-fruited or silky <i>Cornus</i>                              |  |
| -      | obliqua) 7   |  |
|        | dogwood, gray (C. <i>racemosa</i> ) 2                                      |  |
|        | elderberry (Sambucus) 2  | InWrap, Terg revised June 20                                   |
|        |  | iliviap, reigreviseu Julie 20                                  |

# **IN-WRAP Summary Sheet**

| Date Re              | port Generated: 10/12/2011  |  |  |  |
|----------------------|---|--|--|--|
| Wetland              | site name: S5W011   |  |  |  |
| Data Reference #: 11 |   |  |  |  |
| Date of S            | Date of Site Visit: 10/11/2011  |  |  |  |
| NWI poly             | ygons in Site (quadrangle and NWI id. numbers: Bloomington                                |  |  |  |
|                      |   |  |  |  |
| TIER 1               | SUMMARY:  |  |  |  |
| a.                   | Total wetland area (hectares): 0.003 (0.01 acre)  |  |  |  |
| b.                   | Wetland size and connectivity – contribution to animal habitat:                           |  |  |  |
|                      | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |  |  |  |
| C.                   | Surrounding land use – numerical rank (max. = 1):   |  |  |  |
| d.                   | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                |  |  |  |
|                      |   |  |  |  |
| TIER 2               | SUMMARY: NWI Polygon Id. 11   |  |  |  |
| a.                   | Indiana Wetland community type: Wet meadow  |  |  |  |
| b.                   | Standing water – contribution to animal habitat:   Valuable Favorable   Neutral           |  |  |  |
| C.                   | Disturbances to site: None  |  |  |  |
| d.                   | Exotic species rating:  Good Medium Poor  |  |  |  |
| e.                   | Special Hydrologic Conditions Observed: None  |  |  |  |
| f.                   | Special Community Type: None  |  |  |  |
| g.                   | Rare-Threatened-Endangered Species: None  |  |  |  |
| h.                   | Polygon Quality Description: Good Medium Poor   |  |  |  |
|                      |   |  |  |  |
| IIER 3               | A SUMMARY:  |  |  |  |
| a.                   | Dead woody material as indicator of animal habitat:   Valuable Favorable Neutral          |  |  |  |
| b.                   | Water quality protection – numerical rank (6 max): 3 Rating: Good Medium Poor             |  |  |  |
| C.                   | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor        |  |  |  |
|                      |   |  |  |  |
| TIER 3               | B SUMMARY:  |  |  |  |
| a.                   | Zonation and interspersion as indicator of animal habitat:   Valuable Favorable   Neutral |  |  |  |
| b.                   | Stratification as indicator of animal habitat:   Valuable   Neutral                       |  |  |  |
| C.                   | Number of dominant plant taxa observed: 2 Rating: Good Medium Poor                        |  |  |  |
| d.                   | Average coefficient of conservatism: 0.5 Rating: Good Medium Poor                         |  |  |  |
| e.                   | Tree canopy as indicator of animal habitat:   Valuable   Neutral                          |  |  |  |
| f.                   | Mature trees as indicator of animal habitat:   Valuable Favorable   Neutral               |  |  |  |
| g.                   | Total hydrophytic taxa observed: 2 Rating: ☐ Good ☐ Medium ☐ Poor                         |  |  |  |
| h.                   | Number of indicator taxa 0 Rating: ☐ Good ☐ Medium ☐ Poor                                 |  |  |  |

# **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W011

TERG May 2000

# **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W01                                     | 1                   |                 |          |                       |                       |                |
|--|---------------------|-----------------|----------|-----------------------|-----------------------|----------------|
| Ownership (if known):  |                     |                 |          |                       |                       |                |
| USGS Topographic Quadrang                                    |                     |                 |          |                       |                       |                |
| USGS Watershed map 14-Dig                                    | it HUC: Bean B      | lossom Cr       | eek-Sto  | ut Creek 0512         | 0202010080            |                |
|  |                     |                 |          |                       |                       |                |
| Identify each NWI Polygon with NWI Polygon ID Number         | in the Wetland Site | e (Polygor<br>I | specifi  | c data)<br>T          |                       |                |
| Cowardin Classification                                      | PEMB                |                 |          |                       |                       |                |
| Polygon Size (hectares)                                      | 0.003 (0.01 acre)   |                 |          |                       |                       |                |
| NWI Polygon ID Number  |                     | <u> </u>        |          |                       |                       |                |
| Cowardin Classification                                      |                     |                 |          |                       |                       |                |
| Polygon Size (hectares)                                      |                     |                 |          |                       |                       |                |
| 1.2 Site Visit:  Team Members: K. Schroed  Agency: INDOT     | ler & D. White      |                 |          |                       |                       |                |
| Date assessed: 10/11/2011                                    |                     |                 | Timo oc  | sessed: 9:30 a        | am.                   |                |
| <del></del>  |                     |                 | Tille as | sesseu. <u>9.30 a</u> | <u> </u>              |                |
| Weather conditions: 75°F                                     |                     |                 |          |                       |                       |                |
| 1.3 Wetland Size:  |                     |                 |          | ring, etc.):          |                       |                |
| Size of site under assessment                                | -                   | ,               |          | 0.000 h a atama       | (0.04)                |                |
| Size of total wetland complex                                | (all continuous we  | tiana poiy      | gons):   | 0.003 hectare         | (0.01 acre)           |                |
| 1.4 Site Setting:  |                     |                 |          |                       |                       |                |
| Degree of isolation from other was The site is connected up  |                     | •               |          | wetlands              |                       |                |
| The site is only connected ap                                |                     |                 |          | Wollando              |                       |                |
| The site is only connected                                   | •                   |                 |          |                       |                       |                |
| Other wetlands are near                                      |                     |                 |          | tad                   |                       |                |
|  | •                   | e, but not      | COITIEC  | ieu                   |                       |                |
| X The wetland site is isola                                  | tea                 |                 |          |                       |                       |                |
| (General assessment of adjace site (indicate the % abundance |                     | cover in th     | ne area  | within 50 meters      | s of the perimeter    | of the wetland |
| Native Vegetation - woo                                      | dland               |                 | 100      | Road / highway        | / / railroad bed / pa | arking lot     |
| Native Vegetation - old f                                    | ield / scrub        |                 |          | Industrial            |                       |                |
| Agricultural- tilled   |                     |                 |          | Residential – si      | ngle family           |                |
| Agricultural - pasture                                       |                     |                 |          | Commercial or         | multifamily reside    | ntial          |
| Recreation - green space                                     | e, mowed            |                 |          |                       |                       |                |

| NWI Pol        | lygon # <u>11</u><br>on page one)      |   | Data Reference #          | S5W011                 | InWRAP, TERG May 2000               |
|----------------|--|---|---------------------------|------------------------|-------------------------------------|
|                | ndividual Poly                         | gon: Preliminary A  | <b>ssessment</b> (to be d | completed on-site      | for <u>each</u> NWI polygon present |
| 2.1 Wetla<br>X | nd Geomorphic<br>Depressional          | Setting and Surface. W  | •                         | <b>e):</b><br>bodplain | Lacustrine                          |
|                | Riverine (within                       | the river/stream banks)   | ·                         |                        |                                     |
| 2.2 Prese      | ence of Standing                       | Water:  |                           |                        |                                     |
| •              | f standing water i                     | v present in the polygon?<br>s present, is the water gr<br>v present in an adjacent p | eater than 2 meters in    | <br>i depth?           |                                     |
| 2.3 Appa       | rent Hydroperio                        | d (check one):  |                           |                        |                                     |
|                | ermanently Floode                      |   | Artific                   | cially Flooded         |                                     |
|                | easonally Flooded<br>aturated (surface | l<br>water seldom present)  | Artific                   | cially Drained         |                                     |
| 2.4 Soil T     | <b>ype:</b><br>Organic (i.e. pea       | it, etc.) X   | Mineral                   | Both M                 | lineral and Organic Present         |
| 2.5 Wetla      | _                                      | Гуре for this NWI polyg   | on (see Key to Wetla      | and Communitie         | s of Indiana):                      |
| 2.6 Distu      | rbances of Hydr                        | ology (check all that ap  | ply):                     |                        |                                     |
| Di             | tching                                 |   | Culvert                   |                        |                                     |
|                | les<br>ams                             |   | Other Hu                  | ıman Disturbance       | es to the Hydrology (explain):      |
| X Ro           | oad or Railroad E                      | mbankment   |                           |                        |                                     |
| 2.7 Prese      | ence of Invasive                       | Exotics (Score as: S = \$   | Scattered. F = Frequ      | ent. or C = Comr       | non):                               |
|                | arlic Mustard                          |   | lossy Buckthorn           | ,                      | ,                                   |
|                | nragmities                             |   | eed canary grass          |                        |                                     |
| Pu             | urple loosestrife                      | 0   | ther (list):              |                        |                                     |
| 2.8 Prese      | ence of Special F                      | lydrologic Conditions (   | i.e. seeps, wet slope     | s, floating mat):      |                                     |
|                |  |   |                           |                        |                                     |
| 2.9 Prese      | ence of Special C<br>Bog               | Community Types: Fen  | We                        | et Sand / Muck Fl      | ats or Mari Seeps                   |
| 2.10 Pres      | sence of Known                         | Federal or Indiana Rare   | . Threatened or Fnd       | angered Species        | s:                                  |
| X              |  | or known to be present  | , catoriou or Ellu        | go. ou opoolo          | <del></del>                         |
|                | RTES Present (I                        | •   |                           |                        |                                     |
| 2.11 Wetl      | land Polygon Qเ                        | nality Descriptor (see: V   | Vetland Quality Desc      | criptions and che      | eck one):                           |
|                | Good                                   | Medium  | _X Po                     | or                     |                                     |

| NWI Polygon #           | 11 Data Reference # S5W011  |
|-------------------------|---|
| Tier 3a Individu        | al Polygon: Rapid Hydrology Indicators  |
| 3a.1 Notable Featu      | res that influence water quality and hydrology:   |
| Estimated herbace       | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |
| Estimated woody p       | lant foliar cover in the polygon 100-75 75-50 50-25 _X <25  |
| Amount of dead wo       | body material on the soil surface: X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |
| 3a.2 Water Quality      | Protection Questions:   |
| 1. X Y N                | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2. X Y N                | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.                      | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a. X Y N               | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b. <b>Y N</b>          | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4. Y X N                | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5. Y X N                | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.<br>Y X N             | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|                         | Average width of buffer area (in meters)  Approximate slope (percent)   |
| 3a.3 Flood and Sto      | ormwater Storage / Attenuation Questions:   |
| 1.                      | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a. <b>Y</b> X <b>N</b> | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b. <b>Y N</b>          | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2. X Y N                | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3. X Y N                | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |
| 4. Y X N                | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |
| 5. X Y N                | Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?                                   |

| NWI Polygon #                       | 11  | Data Reference # S5W011   |  |  |  |
|-------------------------------------|---|---|--|--|--|
| Tier 3b Individu                    | ual Polygon: Rapid Vegetation De  | scription   |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man | I Interspersion:  ny vegetation zones are evident in this wetla               | and polygon? _ 1  |  |  |  |
| 1b. If only one                     | 1b. If only one vegetation zone is evident, which best describes the site?    |   |  |  |  |
|                                     | Polygon composed of a mosaic of small heterogeneous textures across the polyg | vegetation patches, hummocks, or tussocks; on.                                  |  |  |  |
| X                                   | Polygon composed of a single vegetation polygon.                              | type with more or less uniform texture across the                               |  |  |  |
| the distribut                       | tion of these zones?  | gon, which interspersion diagram most closely represents                        |  |  |  |
| Туре                                | e One Interspersion   | Type Two Interspersion  |  |  |  |
| (                                   |   |   |  |  |  |
| 3b.2 Dominant Pla                   | ant Species: Vegetation zone A  | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon) |  |  |  |
| What % of the polyg                 | gon does this vegetative zone occupy?   | (Note: V mank location on the two polygon)                                      |  |  |  |
| 10 – 25%                            | 25 – 50 % 5   | 0 – 75% 75 – 90% _X >90%  |  |  |  |
| Is there notable laye               | ering/stratification in this vegetation zone?                                 | no  |  |  |  |
|                                     | es that forms extensive monocultural patch                                    | % of the area) listed in order of relative abundance. (Mark es).                |  |  |  |
| b <i>Phalaris arund</i>             |   | e   |  |  |  |
| С                                   |   | f   |  |  |  |
| •                                   | pecies listed in order of relative abundance                                  |   |  |  |  |
|                                     |   | С   |  |  |  |
| b                                   |   | d   |  |  |  |
| •                                   | ecies listed in order of relative abundance.                                  | С   |  |  |  |
| L                                   |   | c<br>d  |  |  |  |
| Tree & shrub canop                  | by: X nil separate, seldom to   | ouching often touching More or less closed                                      |  |  |  |
|                                     | dbh) present: yes   |   |  |  |  |
| Other remarks (inc                  | clude personal comments about what adds                                       | to or detracts from the quality of this wetland site).                          |  |  |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*3-way sedge (Dulichium arundinaceum) 10 \*black-eyed Susan (Rudbeckia fulgida) 8 \*twig rush (Cladium mariscoides, N) 10

\*umbrella sedge (Fuirena squarrosa, N) 10 wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

InWrap, Terg revised June 2005

cardinal flower (Lobelia cardinalis) 4

|        | cress spp. (Cardamine) 4                       | Shrubs - Ivs. alternate                           |
|--------|--|---|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4     | *cranberry spp. (Vaccinium, N) 10                 |
|        |  | *dwarf birch (Betula pumila, N) 10                |
|        | garlic mustard (Alliaria petio/ata) 0          |   |
|        | golden ragwort (Senecio aureus) 4              | *high bush blueberry (V. corymbosum, N) 9         |
|        | *goldenrod spp. (Solidago ohioensis, S.        | *leatherleaf (Chamaedaphne calycul., N) 10        |
|        | patula, S. riddellil) 9                        | meadowsweet & hardhack spp.(Spiraea) 4            |
|        | *grass of Parnassus (Parnassia glauca) 10      | *ninebark (Physocarpus opulifoius) 7              |
|        | *Indian plantain (Cacalia plantaginea) 10      | *shrubby cinquefoil (Potentilla fruticosa) 9      |
|        | ironweed spp. (Vernonia) 4                     | spice bush (Lindera benzoin) 5                    |
|        | jewelweed, touch-me-not spp. (Impatiens) 3     | *swamp dewberry (Rubus hispidus) 6                |
|        | lizard's tail (Saururus cernuus) 4             | *swamp holly & winterberry (/lex spp.) 7          |
|        | lobelia spp. (Lobelia) 4                       | swamp rose (Rosa palustris) 5                     |
|        | *marsh marigold (Caltha palustris) 7           |   |
|        | *moonseed (vine) (Menispermum canadense) 6     | Trees - Ivs. needle shaped                        |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3    | *tamarack (Larix laricina, N) 10                  |
| -      | rose mallow spp. (Hibiscus) 4                  |   |
|        | smartweed spp.: incl. jumpseed, pinkweed,      | Trees - Ivs. compound                             |
| -      | tearthumb, water-pepper, water-sm.             | *ash, black (Fraxinus nigra) 7                    |
|        | (Polygonum) 4 [Except *for P. arifolium 10]    | ash, green (Fraxinus pensylvanica) 3              |
|        | sneezeweed (Helenium autumnale) 3              | *ash, pumpkin (Fraxinus tomentosa, SW) 8          |
|        | stinging nettle (Laportea canadensis) 2        | boxelder (Acer negundo) 1                         |
|        | , , ,  | hickory, bitternut (Carya cordiformis) 5          |
|        | *swamp saxifrage (Saxifraga pa.) 10            | *hickory, shell bark (Carya laciniosa) 8          |
|        | *Virginia bluebells (Mertensia virginica) 6    | honey locust (Gleditsia triacanthos) 1            |
|        | waterhemp (Amaranthus tuberculatus) 1          | *poison sumac (Rhus vernix) 10                    |
|        | wingstem (Actinomeris alternifolia) 3          |   |
| Harbe: | dicots - Ivs. basal or alternate and           | Trees – Ivs. simple and opposite                  |
|        | ound or deeply lobed                           | red maple (Acer rubrum) 5                         |
| compo  | aven spp.: rough a., white a. <i>(Geum)</i> 2  | silver maple (A. saccharinum) 1                   |
|        |  |   |
|        | *buttercup spp: e.g. cursed b., hooked b.,     | Trees – Ivs. simple and alternate                 |
|        | swamp b. (Ranunculus) 6                        | *alder, speckled (Alnus rugosa) 9                 |
|        | chervil (Chaerophyllum procumbens) 3           | birch, river (Betula nigra) 2                     |
|        | *cowbane (Oxypolis rigidior) 7                 | black gum (Nyssa sylvatica) 5                     |
|        | *great angelica (Angelica atropurpurea) 6      | cottonwood, eastern (Populus deltoides) 1         |
|        | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 | *cottonwood, swamp (P. heterophylla, SW) 8        |
|        | honewort (Cryptotaenia canadensis) 3           | elm, Amer. (Ulmus americana) 3                    |
|        | meadow rue spp. (Thalictrum) 5                 | hackberry (Celtis occidentalis) 3                 |
|        | poison ivy (vine) (Rhus radicans) 1            | ironwood (Carpinus caroliniana) 5                 |
|        | *queen-of-the-prairie (Filipendula rubra) 9    | oak, pin or white (Quercus) 4                     |
|        | senna spp. <i>(Cassia) 4</i>                   | *oak, Shumard's, sw. chestnut, sw. white 7        |
|        | swamp agrimony (Agrimonia parviflora) 4        | *papaw (Asimina triloba) 6                        |
|        | *swamp thistle (Cirsium muticum) 8             | *sugarberry (Celtis laevigata, S) 7               |
|        | tall coneflower (Rudbeckia laciniata) 3        | sweet gum (Liquidambar styraciflua) 4             |
|        | *water hemlock spp. (Cicuta) 7                 | sycamore, Amer. (Platanus occidentalis) 3         |
|        | water parsnips (Sium suave) 5                  | willow spp. (Salix) sp.1=3; *additional=7         |
|        |  | willow spp. ( <i>Salix)</i> sp. 1–3, additional=7 |
| Shrubs | s - leaves opposite or whorled                 | OTHER   |
|        | bladdernut (Staphylea trifolia) 5              |   |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0  |   |
|        | button bush (Cepha/anthus occidentalis) 5      |   |
|        | dogwood, red-osier (Cornus stolonifera) 4      |   |
|        | *dogwood, blue-fruited or silky Cornus         |   |
| -      | obliqua) 7                                     |   |
|        | dogwood, gray (C. racemosa) 2                  |   |
|        | elderberry (Sambucus) 2                        | InWrap, Terg revised June 20                      |

# **IN-WRAP Summary Sheet**

| Date Re              | port Generated: 10/16/2011  |  |  |  |
|----------------------|---|--|--|--|
| Wetland              | site name: S5W021   |  |  |  |
| Data Reference #: 21 |   |  |  |  |
| Date of S            | Date of Site Visit: 10/15/2011  |  |  |  |
| NWI poly             | ygons in Site (quadrangle and NWI id. numbers: Bloomington                          |  |  |  |
|                      |   |  |  |  |
| TIER 1               | SUMMARY:  |  |  |  |
| a.                   | Total wetland area (hectares): 0.05 (0.13 acre)                                     |  |  |  |
| b.                   | Wetland size and connectivity – contribution to animal habitat:                     |  |  |  |
|                      | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral                                   |  |  |  |
| C.                   | Surrounding land use – numerical rank (max. = 1): 0.2                               |  |  |  |
| d.                   | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low          |  |  |  |
|                      |   |  |  |  |
| TIER 2               | SUMMARY: NWI Polygon Id. 21   |  |  |  |
| a.                   | Indiana Wetland community type: Seasonally Flooded Basin                            |  |  |  |
| b.                   | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral   |  |  |  |
| C.                   | Disturbances to site: Road/Railroad Embankment                                      |  |  |  |
| d.                   | Exotic species rating:  Good Medium Poor  |  |  |  |
| e.                   | Special Hydrologic Conditions Observed: None  |  |  |  |
| f.                   | Special Community Type: None  |  |  |  |
| g.                   | Rare-Threatened-Endangered Species: None  |  |  |  |
| h.                   | Polygon Quality Description: Good Medium Poor                                       |  |  |  |
| TIED 1               | A CLIMMA DV.  |  |  |  |
|                      | A SUMMARY:  |  |  |  |
| a.                   | Dead woody material as indicator of animal habitat:  Valuable Favorable Neutral     |  |  |  |
| b.                   | Water quality protection – numerical rank (6 max): 2 Rating: ☐ Good ☐ Medium ☐ Poor |  |  |  |
| C.                   | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor  |  |  |  |
|                      |   |  |  |  |
| TIER 3               | B SUMMARY:  |  |  |  |
| a.                   | Zonation and interspersion as indicator of animal habitat:                          |  |  |  |
| b.                   | Stratification as indicator of animal habitat:   Valuable   Neutral                 |  |  |  |
| C.                   | Number of dominant plant taxa observed: 2 Rating: Good Medium Poor                  |  |  |  |
| d.                   | Average coefficient of conservatism: 0.5 Rating: Good Medium Poor                   |  |  |  |
| e.                   | Tree canopy as indicator of animal habitat:   Valuable   Neutral                    |  |  |  |
| f.                   | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral       |  |  |  |
| g.                   | Total hydrophytic taxa observed: 2 Rating: ☐ Good ☐ Medium ☒ Poor                   |  |  |  |
| h.                   | Number of indicator taxa 0 Rating: ☐ Good ☐ Medium ☐ Poor                           |  |  |  |

# **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W021

TERG May 2000

# **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W02  | 1                  |                     |                 |                      |                   |
|---|--------------------|---------------------|-----------------|----------------------|-------------------|
| Ownership (if known):   |                    |                     |                 |                      |                   |
| USGS Topographic Quadrang   |                    |                     |                 |                      |                   |
| USGS Watershed map 14-Dig   | it HUC: Bean B     | lossom Creek-       | Stout Creek 05  | 5120202010080        |                   |
|   |                    |                     |                 |                      |                   |
| Identify each NWI Polygon with NWI Polygon ID Number  | in the Wetland Sit | e (Polygon spe<br>T | cific data)     |                      |                   |
| Cowardin Classification   | PEMH               |                     |                 |                      |                   |
| Polygon Size (hectares)   | 0.05 (0.13 acre)   |                     |                 |                      |                   |
| NWI Polygon ID Number   |                    | T                   | 1               |                      |                   |
| Cowardin Classification   |                    |                     |                 |                      |                   |
| Polygon Size (hectares)   |                    |                     |                 |                      |                   |
| 1.2 Site Visit:  Team Members: K. Schroed Agency: INDOT   | ler & D. White     |                     |                 |                      |                   |
| Date assessed: 10/15/2011   |                    | Time                | assessed: 6:0   |                      |                   |
| Weather conditions: 60 F  |                    |                     | <u> </u>        | <del>30 рін</del>    |                   |
| Weather Conditions. OOF   |                    |                     |                 |                      |                   |
| 1.3 Wetland Size:   |                    |                     | spring, etc.):  |                      |                   |
| Size of site under assessment   |                    | •                   |                 |                      |                   |
| Size of total wetland complex   | (all continuous we | etland polygons     | 0.05 hectare    | e (0.13 acre)        |                   |
| 1.4 Site Setting:  Degree of isolation from other v  The site is connected up  The site is only connected | stream and down    | stream with oth     | er wetlands     |                      |                   |
| The site is only connected  | ed downstream wi   | th other wetlan     | ds              |                      |                   |
| X Other wetlands are near   | by (within 0.25 mi | le) but not conr    | ected           |                      |                   |
| The wetland site is isola   | ted                |                     |                 |                      |                   |
| (General assessment of adjace site (indicate the % abundance  |                    | cover in the are    | ea within 50 me | ters of the perimete | er of the wetland |
| Native Vegetation - woo   | dland              | _50                 | Road / high     | way / railroad bed / | parking lot       |
| Native Vegetation - old f   | ield / scrub       |                     | Industrial      |                      |                   |
| Agricultural- tilled  |                    | 50                  | Residential -   | – single family      |                   |
| Agricultural - pasture  |                    |                     | Commercial      | or multifamily resid | dential           |
| Recreation - green space  | e, mowed           |                     |                 |                      |                   |

|          | olygon # <u>2</u><br>e on page one) | 21                                     |                | Data Reference #                   | S5W021                 | InWRAP, TERG May 2000                 |
|----------|-------------------------------------|--|----------------|------------------------------------|------------------------|---------------------------------------|
| •        | Individual F                        |  | iminary A      | ssessment (to be                   | completed on-site      | e for <u>each</u> NWI polygon present |
| 2.1 Wet  | land Geomori<br>_ Depressiona       | _                                      | Surface. W     | ater Flow (check on                | <b>e):</b><br>oodplain | Lacustrine                            |
|          | _ Riverine (wi                      | thin the river/stre                    | am banks)      |                                    |                        |                                       |
| 2.2 Pres | sence of Stan                       | ding Water:                            |                |                                    |                        |                                       |
|          | •                                   | mally present in t                     |                |                                    |                        |                                       |
|          | _                                   | ater is present, is mally present in a | •              | eater than 2 meters in oolygon? No | n depth? <u>No</u>     |                                       |
| 2.3 App  | arent Hydrop                        | eriod (check on                        | e):            |                                    |                        |                                       |
|          | Permanently Fl                      |  |                | Artific                            | cially Flooded         |                                       |
|          | Seasonally Flo<br>Saturated (surf   | ace water seldon                       | n present)     | Artific                            | cially Drained         |                                       |
| 2.4 Soil | Type:<br>Organic (i.e.              | . peat, etc.)                          | X              | Mineral                            | Both N                 | Aineral and Organic Present           |
|          | -                                   |  |                |                                    |                        |                                       |
|          |                                     |  | s NWI polyg    | on (see Key to Wetl                | and Communitie         | es of Indiana):                       |
| Seasor   | nally Flooded I                     | 3asın                                  |                |                                    |                        |                                       |
| 2.6 Dist | urbances of H                       | Hydrology (chec                        | k all that ap  | ply):                              |                        |                                       |
|          | Ditching                            |  |                | Culvert                            |                        |                                       |
|          | Tiles .                             |  |                | Other Hu                           | uman Disturbance       | es to the Hydrology (explain):        |
|          | Dams<br>Poad or Pailro              | ad Embankment                          |                |                                    |                        |                                       |
|          |                                     |  |                |                                    |                        |                                       |
| 2.7 Pres | sence of Invas                      | sive Exotics (Sc                       | ore as: S = \$ | Scattered, F = Frequ               | ent, or C = Com        | mon):                                 |
|          | Sarlic Mustard                      |  |                | lossy Buckthorn                    |                        |                                       |
|          | Phragmities                         |  |                | eed canary grass                   |                        |                                       |
| F        | Purple loosestr                     | ife                                    | 0              | ther (list):                       |                        |                                       |
| 2.8 Pres | sence of Spec                       | ial Hydrologic C                       | conditions (   | i.e. seeps, wet slope              | es, floating mat):     |                                       |
|          |                                     |  |                |                                    |                        |                                       |
| 2.9 Pres | sence of Spec                       | ial Community                          | Гуреs:         |                                    |                        |                                       |
|          | _ Bog                               | F                                      | en             | W                                  | et Sand / Muck F       | lats or Mari Seeps                    |
| 2.10 Pre | esence of Kno                       | own Federal or I                       | ndiana Rare    | , Threatened or End                | angered Specie         | s:                                    |
| X        | None obser                          | ved or known to b                      | e present      |                                    |                        |                                       |
|          | _ RTES Prese                        |  | ,              |                                    |                        |                                       |
| 2.11 We  | tland Polygo                        | n Quality Descri                       | ptor (see: V   | Vetland Quality Desc               | criptions and ch       | eck one):                             |
|          | Good                                |  | Medium         | _X Po                              | oor                    |                                       |

| NWI    | Po   | olyg  | on   | #     | 21 Data Reference # S5W021  |  |  |  |  |  |  |  |  |  |  |
|--------|------|-------|------|-------|---|--|--|--|--|--|--|--|--|--|--|
| Tier   | 3a   | Inc   | vik  | idua  | al Polygon: Rapid Hydrology Indicators  |  |  |  |  |  |  |  |  |  |  |
| 3a.1 I | Not  | able  | e Fe | eatui | res that influence water quality and hydrology:   |  |  |  |  |  |  |  |  |  |  |
| Estin  | nate | ed h  | erb  | aceo  | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |  |  |  |  |  |  |  |  |  |  |
| Estin  | nate | ed w  | /00  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _X <25   |  |  |  |  |  |  |  |  |  |  |
| Amo    | unt  | of c  | lead | ow b  | ody material on the soil surface: X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)   |  |  |  |  |  |  |  |  |  |  |
| 3a.2 \ | Wat  | ter ( | Qua  | lity  | Protection Questions:   |  |  |  |  |  |  |  |  |  |  |
| 1.     | X    | Υ     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |  |  |  |  |  |  |  |
| 2.     |      | Y     | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |  |  |  |  |  |  |  |
| 3.     |      |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |  |  |  |  |  |  |  |  |  |  |
| 3a.    |      | Y     | X    | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |  |  |  |  |  |  |  |
| 3b.    |      | Y     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |  |  |  |  |  |  |  |  |
| 4.     |      | Y     | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |  |  |  |  |  |  |  |
| 5.     | Χ    | Y     |      | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |  |  |  |  |  |  |  |
| 6.     |      | Y     | Χ    | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |  |  |  |  |  |  |  |
|        |      |       |      |       | Average width of buffer area (in meters) Approximate slope (percent)  |  |  |  |  |  |  |  |  |  |  |
| 3a.3 I | Flo  | od a  | ınd  | Sto   | rmwater Storage / Attenuation Questions:  |  |  |  |  |  |  |  |  |  |  |
| 1.     |      |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |  |  |  |  |  |  |  |
| 1a.    | X    | Y     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |  |  |  |  |  |  |  |
| 1b.    |      | Y     |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |  |  |  |  |  |  |  |
| 2.     |      | Y     | Χ    | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |  |  |  |  |  |  |  |
| 3.     | X    | Y     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |  |  |  |  |  |  |  |  |
| 4.     |      | Υ     | Χ    | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |  |  |  |  |  |  |  |  |  |  |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

| NWI Polygon #                        | 21  | Data Reference #          | S5W021  |                   |  |  |  |  |  |
|--------------------------------------|---|---------------------------|---|-------------------|--|--|--|--|--|
| Tier 3b Individu                     | ıal Polygon: Rapid Vegetation D   | escription                |   |                   |  |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion: y vegetation zones are evident in this we                          | tland polygon? 1          |   |                   |  |  |  |  |  |
| 1b. If only one                      | e vegetation zone is evident, which best  | describes the site?       |   |                   |  |  |  |  |  |
| X                                    | Polygon composed of a mosaic of sma heterogeneous textures across the poly        | •                         | ummocks, or tussock   | s;                |  |  |  |  |  |
|                                      | Polygon composed of a single vegetation polygon.                                  | on type with more or les  | ss uniform texture acr  | ross the          |  |  |  |  |  |
|                                      | one vegetation zone is present in the point of these zones?                       | olygon, which interspers  | sion diagram most clo   | sely represents   |  |  |  |  |  |
| Туре                                 | e One Interspersion   | T                         | ype Two Interspersi   | on                |  |  |  |  |  |
| (                                    |   |                           |   |                   |  |  |  |  |  |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone A   | Photo n                   | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon) |                   |  |  |  |  |  |
| What % of the polyg                  | gon does this vegetative zone occupy?   | ·                         |   |                   |  |  |  |  |  |
| 10 – 25%                             | 25 – 50 %   | 50 – 75%                  | 75 – 90%  | X >90%            |  |  |  |  |  |
| Is there notable layer               | ering/stratification in this vegetation zone                                      |                           |   | _                 |  |  |  |  |  |
|                                      | ous Species (i.e. covering more than 10 es that forms extensive monocultural pate | ches).                    | in order of relative al   | -                 |  |  |  |  |  |
| b Phalaris arundi                    | inacea  | е                         |   |                   |  |  |  |  |  |
| С                                    |   | f                         |   |                   |  |  |  |  |  |
| •                                    | pecies listed in order of relative abundand                                       |                           |   |                   |  |  |  |  |  |
|                                      |   |                           |   |                   |  |  |  |  |  |
| b                                    | ·   | d                         |   |                   |  |  |  |  |  |
| Dominant Tree Spe                    | cies listed in order of relative abundance  |                           |   |                   |  |  |  |  |  |
| a                                    |   | C                         |   |                   |  |  |  |  |  |
| b                                    |   | d                         |   |                   |  |  |  |  |  |
| Tree & shrub canop                   | y: X nil separate, seldom   | touching often            | touching Mo   | re or less closed |  |  |  |  |  |
| Mature trees (>12"                   | dbh) present: yes   | X no                      |   |                   |  |  |  |  |  |
| Other remarks (inc                   | lude personal comments about what add   | ls to or detracts from th | e quality of this wetla   | nd site).         |  |  |  |  |  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10  | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5  *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2   |
|---|---|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus) *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3  *fen betony (Padicularis lanceolata) 6   |
| Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea, N) 10  *sundew spp. (Drosera, N) 10   | *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8  giant ragweed (Ambrosia trifida) 0  Indian hemp (Apocynum cannabinum) 2  |
| Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10   | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8  swamp milkweed (Asclepias incarnata) 4  toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8  virgin's bower (vine) (Clematis virginiana) 3  water puslane (Ludwigia palustris) 3  winged loosestrife (Lythrum alatum) 5 |
| nutsedge spp. (Cyperus) 2  *orchid spp.: species (if known) rush spp. (Juncus) 4 sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9 sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10 wild hyacinth (Camassia scilloides) 5  *yellow-eyed grass (Xyris torta, N) 9 | Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4   |

|        | cress spp. (Cardamine) 4                       | Shrubs - Ivs. alternate                      |
|--------|--|--|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4     | *cranberry spp. (Vaccinium, N) 10            |
|        | garlic mustard (Alliaria petio/ata) 0          | *dwarf birch (Betula pumila, N) 10           |
|        | golden ragwort (Senecio aureus) 4              | *high bush blueberry (V. corymbosum, N) 9    |
|        | *goldenrod spp. (Solidago ohioensis, S.        | *leatherleaf (Chamaedaphne calycul., N) 10   |
|        | patula, S. riddellil) 9                        | meadowsweet & hardhack spp.(Spiraea) 4       |
|        | *grass of Parnassus (Parnassia glauca) 10      | *ninebark (Physocarpus opulifoius) 7         |
|        | *Indian plantain (Cacalia plantaginea) 10      | *shrubby cinquefoil (Potentilla fruticosa) 9 |
|        | ironweed spp. (Vernonia) 4                     | spice bush (Lindera benzoin) 5               |
|        | jewelweed, touch-me-not spp. (Impatiens) 3     | *swamp dewberry (Rubus hispidus) 6           |
|        | lizard's tail (Saururus cernuus) 4             | *swamp holly & winterberry (/lex spp.) 7     |
|        | lobelia spp. (Lobelia) 4                       | swamp rose (Rosa palustris) 5                |
|        | *marsh marigold (Caltha palustris) 7           |  |
| -      | *moonseed (vine) (Menispermum canadense) 6     | Trees - Ivs. needle shaped                   |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3    | *tamarack (Larix laricina, N) 10             |
|        | rose mallow spp. (Hibiscus) 4                  |  |
| -      | smartweed spp.: incl. jumpseed, pinkweed,      | Trees - Ivs. compound                        |
|        | tearthumb, water-pepper, water-sm.             | *ash, black <i>(Fraxinus nigra)</i> 7        |
|        | (Polygonum) 4 [Except *for P. arifolium 10]    | ash, green (Fraxinus pensylvanica) 3         |
|        | sneezeweed (Helenium autumnale) 3              | *ash, pumpkin (Fraxinus tomentosa, SW) 8     |
|        | stinging nettle (Laportea canadensis) 2        | boxelder (Acer negundo) 1                    |
|        |  | hickory, bitternut (Carya cordiformis) 5     |
|        | *swamp saxifrage (Saxifraga pa.) 10            | *hickory, shell bark (Carya laciniosa) 8     |
| -      | *Virginia bluebells (Mertensia virginica) 6    | honey locust (Gleditsia triacanthos) 1       |
|        | waterhemp (Amaranthus tuberculatus) 1          | *poison sumac (Rhus vernix) 10               |
|        | wingstem (Actinomeris alternifolia) 3          |  |
| Harhe: | dicots - Ivs. basal or alternate and           | Trees – Ivs. simple and opposite             |
|        | ound or deeply lobed                           | red maple <i>(Acer rubrum) 5</i>             |
| compo  | aven spp.: rough a., white a. (Geum) 2         | silver maple (A. saccharinum) 1              |
|        | *buttercup spp: e.g. cursed b., hooked b.,     |  |
|        | swamp b. (Ranunculus) 6                        | Trees – Ivs. simple and alternate            |
|        | chervil (Chaerophyllum procumbens) 3           | *alder, speckled (Alnus rugosa) 9            |
|        |  | birch, river (Betula nigra) 2                |
|        | *cowbane (Oxypolis rigidior) 7                 | black gum (Nyssa sylvatica) 5                |
| -      | *great angelica (Angelica atropurpurea) 6      | cottonwood, eastern (Populus deltoides) 1    |
|        | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 | *cottonwood, swamp (P. heterophylla, SW) 8   |
|        | honewort (Cryptotaenia canadensis) 3           | elm, Amer. (Ulmus americana) 3               |
|        | meadow rue spp. (Thalictrum) 5                 | hackberry (Celtis occidentalis) 3            |
|        | poison ivy (vine) (Rhus radicans) 1            | ironwood <i>(Carpinus caroliniana) 5</i>     |
|        | *queen-of-the-prairie (Filipendula rubra) 9    | oak, pin or white (Quercus) 4                |
|        | senna spp. (Cassia) 4                          | *oak, Shumard's, sw. chestnut, sw. white 7   |
|        | swamp agrimony (Agrimonia parviflora) 4        | *papaw (Asimina triloba) 6                   |
|        | *swamp thistle (Cirsium muticum) 8             | *sugarberry (Celtis laevigata, S) 7          |
|        | tall coneflower (Rudbeckia laciniata) 3        | sweet gum (Liquidambar styraciflua) 4        |
|        | *water hemlock spp. (Cicuta) 7                 | sycamore, Amer. (Platanus occidentalis) 3    |
|        | water parsnips (Sium suave) 5                  | willow spp. (Salix) sp.1=3; *additional=7    |
|        |  | willow opp. (balls) op. 1=0, additional=7    |
| Shrubs | s - leaves opposite or whorled                 | OTHER  |
|        | bladdernut (Staphylea trifolia) 5              |  |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0  |  |
|        | button bush (Cepha/anthus occidentalis) 5      |  |
|        | dogwood, red-osier (Cornus stolonifera) 4      |  |
|        | *dogwood, blue-fruited or silky Cornus         |  |
|        | obliqua) 7                                     |  |
|        | dogwood, gray (C. <i>racemosa)</i> 2           |  |
|        | elderberry (Sambucus) 2                        | InWrap, Terg revised June 20                 |

# **IN-WRAP Summary Sheet**

| Date Rep  | rt Generated: 04/29/2012 and 02/19/2013  |   |
|-----------|--|---|
| Wetland   | te name: S5W024  |   |
| Data Ref  | rence #: 24  |   |
| Date of S | e Visit: 4/27/2012 and 2/19/2013   |   |
| NWI poly  | ons in Site (quadrangle and NWI id. numbers: Bloomington   |   |
|           |  |   |
| TIER 1 S  | JMMARY:  |   |
| a.        | Total wetland area (hectares): 0.10 hectares (0.24 acres)  |   |
| b.        | Wetland size and connectivity – contribution to animal habitat:  |   |
|           | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral  |   |
| C.        | Surrounding land use – numerical rank (max. = 1): 0.15   |   |
| d.        | √alue surrounding area adds to animal habitat   □ Valuable   □ Favorable   ⊠ Low   |   |
| TIER 2    | SUMMARY: NWI Polygon Id. 24a   |   |
| a.        | ndiana Wetland community type: Shrub-carr  | _ |
| b.        | Standing water – contribution to animal habitat: 🔲 Valuable 🔀 Favorable 🔲 Neutral  |   |
| c.        | Disturbances to site: Culvert  |   |
| d.        | Exotic species rating: Sood Medium Poor  |   |
| e.        | Special Hydrologic Conditions Observed: None   |   |
| f.        | Special Community Type: None   |   |
| g.        | Rare-Threatened-Endangered Species: None   |   |
| h.        | Polygon Quality Description: Good Medium Poor  |   |
| TIED 2    | SUMMARY:   |   |
|           |  |   |
| a.<br>b   |  |   |
| b.<br>c.  | Water quality protection – numerical rank (6 max): 2 Rating: ☐ Good ☐ Medium ☒ Poor Flood and storm water storage – numerical rank (5 max): 2 Rating: ☐ Good ☒ Medium ☐ Poor |   |
| U.        | Tool and storm water storage – numerical rank (Smax).  |   |
| TIER 3    | SUMMARY:   |   |
| a.        | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral  |   |
| b.        | Stratification as indicator of animal habitat:   Valuable   Neutral  |   |
| c.        | Number of dominant plant taxa observed: 3 Rating: 🗌 Good 🔲 Medium 🗵 Poor   |   |
| d.        | Average coefficient of conservatism: 4.67 Rating: Good Medium Poor   |   |
| e.        | Free canopy as indicator of animal habitat: ⊠ Valuable □ Neutral   |   |
| f.        | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral  |   |
| g.        | Total hydrophytic taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor  |   |
| h.        | Number of indicator taxa 1 Rating: Good Medium Poor  |   |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2  | SUMMARY: NWI Polygon Id. 24b  |
|---------|---|
| a.      | Indiana Wetland community type: Shallow marsh   |
| b.      | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral         |
| c.      | Disturbances to site: Culvert/used for stormwater detention                               |
| d.      | Exotic species rating: Good Medium Poor   |
| e.      | Special Hydrologic Conditions Observed: None  |
| f.      | Special Community Type: None  |
| g.      | Rare-Threatened-Endangered Species: None  |
| h.      | Polygon Quality Description: Good Medium Poor   |
|         |   |
| TIER 3/ | A SUMMARY:  |
| a.      | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral        |
| b.      | Water quality protection – numerical rank (6 max): 2 Rating: ☐ Good ☐ Medium ☒ Poor       |
| c.      | Flood and storm water storage – numerical rank (5 max): 2 Rating: Good Medium Poor        |
|         |   |
| TIER 31 | B SUMMARY:  |
| a.      | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral |
| b.      | Stratification as indicator of animal habitat:   Valuable   Neutral                       |
| c.      | Number of dominant plant taxa observed: 2 Rating: ☐ Good ☐ Medium ☒ Poor                  |
| d.      | Average coefficient of conservatism: 2.0 Rating: Good Medium Poor                         |
| e.      | Tree canopy as indicator of animal habitat:   Valuable   Neutral                          |
| f.      | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral             |
| g.      | Total hydrophytic taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                         |
| h.      | Number of indicator taxa 0 Rating: ☐ Good ☐ Medium ☒ Poor                                 |
|         |   |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2 | SUMMARY: NWI Polygon Id. 24c  |
|--------|---|
| a.     | Indiana Wetland community type: Shrub-carr  |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral         |
| C.     | Disturbances to site: Culvert   |
| d.     | Exotic species rating:  |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable Neutral          |
| b.     | Water quality protection – numerical rank (6 max): 2 Rating: ☐ Good ☐ Medium ☒ Poor       |
| c.     | Flood and storm water storage – numerical rank (5 max): 2 Rating: Good Medium Poor        |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:   Valuable Favorable   Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                       |
| c.     | Number of dominant plant taxa observed: 3 Rating: ☐ Good ☐ Medium ☒ Poor                  |
| d.     | Average coefficient of conservatism: 4.67 Rating: Good Medium Poor                        |
| e.     | Tree canopy as indicator of animal habitat:   |
| f.     | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☐ Neutral             |
| g.     | Total hydrophytic taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                         |
| h.     | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                 |
|        |   |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W024

TERG May 2000

### **Tier 1: Assessment Overview**

| 1.1 Site identification: | 1.1 | Site | Identification: |
|--------------------------|-----|------|-----------------|
|--------------------------|-----|------|-----------------|

| Wetland site name: S5W024                                    | 1                        |                                       |                      |                       |              |
|--|--------------------------|---------------------------------------|----------------------|-----------------------|--------------|
| Ownership (if known):  |                          |                                       |                      |                       |              |
| USGS Topographic Quadrang                                    | le(s): Blooming          | ton                                   |                      |                       |              |
| USGS Watershed map 14-Dig                                    | • •                      |                                       | ek 051202080900      | 10                    |              |
| OOOO Wateronea map 14 big                                    | 11100: <u>Olcar o</u>    | reek daokson ore                      | CK 00120200000       |                       |              |
| Identify each NWI Polygon withi                              |                          | · · · · · · · · · · · · · · · · · · · |                      | T                     |              |
| NWI Polygon ID Number  | 024a                     | 024b                                  | 024c                 |                       |              |
| Cowardin Classification Polygon Size (hectares)              | PSS<br>0.01 (0.02 acres) | PEMC<br>0.06 (0.14 acres)             | PSS 0.03 (0.08 acre) |                       |              |
| rolygon Size (nectales)                                      | 0.01 (0.02 acres)        | 0.00 (0.14 acres)                     | 0.03 (0.08 acre)     |                       |              |
| NWI Polygon ID Number  |                          |                                       |                      |                       |              |
| Cowardin Classification                                      |                          |                                       |                      |                       |              |
| Polygon Size (hectares)                                      |                          |                                       |                      |                       |              |
| 1.2 Site Visit:  |                          |                                       |                      |                       |              |
| Team Members: K. Schroed                                     | er & D. White            |                                       |                      |                       |              |
| Agency: INDOT  |                          |                                       |                      |                       |              |
| Date assessed: 10/14/2011                                    | and 2/19/2013            | Time as:                              | sessed: 11:15 a      | m and 10:30am         |              |
| Weather conditions: Overc                                    |                          |                                       | <u> </u>             | in and relegant       |              |
| vveatrier conditions. Overc                                  | asi, italii              |                                       |                      |                       |              |
| Note any unusual weather ever                                |                          |                                       |                      | ithin this wetland    | system (e.g. |
| recent heavy rains, an unusually                             | y dry season, an e       | specially early spr                   | ing, etc.):          |                       |              |
|  |                          |                                       |                      |                       |              |
| 1.3 Wetland Size:  |                          |                                       |                      |                       |              |
| Size of site under assessment                                | : 0.04 hectares          | (0.10acres)- PSS                      | ; 0.06 hectares (0   | ).14 acres)- PEM      |              |
| Size of total wetland complex (                              | (all continuous we       | tland polygons):                      | 0.10 hectares (      | 0.24 acres)           |              |
| ·  | <b>(</b>                 |                                       |                      |                       |              |
| 1.4 Site Setting:  | otlanda or watland       | d complexes:                          |                      |                       |              |
| Degree of isolation from other w<br>The site is connected up |                          | •                                     | wetlands             |                       |              |
|  |                          |                                       | wellands             |                       |              |
| The site is only connected                                   | •                        |                                       |                      |                       |              |
| The site is only connected                                   | ed downstream wit        | h other wetlands                      |                      |                       |              |
| X Other wetlands are near                                    | by (within 0.25 mil      | e) but not connect                    | ed                   |                       |              |
| The wetland site is isolated                                 | ted                      |                                       |                      |                       |              |
| (General assessment of adjace                                | nt land use / land       | cover in the area                     | within 50 meters o   | of the perimeter of   | the wetland  |
| site (indicate the % abundance                               |                          | cover in the area                     | Within 30 meters e   | ine perimeter of      | the wettand  |
| Native Vegetation - wood                                     | dland                    | 50                                    | Road / highway /     | railroad bed / parl   | king lot     |
| Native Vegetation - old f                                    |                          |                                       | Industrial           | •                     | -            |
| Agricultural- tilled   |                          |                                       | Residential – sing   | ale family            |              |
|  |                          | <u> </u>                              |                      |                       | ial          |
| Agricultural - pasture                                       |                          | _50                                   | Commercial or m      | ulularilily residenti | lai          |
| Recreation - green space                                     | e, mowed                 |                                       |                      |                       |              |

| NWI Polygor (see table on pa          |                                 |                   | _ Data Reference #     | S5W024                 | InWRAP, TERG May 2000               |
|---------------------------------------|---------------------------------|-------------------|------------------------|------------------------|-------------------------------------|
|                                       | idual Polygon: F                | Preliminary A     | ssessment (to be       | completed on-site      | for <u>each</u> NWI polygon present |
|                                       | ieomorphic Setting<br>ressional | and Surface. W    | /ater Flow (check on   | <b>e):</b><br>oodplain | Lacustrine                          |
|                                       | erine (within the river         |                   | <u></u>                |                        |                                     |
| 2.2 Presence                          | of Standing Water:              |                   |                        |                        |                                     |
|                                       | ater normally presen            | t in the polyaon? | No                     |                        |                                     |
| _                                     | • •                             |                   | eater than 2 meters in | depth?                 |                                     |
|                                       | ater normally presen            | _                 |                        |                        |                                     |
| 2.3 Apparent I                        | Hydroperiod (checl              | k one):           |                        |                        |                                     |
|                                       | nently Flooded                  |                   | X Artific              | cially Flooded         |                                     |
|                                       | nally Flooded                   | Jdom procent)     | Λ =±:f;                | sially Drainad         |                                     |
| Saturat                               | ed (surface water se            | eidom present)    | Aruno                  | cially Drained         |                                     |
| 2.4 Soil Type:                        |                                 |                   |                        |                        |                                     |
| Orga                                  | anic (i.e. peat, etc.)          | X                 | Mineral                | Both N                 | lineral and Organic Present         |
| Shrub-carr  2.6 Disturbance  Ditching | <b>ces of Hydrology (c</b>      | check all that ap | pply):  X Culvert      |                        |                                     |
| Tiles<br>Dams                         |                                 |                   | Other Hu               | uman Disturbance       | es to the Hydrology (explain):      |
| Road o                                | r Railroad Embankm              | nent              |                        |                        |                                     |
| 2.7 Presence                          | of Invasive Exotics             | (Score as: S =    | Scattered, F = Frequ   | ent, or C = Com        | mon):                               |
| Garlic N                              | Mustard                         | C                 | Blossy Buckthorn       |                        |                                     |
| Phragm                                | nities                          | F                 | Reed canary grass      |                        |                                     |
| Purple I                              | loosestrife                     | 0                 | Other (list):          |                        |                                     |
|                                       | of Special Hydrolo              | gic Conditions (  | i.e. seeps, wet slope  | es, floating mat):     |                                     |
| None                                  |                                 |                   |                        |                        |                                     |
| 2.9 Presence                          | of Special Commu                | nity Types:       |                        |                        |                                     |
| Bog                                   |                                 | Fen               | W                      | et Sand / Muck F       | ats or Mari Seeps                   |
| 2.10 Presence                         | of Known Federal                | or Indiana Rare   | e, Threatened or End   | angered Specie         | s:                                  |
|                                       | e observed or know              |                   |                        |                        |                                     |
|                                       | S Present (list)                | . to be present   |                        |                        |                                     |
|                                       | ` ' -                           | escriptor (see: l | Vetland Quality Desc   | criptions and che      | eck one):                           |
| Goo                                   | d                               | Medium            | _X Po                  | oor                    |                                     |

| NWI Po  | olyg | gon | #    | 024a                               | 024a Data Reference # S5W024   |          |            |         |        |         |        |            |                  |        |        |       |         |         |        |           |        |       |
|---|------|-----|------|------------------------------------|--|----------|------------|---------|--------|---------|--------|------------|------------------|--------|--------|-------|---------|---------|--------|-----------|--------|-------|
| Tier 3a   | In   | div | /id  | ual Polyg                          | on: R  | apid     | Hyd        | rolo    | gy lı  | ndic    | ator   | rs         |                  |        |        |       |         |         |        |           |        |       |
| 3a.1 Not  | abl  | e F | eat  | tures that in                      | fluenc   | e wat    | ter qua    | ality   | and I  | hydr    | ology  | <b>/</b> : |                  |        |        |       |         |         |        |           |        |       |
| Estimate  | ed l | her | bac  | eous plant c                       | over (p  | percen   | ntage)     | in th   | e poly | ygon    |        |            | 1                | 00-7   | 5 _    |       | 75-     | 50 _    |        | 50-25     | Χ      | _<25  |
| Estimate  | ed ' | woo | ody  | plant foliar o                     | cover in   | n the p  | oolygo     | n       |        |         |        |            | 1                | 00-7   | 5 _    | Χ     | 75-     | 50 _    |        | 50-25     |        | <25   |
| Amount of dead woody material on the soil surface:  X nil (<5% cover) |      |     |      |                                    |  |          |            | scatt   | ered   | (5-1    | 15% (  | cove       | er)              |        | _ F    | requ  | ent (>2 | 20% c   | over)  |           |        |       |
| 3a.2 Wa   | ter  | Qu  | alit | y Protectio                        | n Ques   | stions   | <b>:</b> : |         |        |         |        |            |                  |        |        |       |         |         |        |           |        |       |
| 1. X  | Υ    |     | N    | Does the density to                |  |          |            |         |        |         |        |            | tativ            | ve (sp | ecifi  | icall | y per   | ennia   | al an  | d wood    | ly pla | nt)   |
| 2.  | Υ    | X   |      | Managed<br>or munic                |  |          |            |         |        |         |        |            |                  |        |        |       |         | draina  | age (  | outlet, i | ndust  | trial |
| 3.  |      |     |      | If wetland                         | d in qu  | estion   | is a d     | lepre   | ssion  | al we   | etland | ansv       | wer              | 3a, if | not    | , ans | swer    | 3b      |        |           |        |       |
| 3a.   | Y    |     | N    | Does the before th                 |  |          |            |         |        |         |        |            | or th            | ne se  | ttling | g out | of s    | uspei   | nded   | l mater   | ials   |       |
| 3b.   | Y    | Х   |      |                                    | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient? |          |            |         |        |         |        |            |                  |        |        |       |         |         |        |           |        |       |
| 4.  | Y    | Х   |      | Does the with row                  |  |          |            |         |        |         |        |            |                  |        |        |       |         |         |        |           | 12%)   |       |
| <b>5</b> . X  | Y    |     | N    | Are there                          |  |          |            |         |        |         | iterco | urses      | s, or            | wate   | er su  | ypply | / sou   | rces    | locat  | ted witl  | nin a  | mile  |
| 6.  | Y    | Х   |      | Is a vege<br>could be<br>width and | filtered   | d) loca  |            |         |        |         |        |            |                  |        |        |       |         |         |        |           |        |       |
|   |      |     |      | Average                            | width (  | of buff  | er are     | a (in   | mete   | ers)    | 0      |            | _ A <sub>l</sub> | pprox  | kima   | ite s | lope    | (perc   | ent)   | 1-2       |        |       |
| 3a.3 Flo  | od   | and | d S  | tormwater S                        | Storage  | e / Att  | :enuat     | tion (  | Ques   | tions   | s:     |            |                  |        |        |       |         |         |        |           |        |       |
| 1.  |      |     |      | If wetland                         | d in qu  | estion   | is a d     | lepre   | ssion  | al we   | etland | ansv       | wer              | 1a, if | not    | , ans | swer    | 1b      |        |           |        |       |
| 1a.   | Y    |     | N    | Around the slow ove                |  |          |            |         |        | strip ( | of nat | ural v     | vege             | etatio | n (fc  | orest | ted, o  | old fie | eld, s | crub) t   | hat w  | ill   |
| 1b. X   | Y    |     | N    | Is there a                         |  |          |            |         |        |         |        | y or \     | vege             | etativ | e de   | ensit | y witl  | nin th  | e we   | etland t  | o red  | uce   |
| 2.  | Y    | Х   |      | Does the (tiles, cul               |  |          |            | า-mad   | de str | uctur   | es th  | at wo      | ould             | spee   | ed th  | e flo | w of    | wate    | r fro  | m the v   | wetlar | nd    |
| 3.  | Y    | X   |      | Is the floo<br>damages             |  | ential h | high in    | າ the : | sub-v  | water   | shed   | in wh      | nich             | the v  | wetla  | and i | is loc  | ated    | (hist  | ory of    | flood  |       |
| 4.  | Y    | Х   |      | Is the we imperme                  |  |          |            |         |        |         |        |            |                  |        |        |       |         | ls are  | e cla  | yey an    | d      |       |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

| NWI Polygon #                       | 024a  | Data Reference #  | S5W024   |  |  |  |
|-------------------------------------|---|---|--|--|--|--|
| Tier 3b Individu                    | ual Polygon: Rapid Vegetation Description         |   |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man | Interspersion: y vegetation zones are evide       | ent in this wetland polygon? 1                          |  |  |  |  |
| 1b. If only on                      | e vegetation zone is evident                      | which best describes the site?                          |  |  |  |  |
|                                     | Polygon composed of a m heterogeneous textures ac | osaic of small vegetation patches<br>cross the polygon. | , hummocks, or tussocks;   |  |  |  |
| X                                   | Polygon composed of a sin polygon.                | ngle vegetation type with more or                       | less uniform texture across the                                    |  |  |  |
|                                     | n one vegetation zone is prestion of these zones? | sent in the polygon, which intersp                      | ersion diagram most closely represents                             |  |  |  |
|                                     | e One Interspersion                               |   | Type Two Interspersion   |  |  |  |
| ı                                   |   |   |  |  |  |  |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zo                         | Photo   | Observation Point #1 o number(s) mark location on the NWI polygon) |  |  |  |
| What % of the poly                  | gon does this vegetative zor                      | •   |  |  |  |  |
| 10 – 25%                            | 25 – 50 %   | 50 – 75%  | 75 – 90% <u>X</u> >90%   |  |  |  |
| Is there notable lay                | ering/stratification in this veg                  |   |  |  |  |  |
| with an * any specie<br>a           | es that forms extensive mon                       | ocultural patches).                                     | ed in order of relative abundance. (Mark                           |  |  |  |
| b                                   |   | e   |  |  |  |  |
| С                                   |   | r   |  |  |  |  |
| Dominant Shruh S                    | pecies listed in order of relat                   | ive ahundance   |  |  |  |  |
| a Salix nigra                       |   |   |  |  |  |  |
|                                     | um  |   |  |  |  |  |
|                                     |   |   |  |  |  |  |
| Dominant Tree Spe                   | ecies listed in order of relativ                  | e abundance.  |  |  |  |  |
| a                                   |   | C   |  |  |  |  |
|                                     |   |   |  |  |  |  |
| Tree & shrub canop                  | oy: nil separ                                     | ate, seldom touching ofte                               | en touching X More or less closed                                  |  |  |  |
| Mature trees (>12"                  | dbh) present:                                     | yes X no  |  |  |  |  |
| Other remarks (inc                  | clude personal comments ab                        | out what adds to or detracts from                       | the quality of this wetland site).                                 |  |  |  |
| Was originally cons                 | tructed as a stormwater dete                      | ention facilty.   |  |  |  |  |

| NWI Polygon # 024a |
|--------------------|
|--------------------|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana)SW = southwestern Indiana *numbers* = *C-coefficients* \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 sensitive fern (Onoclea sensibilis) 4 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 Herbs: insectivorous plants \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea, N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lvsimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 b. most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*3-way sedge (Dulichium arundinaceum) 10 \*black-eyed Susan (Rudbeckia fulgida) 8 \*twig rush (Cladium mariscoides, N) 10 cardinal flower (Lobelia cardinalis) 4 \*umbrella sedge (Fuirena squarrosa, N) 10 InWrap, Terg revised June 2005 wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

|          | cross can (Cardamina) 1  | Shrubs - Ivs. alternate   |
|----------|--|---|
| -        | cress spp. (Cardamine) 4   |   |
|          | _ dock spp.: swamp-, water-, pale- (Rumex) 4   | *cranberry spp. ( <i>Vaccinium,</i> N) 10<br>*dwarf birch ( <i>Betula pumila,</i> N) 10   |
| -        | garlic mustard (Alliaria petio/ata) 0  |   |
| -        | golden ragwort (Senecio aureus) 4  | *high bush blueberry (V. corymbosum, N) 9   |
|          | *goldenrod spp. (Solidago ohioensis, S.  | *leatherleaf (Chamaedaphne calycul., N) 10  |
|          | patula, S. riddellil) 9  | meadowsweet & hardhack <i>spp.(Spiraea) 4</i>   |
|          | *grass of Parnassus (Parnassia glauca) 10  | *ninebark (Physocarpus opulifoius) 7  |
|          | *Indian plantain (Cacalia plantaginea) 10  | *shrubby cinquefoil (Potentilla fruticosa) 9  |
|          | ironweed spp. (Vernonia) 4   | spice bush (Lindera benzoin) 5  |
|          | jewelweed, touch-me-not spp. (Impatiens) 3   | *swamp dewberry (Rubus hispidus) 6  |
|          | lizard's tail (Saururus cernuus) 4   | *swamp holly & winterberry (/lex spp.) 7  |
|          | lobelia spp. (Lobelia) 4   | swamp rose (Rosa palustris) 5   |
|          | *marsh marigold (Caltha palustris) 7   | Trees - Ivs. needle shaped  |
|          | *moonseed (vine) (Menispermum canadense) 6   | *tamarack (Larix laricina, N) 10  |
|          | _ primrose-willow spp.(Epilobium &Ludwigia) 3  | tamaraok (Lanx lanolila, 14) 10   |
|          | rose mallow spp. (Hibiscus) 4  | Trees - Ivs. compound   |
|          | smartweed spp.: incl. jumpseed, pinkweed,  | *ash, black (Fraxinus nigra) 7  |
|          | tearthumb, water-pepper, water-sm.   | ash, green (Fraxinus pensylvanica) 3  |
|          | (Polygonum) 4 [Except *for P. arifolium 10]  | *ash, pumpkin (Fraxinus tomentosa, SW) 8  |
|          | sneezeweed (Helenium autumnale) 3  | boxelder (Acer negundo) 1   |
|          | _ stinging nettle (Laportea canadensis) 2  | hickory, bitternut (Carya cordiformis) 5  |
|          | *swamp saxifrage (Saxifraga pa.) 10  | *hickory, shell bark (Carya laciniosa) 8  |
|          | *Virginia bluebells (Mertensia virginica) 6  | honey locust (Gleditsia triacanthos) 1  |
|          | _ waterhemp (Amaranthus tuberculatus) 1  | *poison sumac (Rhus vernix) 10  |
|          | _ wingstem (Actinomeris alternifolia) 3  | polocii damad (ruido roimi) ro  |
|          | aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b.,     swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7 | red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 |
|          | _ water parsnips (Sium suave) 5  | 1 willow spp. (Salix) sp.1=3; *additional=7   |
| Shrub    | s - leaves opposite or whorled   | OTHER   |
| J. 11 UD | bladdernut (Staphylea trifolia) 5  | OTHER   |
| -        | buckthorn spp. (Rhamnus cathar. & frangula) 0  |   |
|          | button bush (Cepha/anthus occidentalis) 5  |   |
|          | dogwood, red-osier (Cornus stolonifera) 4  |   |
| 1        | *dogwood, blue-fruited or silky <i>Cornus</i>  |   |
|          | obliqua) 7   |   |
|          | dogwood, gray (C. <i>racemosa</i> ) 2  |   |
|          | elderberry (Sambucus) 2  | InWrap. Terg revised June 200   |
|          |  | mitting, iciq ictiscu bulle 200   |

| NWI Polygon # 024b (see table on page one)  | Data Reference #         | S5W024                 | InWRAP, TERG May 2000               |
|---|--------------------------|------------------------|-------------------------------------|
| <b>Tier 2 Individual Polygon: Preliminary</b> in the wetland)   | Assessment (to be o      | completed on-site      | for <u>each</u> NWI polygon present |
| 2.1 Wetland Geomorphic Setting and Surface.  Depressional Slope Riverine (within the river/stream banks)  | e <u>X</u> Flo           | <b>e):</b><br>oodplain | Lacustrine                          |
| 2.2 Presence of Standing Water:   |                          |                        |                                     |
| Is standing water normally present in the polygon • If standing water is present, is the water Is standing water normally present in an adjacen | greater than 2 meters in | depth? No              |                                     |
| 2.3 Apparent Hydroperiod (check one):   |                          |                        |                                     |
| Permanently Flooded   | X Artific                | cially Flooded         |                                     |
| Seasonally Flooded Saturated (surface water seldom present)   | Artific                  | cially Drained         |                                     |
| 2.4 Soil Type: Organic (i.e. peat, etc.) X  | Mineral                  | Both M                 | lineral and Organic Present         |
| 2.5 Wetland Community Type for this NWI pol   | ygon (see Key to Wetla   | and Communitie         | s of Indiana):                      |
| Shallow marsh   |                          |                        |                                     |
| 2.6 Disturbances of Hydrology (check all that   | apply):                  |                        |                                     |
| Ditching  | X Culvert                |                        |                                     |
| Tiles<br>Dams   | Other Hu                 | ıman Disturbance       | s to the Hydrology (explain):       |
| Road or Railroad Embankment   |                          |                        |                                     |
| 2.7 Presence of Invasive Exotics (Score as: S   | = Scattered, F = Freque  | ent, or C = Comr       | non):                               |
| Garlic Mustard  | Glossy Buckthorn         |                        |                                     |
| F Phragmities   | Reed canary grass        |                        |                                     |
| Purple loosestrife  | Other (list):            |                        |                                     |
| 2.8 Presence of Special Hydrologic Conditions None  | •                        | s, floating mat):      |                                     |
| 0.0 B   |                          |                        |                                     |
| 2.9 Presence of Special Community Types:  Bog Fen   | We                       | et Sand / Muck Fl      | ats or Mari Seeps                   |
| 2.10 Presence of Known Federal or Indiana Ra  | re, Threatened or End    | angered Species        | s:                                  |
| X None observed or known to be present  |                          |                        |                                     |
| DTEC Dropont (ligh)   |                          |                        |                                     |
| 2.11 Wetland Polygon Quality Descriptor (see:   | ., _                     | •                      | eck one):                           |
| Good Medium   | <u>X</u> Po              | or                     |                                     |

| NW    | l Po | lyg  | on   | #     | _024b Dat  | a Reference #     | S5W024          |               |           |          |
|-------|------|------|------|-------|--|-------------------|-----------------|---------------|-----------|----------|
| Tier  | 3a   | Ind  | vik  | idua  | al Polygon: Rapid Hydrology Indica   | tors              |                 |               |           |          |
| 3a.1  | Not  | able | e Fe | eatu  | res that influence water quality and hydrolo   | ogy:              |                 |               |           |          |
| Estir | nate | ed h | erb  | aceo  | ous plant cover (percentage) in the polygon  | X 100-7           | 575-            | 505           | 0-25      | <25      |
| Estir | nate | ed w | /00  | dy pl | ant foliar cover in the polygon  | 100-7             | 575-            | 505           | 0-25      | X <25    |
| Amo   | unt  | of c | dea  | d wo  | ody material on the soil surface:  X nil (<5% cover) so  | cattered (5-15% o | cover)          | Freque        | nt (>20   | % cover) |
| 3a.2  | Wat  | er ( | Qua  | ality | Protection Questions:  |                   |                 |               |           |          |
| 1.    | Х    | Y    |      | N     | Does the wetland have a significant amount density to potentially uptake dissolved nutrie                    |                   | pecifically pe  | rennial and   | woody     | plant)   |
| 2.    |      | Y    | X    | N     | Managed water (e.g. municipal or road storn or municipal wastewater) is <b>not</b> discharged in             |                   |                 | drainage οι   | ıtlet, in | dustrial |
| 3.    |      |      |      |       | If wetland in question is a depressional wetla   | and answer 3a, it | f not, answei   | 3b            |           |          |
| 3a.   |      | Y    |      | N     | Does the wetland have a shape or flow that a before the water reaches the center of the w                    |                   | ttling out of s | uspended r    | nateria   | ls       |
| 3b.   |      | Y    | X    | N     | Is the position of the wetland in the landscap surface body of water down gradient?                          | e such that run-  | off is held or  | filtered befo | ore ente  | ering a  |
| 4.    |      | Y    | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), with row cropping, or areas with severe over               |                   |                 |               | es (6-12  | 2%)      |
| 5.    | Χ    | Y    |      | N     | Are there recreational lakes, navigable water down gradient in the local watershed?                          | rcourses, or wate | er supply sou   | ırces locate  | d withi   | n a mile |
| 6.    |      | Y    | X    | N     | Is a vegetative buffer area (>15 m wide) or a could be filtered) located upland and adjacer width and slope. |                   |                 |               |           |          |
|       |      |      |      |       | Average width of buffer area (in meters)   | O Approx          | kimate slope    | (percent)     | 1-2       |          |
| 3a.3  | Floo | od a | ınd  | Sto   | rmwater Storage / Attenuation Questions:   |                   |                 |               |           |          |
| 1.    |      |      |      |       | If wetland in question is a depressional wetla   | and answer 1a, it | f not, answer   | · 1b          |           |          |
| 1a.   |      | Y    |      | N     | Around the wetland is there a buffer strip of slow overland flow into the wetland?                           | natural vegetatio | n (forested,    | old field, sc | rub) tha  | at will  |
| 1b.   | Χ    | Y    |      | N     | Is there a significant amount of microtopograthe velocity of the water leaving the wetland                   |                   | e density wit   | hin the wetl  | and to    | reduce   |
| 2.    |      | Y    | X    | N     | Does the wetland <b>lack</b> man-made structures (tiles, culverts, ditches)?                                 | s that would spee | ed the flow o   | f water from  | the we    | etland   |
| 3.    |      | Y    | X    | N     | Is the flood potential high in the sub-watersh damages)?   | ed in which the   | wetland is lo   | cated (histo  | ry of flo | ood      |
| 4.    |      | Y    | X    | N     | Is the wetland located in a watershed where impermeable, or is bedrock within two feet o                     |                   |                 | ils are claye | ey and    |          |
| 5.    | Χ    | Y    |      | N     | Is the wetland located in a local watershed we existing development (e.g. >50% area in row                   |                   |                 |               | ns due    | to       |

| Tier 3b Individual Polygon: Rapid Vegetation Description  3b.1 Zonation and Interspersion:  1. How many vegetation zone is evident, which best describes the site?  Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks; heterogeneous textures across the polygon.  X Polygon composed of a single vegetation type with more or less uniform texture across the polygon.  If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represent the distribution of these zones?  Type One Interspersion  Type Two Interspersion  Type Two Interspersion  What % of the polygon does this vegetative zone occupy?  10 - 25%  | NWI Polygon #                                  | 024b                                      | Data Refere                     | ence # _ S5   | W024             |                             |  |
|--|--|---|---------------------------------|---------------|------------------|-----------------------------|--|
| 1b. If only one vegetation zone is evident in this wetland polygon?  1b. If only one vegetation zone is evident, which best describes the site?  Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks; heterogeneous textures across the polygon.  X Polygon composed of a single vegetation type with more or less uniform texture across the polygon.  2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represent the distribution of these zones?  Type One Interspersion  Type Two Interspersion  Type Two Interspersion  What % of the polygon does this vegetative zone occupy?  10 - 25% 25 - 50 % 50 - 75% 75 - 90% X > 90%  Is there notable layering/stratification in this vegetation zone? No  Dominant Herbaceous Species (i.e. covering more than 10% of the area) listed in order of relative abundance. (Mawith an * any species that forms extensive monocultural patches).  a Typha angustifolia  b e c f  Dominant Shrub Species listed in order of relative abundance. a Salix nigra  c b d Dominant Tree Species listed in order of relative abundance. a C b d Tree & shrub canopy: X nil separate, seldom touching often touching More or less close of the control of the  | Tier 3b Individu                               | ual Polygon: Rapid Vegetation Description |                                 |               |                  |                             |  |
| Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks; heterogeneous textures across the polygon.  X Polygon composed of a single vegetation type with more or less uniform texture across the polygon.  2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represent the distribution of these zones?  Type One Interspersion  Type Two Interspersion  What % of the polygon does this vegetative zone occupy?  10 - 25%  25 - 50 %  50 - 75%  75 - 90%  X > 90%  Is there notable layering/stratification in this vegetation zone? No  Dominant Herbaceous Species (i.e. covering more than 10% of the area) listed in order of relative abundance. (Mawith an *any species that forms extensive monocultural patches).  a Typha angustifolia  b c  C  Dominant Shrub Species listed in order of relative abundance.  a Salix nigra  c C  b Dominant Tree Species listed in order of relative abundance.  a C  b C  Dominant Tree Species listed in order of relative abundance.  a C  b C  Tree & shrub canopy: X nil separate, seldom touching often touching More or less close.   |  | -   | evident in this wetland polygon | ? 1           |                  |                             |  |
| heterogeneous textures across the polygon.  X Polygon composed of a single vegetation type with more or less uniform texture across the polygon.  If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represent the distribution of these zones?  Type One Interspersion  Type Two Interspersion  Type Two Interspersion  Type Two Interspersion  What % of the polygon does this vegetative zone occupy?  10 - 25%  25 - 50 %  25 - 50 %  50 - 75%  75 - 90%  X > 90%  Is there notable layering/stratification in this vegetation zone?  No  Dominant Herbaceous Species (i.e. covering more than 10% of the area) listed in order of relative abundance. (Mawith an * any species that forms extensive monocultural patches).  a Typha angustifolia  b  c  Dominant Shrub Species listed in order of relative abundance.  a Salix nigra  c  b  Dominant Tree Species listed in order of relative abundance.  a Salix nigra  d  Tree & shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching More or less close of the shrub canopy: X nil separate, seldom touching often touching more or less close of the shrub canopy of the sh | 1b. If only on                                 | e vegetation zone is evi                  | dent, which best describes the  | site?         |                  |                             |  |
| 2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represent the distribution of these zones?  Type One Interspersion  3b.2 Dominant Plant Species: Vegetation zone A  Observation Point #1  Photo number(s) (Note: V-mark location on the NWI polygon)  What % of the polygon does this vegetative zone occupy?  10 - 25% 25 - 50 % 50 - 75% 75 - 90%  Is there notable layering/stratification in this vegetation zone?  Dominant Herbaceous Species (i.e. covering more than 10% of the area) listed in order of relative abundance. (Mawith an *any species that forms extensive monocultural patches).  a  |  | _ , , ,                                   | •                               | atches, humr  | nocks, or tus    | socks;                      |  |
| Type One Interspersion  Type Two Interspersion  Interspersion  Type Two Interspersion  Interspersion  Type Two Interspersion  Type Two Interspersion  Interspersion  Interspersion  Type Two Interspersion  Interspersion  Type Two Interspersion  Interspersion  Type Two Interspersion  Interspersion  Type Two Interspersion  Interspersion  Type T | X  | _ '                                       | a single vegetation type with m | ore or less u | niform texture   | e across the                |  |
| 3b.2 Dominant Plant Species: Vegetation zone A  Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)  What % of the polygon does this vegetative zone occupy?  10 - 25% 25 - 50 % 50 - 75% 75 - 90% X > 90%  Is there notable layering/stratification in this vegetation zone?  No  Dominant Herbaceous Species (i.e. covering more than 10% of the area) listed in order of relative abundance. (Mawith an * any species that forms extensive monocultural patches).  a Typha angustifolia b c f  Dominant Shrub Species listed in order of relative abundance. a Salix nigra b d  Dominant Tree Species listed in order of relative abundance. a C b d  Tree & shrub canopy: X nil separate, seldom touching often touching More or less close  |  |   | present in the polygon, which i | nterspersion  | diagram mos      | st closely represents       |  |
| Photo number(s) (Note: V-mark location on the NWI polygon)  What % of the polygon does this vegetative zone occupy?  | Тур  | e One Interspersion                       |                                 | Туре          | Two Intersp      | ersion                      |  |
| Photo number(s) (Note: V-mark location on the NWI polygon)  What % of the polygon does this vegetative zone occupy?  10 - 25%  | ı  |   |                                 |               |                  |                             |  |
| What % of the polygon does this vegetative zone occupy? 10 - 25%   | 3b.2 Dominant Pla                              | nt Species: Vegetation                    |                                 | Photo numb    | per(s)           |                             |  |
| Is there notable layering/stratification in this vegetation zone? No  Dominant Herbaceous Species (i.e. covering more than 10% of the area) listed in order of relative abundance. (Mawith an * any species that forms extensive monocultural patches).  a   | What % of the poly                             | gon does this vegetative                  | ,                               |               |                  | 1 - 73 - 7                  |  |
| Is there notable layering/stratification in this vegetation zone? No  Dominant Herbaceous Species (i.e. covering more than 10% of the area) listed in order of relative abundance. (Mawith an * any species that forms extensive monocultural patches).  a   | 10 – 25%                                       | 25 – 50 %                                 | 50 - 75%                        | 75            | 5 – 90%          | X >90%                      |  |
| with an * any species that forms extensive monocultural patches).  a   | Is there notable lay                           | ering/stratification in this              |                                 |               |                  |                             |  |
| Dominant Shrub Species listed in order of relative abundance.  a Salix nigra   | with an * any specio<br>a <i>Typha angusti</i> | es that forms extensive                   | monocultural patches).          |               |                  |                             |  |
| a Salix nigra  | C  |   |                                 |               |                  |                             |  |
| Dominant <b>Tree</b> Species listed in order of relative abundance.  a c b d  Tree & shrub canopy: X nil separate, seldom touching often touching More or less close   | a Calist minus                                 |   |                                 |               |                  |                             |  |
| Dominant <b>Tree</b> Species listed in order of relative abundance.  a c  b d  Tree & shrub canopy: _X_ nil separate, seldom touching often touching More or less close  |  |   |                                 |               |                  |                             |  |
| a c b d Tree & shrub canopy: X nil separate, seldom touching often touching More or less close   |  |   |                                 |               |                  |                             |  |
| b d  | Dominant <b>Tree</b> Spe                       | ecies listed in order of re               | elative abundance.              |               |                  |                             |  |
| Tree & shrub canopy: X nil separate, seldom touching often touching More or less close   |  |   |                                 |               |                  |                             |  |
|  |  | . V .''                                   | <del></del>                     |               | .1.1             | Maria de la casa de casa de |  |
| Mature trees (>12" dbh) present: yesX no   | ree & snrub canop                              | oy: <u>X</u> nii s                        | separate, seldom touching       | often tou     | cning            | More or less closed         |  |
|  | Mature trees (>12"                             | dbh) present:                             | yesXno                          |               |                  |                             |  |
| Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).  Was originally constructed as a stormwater detention facilty.   |  | •   |                                 | s from the qu | uality of this w | vetland site).              |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aguat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced P. crispus) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 Herbs: insectivorous plants \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea, N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 2 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 b. most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]: other swamp milkweed (Asclepias incarnata) 4 **1** C. introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - lvs. alternate or basal \*orchid spp.: species (if known) rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*3-way sedge (Dulichium arundinaceum) 10 \*black-eyed Susan (Rudbeckia fulgida) 8 \*twig rush (Cladium mariscoides, N) 10 cardinal flower (Lobelia cardinalis) 4

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\*umbrella sedge (Fuirena squarrosa, N) 10

wild hyacinth (Camassia scilloides) 5
\*yellow-eyed grass (Xyris torta, N) 9

| cress spp. (Cardamine) 4  | Shrubs - Ivs. alternate   |
|---|---|
| dock spp.: swamp-, water-, pale- (Rumex) 4  | *cranberry spp. (Vaccinium, N) 10   |
| garlic mustard (Alliaria petio/ata) 0   | *dwarf birch (Betula pumila, N) 10  |
| golden ragwort (Senecio aureus) 4   | *high bush blueberry (V. corymbosum, N) 9   |
| *goldenrod spp. (Solidago ohioensis, S.   | *leatherleaf (Chamaedaphne calycul., N) 10  |
| patula, S. riddellil) 9   | meadowsweet & hardhack spp.(Spiraea) 4  |
| *grass of Parnassus (Parnassia glauca) 10   | *ninebark (Physocarpus opulifoius) 7  |
| *Indian plantain (Cacalia plantaginea) 10   | *shrubby cinquefoil (Potentilla fruticosa) 9  |
| ironweed spp. (Vernonia) 4  | spice bush (Lindera benzoin) 5  |
| jewelweed, touch-me-not spp. (Impatiens) 3  | *swamp dewberry (Rubus hispidus) 6  |
| lizard's tail (Saururus cernuus) 4  | *swamp holly & winterberry (/lex spp.) 7  |
| lobelia spp. (Lobelia) 4  | swamp rose (Rosa palustris) 5   |
| *marsh marigold (Caltha palustris) 7  | onamp roos (riosa parasiris) s  |
| *moonseed (vine) (Menispermum canadense) 6  | Trees - Ivs. needle shaped  |
| primrose-willow spp.(Epilobium &Ludwigia) 3   | *tamarack (Larix laricina, N) 10  |
| rose mallow spp. (Hibiscus) 4   |   |
| smartweed spp.: incl. jumpseed, pinkweed,   | Trees - Ivs. compound   |
| tearthumb, water-pepper, water-sm.  | *ash, black (Fraxinus nigra) 7  |
| (Polygonum) 4 [Except *for P. arifolium 10]   | ash, green (Fraxinus pensylvanica) 3  |
| sneezeweed (Helenium autumnale) 3   | *ash, pumpkin (Fraxinus tomentosa, SW) 8  |
| stinging nettle (Laportea canadensis) 2   | boxelder (Acer negundo) 1   |
| *swamp saxifrage (Saxifraga pa.) 10   | hickory, bitternut (Carya cordiformis) 5  |
| *Virginia bluebells (Mertensia virginica) 6   | *hickory, shell bark (Carya laciniosa) 8  |
| waterhemp (Amaranthus tuberculatus) 1   | honey locust (Gleditsia triacanthos) 1  |
| wingstem (Actinomeris alternifolia) 3   | *poison sumac <i>(Rhus vernix)</i> 10   |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5 | red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 |
| Shrubs - leaves opposite or whorled   | willow spp. (Salix) sp.1=3; *additional=7   |
| bladdernut (Staphylea trifolia) 5   | OTHER   |
| buckthorn spp. (Rhamnus cathar. & frangula) 0   |   |
| button bush (Cepha/anthus occidentalis) 5   |   |
| dogwood, red-osier (Cornus stolonifera) 4   |   |
| *dogwood, blue-fruited or silky Cornus  |   |
| obliqua) 7  |   |
| dogwood, gray (C. <i>racemosa) 2</i>  |   |
| elderberry (Sambucus) 2   | InWrap, Terg revised June 200   |

| NWI Poly   | ygon # <u>024c</u><br>on page one)   |                    | _ Data Reference #       | S5W024                    | InWRAP, TERG May 2000               |
|------------|--|--------------------|--------------------------|---------------------------|-------------------------------------|
| Tier 2 In  |  | Preliminary A      | ssessment (to be         | e completed on-site       | for <u>each</u> NWI polygon present |
|            | nd Geomorphic Setting Depressional Riverine (within the river/                   | Slope              | •                        | <b>ne):</b><br>Floodplain | Lacustrine                          |
| 2.2 Prese  | nce of Standing Water:   |                    |                          |                           |                                     |
| • If       | g water normally present<br>standing water is presen<br>g water normally present | t, is the water gr | eater than 2 meters      | in depth?                 |                                     |
| 2.3 Appar  | ent Hydroperiod (check   | cone):             |                          |                           |                                     |
|            | rmanently Flooded<br>asonally Flooded  |                    | _X Arti                  | ficially Flooded          |                                     |
|            | surated (surface water se  | ldom present)      | Arti                     | ficially Drained          |                                     |
| 2.4 Soil T | <b>/pe:</b><br>Organic (i.e. peat, etc.)   | X                  | Mineral                  | Both N                    | lineral and Organic Present         |
|            | bances of Hydrology (c   | heck all that ap   | p <b>ply):</b> X Culvert | :                         |                                     |
| Tile       | -  |                    |                          |                           | es to the Hydrology (explain):      |
| Da         |  |                    |                          |                           | ,                                   |
| Ro         | ad or Railroad Embankm   | ent                |                          |                           |                                     |
| 2.7 Prese  | nce of Invasive Exotics  | (Score as: S =     | Scattered, F = Freq      | uent, or C = Com          | mon):                               |
|            | rlic Mustard   |                    | lossy Buckthorn          |                           |                                     |
|            | ragmities  |                    | eed canary grass         |                           |                                     |
| Pu         | rple loosestrife   |                    | other (list):            |                           |                                     |
| 2.8 Presei | nce of Special Hydrolog  | jic Conditions (   | i.e. seeps, wet slop     | es, floating mat):        |                                     |
|            |  |                    |                          |                           |                                     |
|            | <b>nce of Special Commu</b> n<br>Bog   | Fen                | 1                        | Vet Sand / Muck Fl        | ats or Mari Soons                   |
|            |  | <u> </u>           |                          | vot Gariu / IVIUUK FI     | ato or mair occps                   |
| 2.10 Pres  | ence of Known Federal  | or Indiana Rare    | e, Threatened or En      | dangered Species          | s:                                  |
|            | None observed or knowr<br>RTES Present (list)                                    | ·                  |                          |                           |                                     |
|            | and Polygon Quality De   |                    |                          |                           |                                     |
|            | Good   | Medium             | _                        | Poor                      | ,                                   |

| IAAA  | IFC  | nyg   | OH   | #     | Data Reference # 35W024   |
|-------|------|-------|------|-------|---|
| Tier  | 3a   | Inc   | vib  | idu   | al Polygon: Rapid Hydrology Indicators  |
| 3a.1  | Not  | able  | e Fe | eatu  | res that influence water quality and hydrology:   |
| Estir | mate | ed h  | erb  | aceo  | ous plant cover (percentage) in the polygon 100-75 75-50 50-25 _X <25   |
| Estir | mate | ed v  | voo  | dy p  | lant foliar cover in the polygon 100-75 _X _75-50 50-25 <25   |
| Amo   | unt  | of c  | dea  | d wo  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |
| 3a.2  | Wat  | ter ( | Qua  | ality | Protection Questions:   |
| 1.    | Х    | Υ     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.    |      | Υ     | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.    |      |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.   |      | Υ     |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.   |      | Y     | X    | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.    |      | Υ     | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.    | Χ    | Υ     |      | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 5.    |      | Υ     | X    | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|       |      |       |      |       | Average width of buffer area (in meters) 0 Approximate slope (percent) 1-2  |
| 3a.3  | Flo  | od a  | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.    |      |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.   |      | Y     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.   | Χ    | Υ     |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.    |      | Υ     | X    | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.    |      | Υ     | X    | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |
| 4.    |      | Y     | X    | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |
| 5.    | X    | Υ     |      | N     | Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?                                   |

| NWI Polygon #                       | 024c   | Data Reference #                                     | S5W024   |  |  |  |
|-------------------------------------|--|--|--|--|--|--|
| Tier 3b Individ                     | ual Polygon: Rapid Vegetation Description            |  |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How mar | Interspersion:  ny vegetation zones are evident      | ent in this wetland polygon? 1                       |  |  |  |  |
| 1b. If only on                      | e vegetation zone is evident                         | , which best describes the site?                     |  |  |  |  |
|                                     | Polygon composed of a m<br>heterogeneous textures ac | osaic of small vegetation patches cross the polygon. | , hummocks, or tussocks;   |  |  |  |
| X                                   | Polygon composed of a single polygon.                | ngle vegetation type with more or                    | less uniform texture across the                                  |  |  |  |
|                                     | n one vegetation zone is pre tion of these zones?    | sent in the polygon, which interspo                  | ersion diagram most closely represents                           |  |  |  |
|                                     | e One Interspersion                                  |  | Type Two Interspersion   |  |  |  |
|                                     |  |  |  |  |  |  |
| 3b.2 Dominant Pla                   | ant Species: Vegetation zo                           | Photo  | Observation Point #1 number(s) nark location on the NWI polygon) |  |  |  |
| What % of the poly                  | gon does this vegetative zor                         | · ·  |  |  |  |  |
| 10 – 25%                            | 25 – 50 %  | 50 – 75%   | 75 – 90% <u>X</u> >90%   |  |  |  |
| Is there notable lay                | vering/stratification in this veg                    |  |  |  |  |  |
|                                     | es that forms extensive mon                          |  | d in order of relative abundance. (Mark                          |  |  |  |
| b                                   |  | e  |  |  |  |  |
| С                                   |  | f  |  |  |  |  |
| Dominant <b>Shrub</b> S             | species listed in order of relat                     | ive abundance.                                       |  |  |  |  |
| a Salix nigra                       |  |  |  |  |  |  |
| b Cornus amom                       | num  | d  |  |  |  |  |
| Dominant <b>Tree</b> Spe            | ecies listed in order of relativ                     | e abundance.   |  |  |  |  |
| a                                   |  | С  |  |  |  |  |
| b                                   |  | d  |  |  |  |  |
| Tree & shrub cano                   | py: nil separ  | rate, seldom touching ofte                           | n touching X More or less closed                                 |  |  |  |
| Mature trees (>12"                  | dbh) present:  | yes <u>X</u> no                                      |  |  |  |  |
| Other remarks (in                   | clude personal comments ab                           | oout what adds to or detracts from                   | the quality of this wetland site).                               |  |  |  |
| Was originally cons                 | structed as a stormwater det                         | ention facilty.                                      |  |  |  |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aguat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced P. crispus) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 Herbs: insectivorous plants \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea, N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 b. most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]: other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - lvs. alternate or basal \*orchid spp.: species (if known) rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*3-way sedge (Dulichium arundinaceum) 10 \*black-eyed Susan (Rudbeckia fulgida) 8

cardinal flower (Lobelia cardinalis) 4

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\*twig rush (Cladium mariscoides, N) 10

wild hyacinth (Camassia scilloides) 5
\*yellow-eyed grass (Xyris torta, N) 9

\*umbrella sedge (Fuirena squarrosa, N) 10

**NWI Polygon #** 

024c

|          | cress spp. (Cardamine) 4  |
|----------|---|
|          | dock spp.: swamp-, water-, pale- (Rumex) 4  |
|          | garlic mustard (Alliaria petio/ata) 0   |
|          | golden ragwort (Senecio aureus) 4   |
|          | *goldenrod spp. (Solidago ohioensis, S.   |
|          | patula, S. riddellil) 9   |
|          | *grass of Parnassus (Parnassia glauca) 10   |
|          | *Indian plantain (Cacalia plantaginea) 10   |
|          | ironweed spp. (Vernonia) 4  |
|          | jewelweed, touch-me-not spp. (Impatiens) 3  |
|          | lizard's tail (Saururus cernuus) 4  |
|          | lobelia spp. (Lobelia) 4  |
|          | *marsh marigold (Caltha palustris) 7  |
|          | *moonseed (vine) (Menispermum canadense) 6  |
|          | primrose-willow spp.(Epilobium &Ludwigia) 3   |
|          | rose mallow spp. (Hibiscus) 4   |
|          | smartweed spp.: incl. jumpseed, pinkweed,   |
|          | tearthumb, water-pepper, water-sm.  |
|          | (Polygonum) 4 [Except *for P. arifolium 10]   |
|          | sneezeweed (Helenium autumnale) 3   |
|          | stinging nettle (Laportea canadensis) 2   |
|          |   |
|          | *swamp saxifrage (Saxifraga pa.) 10   |
|          | *Virginia bluebells (Mertensia virginica) 6   |
|          | waterhemp (Amaranthus tuberculatus) 1   |
|          | wingstem (Actinomeris alternifolia) 3   |
|          | dicots - Ivs. basal or alternate and<br>und or deeply lobed<br>aven spp.: rough a., white a. (Geum) 2 |
|          | *buttercup spp: e.g. cursed b., hooked b.,  |
|          | swamp b. (Ranunculus) 6   |
|          | chervil (Chaerophyllum procumbens) 3  |
|          | *cowbane (Oxypolis rigidior) 7  |
|          | *great angelica (Angelica atropurpurea) 6   |
|          | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  |
|          | honewort (Cryptotaenia canadensis) 3  |
|          | meadow rue spp. (Thalictrum) 5  |
|          |   |
|          | poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9                       |
|          | senna spp. (Cassia) 4   |
|          |   |
|          | swamp agrimony (Agrimonia parviflora) 4   |
|          | *swamp thistle (Cirsium muticum) 8  |
|          | tall coneflower (Rudbeckia laciniata) 3   |
|          | *water hemlock spp. (Cicuta) 7  |
|          | water parsnips (Sium suave) 5   |
| Shrube   | s - leaves opposite or whorled  |
| oiii uba | bladdernut (Staphylea trifolia) 5   |
|          | buckthorn spp. (Rhamnus cathar. & frangula) 0   |
|          | button bush (Cepha/anthus occidentalis) 5   |
|          | dogwood, red-osier (Cornus stolonifera) 4   |
|          | •   |
|          | obliqua) 7  |
|          | • ,   |
|          | dodwood dray (C racemosa) 2   |
|          | dogwood, gray (C. racemosa) 2<br>elderberry (Sambucus) 2  |

| Trees - | <ul> <li>Ivs. simple and alternate</li> </ul> |
|---------|---|
|         | *alder, speckled (Alnus rugosa) 9             |
|         | birch, river (Betula nigra) 2                 |
|         | black gum (Nyssa sylvatica) 5                 |
|         | cottonwood, eastern (Populus deltoides) 1     |
|         | *cottonwood, swamp (P. heterophylla, SW)      |
|         | elm, Amer. (Ulmus americana) 3                |
|         | hackberry (Celtis occidentalis) 3             |
|         | ironwood (Carpinus caroliniana) 5             |
|         | oak, pin or white (Quercus) 4                 |
|         | *oak, Shumard's, sw. chestnut, sw. white 7    |
|         | *papaw (Asimina triloba) 6                    |
|         | *sugarberry (Celtis laevigata, S) 7           |
|         | sweet gum (Liquidambar styraciflua) 4         |
|         | sycamore, Amer. (Platanus occidentalis) 3     |
| 1       | willow spp. (Salix) sp.1=3; *additional=7     |

OTHER

# **IN-WRAP Summary Sheet**

| Date F                                 | Report Gene  | rated: 10/13/2011   |
|--|--------------|---|
| Wetland site name:                     |              | :: S5W062   |
| Data Reference #:  Date of Site Visit: |              | 62  |
|  |              | 10/12/2011  |
| NWI p                                  | olygons in S | ite (quadrangle and NWI id. numbers: Bloomington  |
|  |              |   |
| TIER                                   | 1 SUMMA      | RY:   |
| а                                      | . Total we   | etland area (hectares): 1.31 (3.25 acres)   |
| b                                      | . Wetland    | size and connectivity – contribution to animal habitat:                                     |
|  |              | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |
| С                                      |              | ding land use – numerical rank (max. = 1): 0.5  |
| d                                      | l. Value su  | urrounding area adds to animal habitat 🏻 🔲 Valuable 🔻 🖂 Favorable 🔀 Low                     |
| TIER                                   | 2 SUMMA      | ARY: NWI Polygon Id. 62a  |
| а                                      | ı. Indiana \ | Wetland community type: Deep Marsh  |
| b                                      | . Standing   | g water – contribution to animal habitat: 🛛 Valuable 🔲 Favorable 🔲 Neutral                  |
| С                                      |              | nces to site: None  |
| d                                      | l. Exotic sp | pecies rating: Sood Medium Poor   |
| е                                      | . Special I  | Hydrologic Conditions Observed: None  |
| f.                                     | Special (    | Community Type: None  |
| g                                      | . Rare-Th    | reatened-Endangered Species: None   |
| h                                      | . Polygon    | Quality Description: Good Medium Poor   |
|  |              |   |
| TIER                                   | 3A SUMN      |   |
| a                                      | . Dead wo    | pody material as indicator of animal habitat:     Valuable   Favorable   Neutral            |
| b                                      | . Water qu   | uality protection – numerical rank (6 max): 2 Rating: Good Medium Poor                      |
| С                                      | . Flood an   | d storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor                  |
|  |              |   |
| TIER                                   | 3B SUMN      | IARY:   |
| a                                      | . Zonation   | and interspersion as indicator of animal habitat:   Valuable   Favorable   Neutral          |
| b                                      | . Stratifica | ation as indicator of animal habitat:   Valuable   Neutral                                  |
| С                                      | . Number     | of dominant plant taxa observed: 2 Rating: Good Medium Poor                                 |
| d                                      | l. Average   | coefficient of conservatism: $1.5$ Rating: $\square$ Good $\square$ Medium $\boxtimes$ Poor |
| е                                      | . Tree car   | nopy as indicator of animal habitat: 🛛 Valuable 🔲 Neutral                                   |
| f.                                     | Mature t     | rees as indicator of animal habitat:   Valuable  Favorable  Neutral                         |
| g                                      | ı. Total hyd | drophytic taxa observed:7 Rating: 🖂 Good 🔠 Medium 🔲 Poor                                    |
| h                                      | . Number     | of indicator taxa 0 Rating: Good Medium Poor  |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2 | SUMMARY: NWI Polygon Id. 62b  |
|--------|---|
| a.     | Indiana Wetland community type: Floodplain Forest   |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.     | Disturbances to site: None  |
| d.     | Exotic species rating:  |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral            |
| b.     | Water quality protection – numerical rank (6 max): 5 Rating: ☐ Good ☐ Medium ☐ Poor           |
| c.     | Flood and storm water storage – numerical rank (5 max): 4 Rating: Sood Medium Poor            |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.     | Number of dominant plant taxa observed: 6 Rating: Good Medium Poor                            |
| d.     | Average coefficient of conservatism: 1.6 Rating: Good Medium Poor                             |
| e.     | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |
| f.     | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☐ Neutral                 |
|        | Total hydrophytic taxa observed: 9 Rating: Good Medium Poor                                   |
| g.     | <u> </u>  |
| h.     | Number of indicator taxa 0 Rating: Good Medium Poor   |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # \$5W062

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland  | d site name: S5W06  | 2   |  |   |  |              |
|--|---|---|--|---|--|--------------|
| Owners   | hip (if known):   |   |  |   |  |              |
| USGS T   | Fopographic Quadrang  | le(s): Blooming   | ton  |   |  |              |
| USGS V   | Watershed map 14-Dig  | jit HUC: _Bean B  | lossom Creek-Bu  | ick Creek/Muddy F   | ork 05120202010  | 060          |
| Identify o   | ach NIMI Dalvaan with   | in the Wetland Site   | o (Dolygon onooit  | io dota)  |  |              |
|  | <u>ach NWI Polygon with</u><br>ygon ID Number   | 62a   | e (Polygon specii<br>  62b   |   |  |              |
|  | n Classification  | PABH  | PFO1A  |   |  |              |
| Polygon  | Size (hectares)   | 0.59 (1.47 acres)   | 0.72 (1.78 acres)  |   |  |              |
| NWI Pol  | ygon ID Number  |   |  |   |  |              |
|  | n Classification  |   |  |   |  |              |
| Polygon  | Size (hectares)   |   |  |   |  |              |
| 1.2 Site \   | /isit:  |   |  |   |  |              |
| Team M   | lembers: K. Schroed   | der, & D. White   |  |   |  |              |
| Agency:  | : INDOT   |   |  |   |  |              |
| Date as  | sessed:10/12/2011   | 1   | Time a   | ssessed: 4:00pm   | l  |              |
| Weathe   | r conditions: 70's,   | partly cloudy   |  |   |  |              |
|  |   |   |  |   |  |              |
|  |   |   |  | . 1141  |  |              |
| Note any   | unusual weather ever  |   |  |   | rithin this wetland s  | system (e.g. |
| Note any   | unusual weather evel<br>eavy rains, an unusuall   |   |  |   | ithin this wetland s   | system (e.g. |
| Note any recent he   | eavy rains, an unusuall   |   |  |   | ithin this wetland s   | system (e.g. |
| Note any recent he   | eavy rains, an unusuall   | y dry season, an e  | especially early s   | oring, etc.):   |  | system (e.g. |
| Note any recent he  1.3 Wetla Size of s  | eavy rains, an unusuall<br>and Size:<br>site under assessment   | y dry season, an e  | especially early specially early early specially early early specially early early specially early | oring, etc.): B; 0.72 hectares (*   | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetla Size of s  | eavy rains, an unusuall   | y dry season, an e  | especially early specially early early specially early early specially early early specially early | oring, etc.): B; 0.72 hectares (*   | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetla Size of the Size of the Size Size Size Size Size Size Size Siz   | eavy rains, an unusuall  and Size: site under assessment total wetland complex  Setting:  | t: 0.59 hectares  | especially early specially early early specially early early specially early | oring, etc.): B; 0.72 hectares (*   | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetla Size of size of the Size | eavy rains, an unusualleand Size: site under assessment total wetland complex Setting: If isolation from other v  | t: 0.59 hectares (all continuous we   | especially early specially early early specially early early specially early early specially early | oring, etc.):  B; 0.72 hectares (3  | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetla Size of size of the Size | eavy rains, an unusualleand Size: site under assessment total wetland complex Setting: If isolation from other whe site is connected up   | t: 0.59 hectares (all continuous wed) (vetlands or wetlands)  | especially early specially early | oring, etc.):  B; 0.72 hectares (3  | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetla Size of to Size of to 1.4 Site Size of to 1.4  | eavy rains, an unusualleand Size: site under assessment total wetland complex Setting: If isolation from other was to site is connected up the site is only connected.  | t: 0.59 hectares (all continuous we) vetlands or wetland ostream and downs ed upstream with o   | especially early specially early e | oring, etc.):  B; 0.72 hectares (3  1.31 hectares (3)  wetlands   | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetla Size of to Size of to Degree or The X The The Steephone The X Th | and Size: site under assessment total wetland complex  Setting: If isolation from other was to is connected up the site is only connected.  | t: 0.59 hectares  (all continuous were  vetlands or wetland ostream and downs ed upstream with continuous were  | especially early specially early | oring, etc.):  B; 0.72 hectares (3  1.31 hectares (3  wetlands  | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetlated Size of states of the Size of the | eavy rains, an unusualleand Size: site under assessment total wetland complex  Setting: If isolation from other was ite is connected up the site is only connected ther wetlands are near   | t: 0.59 hectares (all continuous we) vetlands or wetland ostream and downs ed upstream with co ed downstream with rby (within 0.25 mil  | especially early specially early | oring, etc.):  B; 0.72 hectares (3  1.31 hectares (3  wetlands  | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetlated Size of states of the Size of the | and Size: site under assessment total wetland complex  Setting: If isolation from other was to is connected up the site is only connected.  | t: 0.59 hectares (all continuous we) vetlands or wetland ostream and downs ed upstream with co ed downstream with rby (within 0.25 mil  | especially early specially early | oring, etc.):  B; 0.72 hectares (3  1.31 hectares (3  wetlands  | 1.78 acres)-PFO  | system (e.g. |
| Note any recent he  1.3 Wetla Size of size of the Size | eavy rains, an unusualleand Size: site under assessment total wetland complex  Setting: If isolation from other was ite is connected up the site is only connected ther wetlands are near   | t: 0.59 hectares (all continuous were vetlands or wetland ostream and downs ed upstream with co ed downstream with rby (within 0.25 mil ted   | especially early specially early | B; 0.72 hectares (3   | 1.78 acres)-PFO<br>3.25 acres)                                       |              |
| Note any recent he  1.3 Wetla Size of size of the Size | and Size: site under assessment total wetland complex  Setting: If isolation from other was ite is connected upone site is only connected upone site is only connected ther wetlands are near the wetland site is isolated assessment of adjace   | t: 0.59 hectares (all continuous were vetlands or wetland ostream and downs ed upstream with of ed downstream with rby (within 0.25 mill ted ent land use / land of each type):                     | especially early specially early | B; 0.72 hectares (3) 1.31 hectares (3) wetlands  teted  | 1.78 acres)-PFO<br>3.25 acres)                                       | the wetland  |
| Note any recent he  1.3 Wetlated Size of state of the Size of the  | and Size: site under assessment total wetland complex  Setting: If isolation from other was ite is connected upone site is only connected ther wetlands are near the wetland site is isolated assessment of adjace cate the % abundance   | t: 0.59 hectares (all continuous were vetlands or wetland estream and downs ed upstream with compared downstream with the continuous were distributed ent land use / land of each type): dland      | especially early specially early ear | B; 0.72 hectares (3) 1.31 hectares (3) wetlands  teted  | 1.78 acres)-PFO 3.25 acres)  of the perimeter of                     | the wetland  |
| Note any recent he  1.3 Wetla Size of size of size of the Size of  | and Size: site under assessment total wetland complex  Setting: If isolation from other was ite is connected up the site is only connected ther wetlands are near the wetland site is isolate assessment of adjace cate the % abundance ative Vegetation - woo  | t: 0.59 hectares (all continuous were vetlands or wetland estream and downs ed upstream with compared downstream with the continuous were distributed ent land use / land of each type): dland      | especially early specially early ear | oring, etc.):  B; 0.72 hectares (3  1.31 hectares (3  wetlands  cted  within 50 meters (3  Road / highway /                     | 1.78 acres)-PFO 3.25 acres) of the perimeter of railroad bed / park  | the wetland  |
| Note any recent he  1.3 Wetla Size of size of size of the Size of  | and Size: site under assessment total wetland complex  Setting: If isolation from other versite is connected upone site is only connected ther wetlands are near the wetland site is isolate assessment of adjace cate the % abundance ative Vegetation - woo ative Vegetation - old for the site is only connected the site is only connected the wetlands are near the wetlands are | t: 0.59 hectares (all continuous were vetlands or wetland estream and downs ed upstream with compared downstream with the continuous were distributed ent land use / land of each type): dland      | especially early specially early ear | bring, etc.):  B; 0.72 hectares (3  1.31 hectares (3  wetlands  twetlands  cted  Road / highway / Industrial Residential – sing | 1.78 acres)-PFO 3.25 acres) of the perimeter of railroad bed / park  | the wetland  |
| Note any recent he  1.3 Wetla Size of size of size of the Size of  | and Size: site under assessment total wetland complex  Setting: If isolation from other value site is connected upone site is only connected ther wetlands are near the wetland site is isolate assessment of adjace cate the % abundance ative Vegetation - woo ative Vegetation - old figricultural- tilled   | t: 0.59 hectares (all continuous wed) vetlands or wetland ostream and downs ed upstream with of ed downstream with rby (within 0.25 mill ted ent land use / land of each type): dland field / scrub | especially early specially early ear | bring, etc.):  B; 0.72 hectares (3  1.31 hectares (3  wetlands  twetlands  cted  Road / highway / Industrial Residential – sing | 1.78 acres)-PFO 3.25 acres)  of the perimeter of railroad bed / park | the wetland  |

| NWI Polygon #(see table on page one | 62a<br>)  | _ Data Reference #        | S5W062                | InWRAP, TERG May 2000               |
|-------------------------------------|---|---------------------------|-----------------------|-------------------------------------|
| Tier 2 Individual I in the wetland) | Polygon: Preliminary A  | <b>ssessment</b> (to be o | ompleted on-site      | for <u>each</u> NWI polygon present |
| Depression                          | phic Setting and Surface. Wal Slope thin the river/stream banks)                                    |                           | <b>e):</b><br>odplain | Lacustrine                          |
| 2.2 Presence of Stan                | ding Water:   |                           |                       |                                     |
| If standing wa                      | mally present in the polygon?<br>ater is present, is the water gr<br>mally present in an adjacent p | eater than 2 meters in    | depth? No             |                                     |
| 2.3 Apparent Hydrop                 | eriod (check one):  |                           |                       |                                     |
| X Permanently F                     |   | Artific                   | ially Flooded         |                                     |
| Seasonally Flo Saturated (surf      | ace water seldom present)   | Artific                   | ially Drained         |                                     |
| 2.4 Soil Type: Organic (i.e         | . peat, etc.) X   | Mineral                   | Both M                | ineral and Organic Present          |
| 2.5 Wetland Commun                  | nity Type for this NWI polyg  | on (see Key to Wetla      | nd Communities        | s of Indiana):                      |
| 2.6 Disturbances of I               | Hydrology (check all that ap  | ply):                     |                       |                                     |
| Ditching                            | , , ,   | Culvert                   |                       |                                     |
| Tiles Dams                          |   | Other Hu                  | man Disturbance       | s to the Hydrology (explain):       |
| Road or Railro                      | ad Embankment   |                           |                       |                                     |
| 2.7 Presence of Inva                | sive Exotics (Score as: S =   | Scattered, F = Freque     | ent, or C = Comn      | non):                               |
| Garlic Mustard                      | ·   | lossy Buckthorn           |                       | ·                                   |
| Phragmities                         | R   | eed canary grass          |                       |                                     |
| Purple loosesti                     | rife C  | other (list):             |                       |                                     |
| 2.8 Presence of Spec                | cial Hydrologic Conditions (  | i.e. seeps, wet slope     | s, floating mat):     |                                     |
| •                                   | ial Community Types:  |                           |                       |                                     |
| Bog                                 | Fen   | We                        | t Sand / Muck Fla     | ats or Mari Seeps                   |
| 2.10 Presence of Kno                | own Federal or Indiana Rare   | e, Threatened or End      | angered Species       | :                                   |
| X None obser                        | ved or known to be present  |                           |                       |                                     |
|                                     | n Quality Descriptor (see: <i>V</i>   | Vetland Quality Desc      | riptions and che      | ck one):                            |
| Good                                | X Medium  | Po                        | -                     | •                                   |

| NWI    | Po   | olyg | on   | #     | 62a Data Reference # S5W062  |               |        |       |
|--------|------|------|------|-------|--|---------------|--------|-------|
| Tier   | 3а   | Inc  | vib  | idua  | al Polygon: Rapid Hydrology Indicators   |               |        |       |
| 3a.1 N | Not  | able | e Fe | eatur | res that influence water quality and hydrology:  |               |        |       |
| Estin  | nate | ed h | erb  | acec  | ous plant cover (percentage) in the polygon 100-75 75-50   | 50-25         | Χ      | <25   |
| Estin  | nate | ed v | voo  | dy pl | ant foliar cover in the polygon 100-75 75-50   | 50-25         | Χ      | <25   |
|        |      |      |      |       | ody material on the soil surface: nil (<5% cover) x scattered (5-15% cover) From the soil surface is a cover cover is a cover cover.   |               |        | _     |
| 3a.2 \ | Vat  | er ( | Qua  | ality | Protection Questions:  |               |        |       |
| 1.     |      | Υ    | Χ    | N     | Does the wetland have a significant amount of vegetative (specifically perennial density to potentially uptake dissolved nutrients?  | and wood      | y pla  | nt)   |
| 2.     |      | Υ    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainager municipal wastewater) is <b>not</b> discharged into the wetland polygon?                       | ge outlet, ir | ndus   | trial |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b  |               |        |       |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspen before the water reaches the center of the wetland?   | ded materi    | als    |       |
| 3b.    | X    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered surface body of water down gradient?   | d before en   | terin  | g a   |
| 4.     |      | Y    | Χ    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate with row cropping, or areas with severe overgrazing within 100 meters of its bore             |               | 2%)    |       |
| 5.     |      | Y    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources lo<br>down gradient in the local watershed?  | ocated with   | in a   | mile  |
| 6.     | Χ    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas whe could be filtered) located upland and adjacent to the wetland polygon? If yes, dewidth and slope. |               |        |       |
|        |      |      |      |       | Average width of buffer area (in meters) 15-20 Approximate slope (perce  | ent) 1-2      |        |       |
| 3a.3 F | Floo | od a | and  | Stoi  | rmwater Storage / Attenuation Questions:   |               |        |       |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b  |               |        |       |
| 1a.    |      | Υ    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field slow overland flow into the wetland?   | d, scrub) th  | nat w  | ill   |
| 1b.    | Χ    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the the velocity of the water leaving the wetland?   | e wetland to  | red    | uce   |
| 2.     | X    | Υ    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water (tiles, culverts, ditches)?  | from the w    | /etlai | nd    |
| 3.     | X    | Υ    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (damages)?  | history of fl | ood    |       |
| 4.     | Х    | Υ    |      | N     | Is the wetland located in a watershed where the majority of the upland soils are impermeable, or is bedrock within two feet of the top of the soil profile?                      | clayey and    | i      |       |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

| NWI Polygon #                        | 62a  | Data Refere   | ence # <u>S5W062</u>  |        |
|--------------------------------------|--|---|---|--------|
| Tier 3b Individu                     | ıal Polygon: Rapid V                         | egetation Description                               |   |        |
| <b>3b.1 Zonation and</b> 1. How many | -  | ident in this wetland polygon                       | ? _1  |        |
| 1b. If only one                      | e vegetation zone is evide                   | nt, which best describes the                        | site?   |        |
|                                      | Polygon composed of a heterogeneous textures | • .   | atches, hummocks, or tussocks;  |        |
| 1                                    | Polygon composed of a polygon.               | single vegetation type with m                       | nore or less uniform texture across the                                       |        |
|                                      | one vegetation zone is plion of these zones? | resent in the polygon, which                        | interspersion diagram most closely repre                                      | sents  |
| Туре                                 | One Interspersion                            |   | Type Two Interspersion  |        |
| (                                    |  |   |   |        |
| 3b.2 Dominant Pla                    | nt Species: Vegetation z                     |   | Observation Point #1 Photo number(s) ote: V-mark location on the NWI polygon) |        |
| What % of the polyo                  | gon does this vegetative z                   | one occupy?   | 75 – 90% >90°   |        |
|                                      | ering/stratification in this v               | <del></del>   |   |        |
| Dominant <b>Herbace</b>              | -  | g more than 10% of the are                          | a) listed in order of relative abundance.                                     | (Mark  |
| b Lysimachia nui                     | mmularia                                     | e   |   |        |
| С                                    |  | f   |   |        |
| •                                    | pecies listed in order of rel                |   |   |        |
|                                      |  |   |   |        |
| <u> </u>                             |  | u   |   |        |
| ·                                    | cies listed in order of relat                |   |   |        |
|                                      |  |   |   |        |
| Tree & shrub canop                   | y: nil sep                                   | arate, seldom touching $\underline{\hspace{0.1cm}}$ | often touching More or less   | closed |
| Mature trees (>12"                   | dbh) present:                                | yes X no  |   |        |
| Other remarks (inc                   | lude personal comments                       | about what adds to or detrac                        | ts from the quality of this wetland site).                                    |        |

| NWI Polygon # 62a | Data Reference # S5W062 |
|-------------------|-------------------------|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| (N = northe                             | ern Indiana   | SW = southwestern Indiana  | numbers = C-coeffic | ients *= species with high conservationism   |
|---|---|--|---------------------|--|
| Herbs: n                                | con-seed plans<br>forsetail, scoul<br>ferns: marsh s<br>foinnamon fern<br>froyal fern (Ost<br>sensitive fern (<br>fother: species<br>marsh club mod<br>Sphagnum mod<br>vs. floating or<br>bladderwort speciontail (Cerat<br>duckweed spp. | ing rush spp. (Equisetum) 2 hield fern spp. (Dryopteris) 7 (Osmunda cinnamomea) 9 munda regalis) 8 Onoclea sensibilis) 4 (if known) ss (Selaginella apoda) 4 pss spp. (Sphagnum, N) 10 | Herbs:              | wide-leafed monocots *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4 *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8 *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2 dicots - Ivs. opposite/whorled *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 |
| i<br>*                                  | ntroduced <i>P. c</i><br>water lily <i>(Nyn</i><br>water shield <i>(B</i>   |  |                     | bugleweed spp. (Lycopus) 5<br>clearweed spp. (Pilea) 3<br>cup plant (Silphium perfoliatum) 4<br>false nettle (Boehmeria cylindrica) 3  |
| *                                       | sundew spp. (   | Sarracenia purpurea,N) 10<br>Drosera, N) 10  |                     | *fen betony (Pedicularis lanceolata) 6 *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5   |
|   | beak rush spp<br>blueflag iris <i>(Iri</i><br>bulrush spp. <i>(S</i><br>bur reed spp.<br>cat-tail spp. <i>(T</i> )  | cirpus / Schoenoplectus) 5<br>(Sparganium) 9   | 1                   | *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 moneywort (Lysimachia nummularia) 0 monkey flower spp. (Mimulus) 4 nettle (Urtica pro cera) 1  |
| a b                                     | most native cut-grass, r [Alopecurus introduced grass [Pha grasses subarnyard graedle sedge s   | grass spp. 0: reed canary<br>laris], reed [Phragmites], ann<br>ch as annual foxtail [Setaria<br>ass Echinochloa]<br>pp. (Eleocharis) sp.1 =2   | tail                | *richweed (Collinsonia canadensis) 8 *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4 *swamp loosestrife (Decodon verticillatus, N) 8 swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2 *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5   |
| * r s s * * * * * * * * * * * * * * * * | ush spp. (June sedge spp. (Casedge spp. (Casedge) (Hyne sweet flag (Accedus) sedge (Itwig rush (Cladumbrella sedge) (Itwid hyacinth (Cladumbrella sedge)  | Cyperus) 2 vecies (if known)   | and sir             | (vines): dicots - lvs. alternate or basal  |

|         | *cranberry spp. (Vaccinium, N) 10            |
|---------|--|
|         | *dwarf birch (Betula pumila, N) 10           |
|         | *high bush blueberry (V. corymbosum, N) 9    |
|         | *leatherleaf (Chamaedaphne calycul., N) 10   |
|         | meadowsweet & hardhack spp.(Spiraea) 4       |
|         | *ninebark (Physocarpus opulifoius) 7         |
|         | *shrubby cinquefoil (Potentilla fruticosa) 9 |
|         | spice bush (Lindera benzoin) 5               |
|         | *swamp dewberry (Rubus hispidus) 6           |
|         | *swamp holly & winterberry (/lex spp.) 7     |
|         | swamp rose (Rosa palustris) 5                |
| Trees - | lvs. needle shaped                           |
|         | *tamarack (Larix laricina, N) 10             |
| Trees - | Ivs. compound                                |
|         | *ash, black (Fraxinus nigra) 7               |
|         | ash, green (Fraxinus pensylvanica) 3         |
|         | *ash, pumpkin (Fraxinus tomentosa, SW) 8     |
|         | boxelder (Acer negundo) 1                    |
|         | hickory, bitternut (Carya cordiformis) 5     |
|         | *hickory, shell bark (Carya laciniosa) 8     |
|         | honey locust (Gleditsia triacanthos) 1       |
|         | *poison sumac (Rhus vernix) 10               |
| Trees - | - lvs. simple and opposite                   |
|         | red maple (Acer rubrum) 5                    |
|         | silver maple (A. saccharinum) 1              |
| Trees - | - lvs. simple and alternate                  |
|         | *alder, speckled (Alnus rugosa) 9            |
|         | birch, river (Betula nigra) 2                |
|         | black gum (Nyssa sylvatica) 5                |
|         | cottonwood, eastern (Populus deltoides) 1    |
|         | *cottonwood, swamp (P. heterophylla, SW) 8   |
|         | elm, Amer. (Ulmus americana) 3               |
|         | hackberry (Celtis occidentalis) 3            |
|         | ironwood (Carpinus caroliniana) 5            |
|         | oak, pin or white (Quercus) 4                |
|         | *oak, Shumard's, sw. chestnut, sw. white 7   |
|         | *papaw (Asimina triloba) 6                   |
|         | *sugarberry (Celtis laevigata, S) 7          |
|         | sweet gum (Liquidambar styraciflua) 4        |
|         | sycamore, Amer. (Platanus occidentalis) 3    |
|         | willow spp. (Salix) sp.1=3; *additional=7    |
| OTHER   |  |

bladdernut (Staphylea trifolia) 5
 buckthorn spp. (Rhamnus cathar. & frangula) 0
 button bush (Cepha/anthus occidentalis) 5
 dogwood, red-osier (Cornus stolonifera) 4
 \*dogwood, blue-fruited or silky Cornus obliqua) 7

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

| NWI Polygon (see table on page |  |                   | Data Reference #                  | S5W062                 | InWRAP, TERG May 2000                  |
|--------------------------------|--|-------------------|-----------------------------------|------------------------|--|
| Tier 2 Individing the wetland) | lual Polygon: P  | reliminary A      | ssessment (to be o                | completed on-site      | for <u>each</u> NWI polygon present    |
| Depre                          | omorphic Setting a<br>essional<br>ne (within the river/s           | Slope             | ater Flow (check on               | <b>e):</b><br>podplain | Lacustrine                             |
| 2.2 Presence of                | f Standing Water:  |                   |                                   |                        |  |
| • If stand                     | er normally present<br>ing water is present<br>er normally present | , is the water gr | eater than 2 meters in            | n depth?               |  |
| 2.3 Apparent H                 | ydroperiod (check  | one):             |                                   |                        |  |
|                                | ently Flooded  |                   | Artific                           | cially Flooded         |  |
|                                | Illy Flooded<br>d (surface water sel                               | dom present)      | Artific                           | cially Drained         |  |
| <b>2.4 Soil Type:</b> Organ    | nic (i.e. peat, etc.)  | X                 | Mineral                           | Both N                 | lineral and Organic Present            |
| Floodplain For                 |  |                   | pply): Culvert                    | and Communitie         | s of Indiana):                         |
| Tiles                          |  |                   | Other Hu                          | uman Disturbance       | es to the Hydrology (explain):         |
| Dams                           |  |                   |                                   |                        | ); ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; |
| Road or                        | Railroad Embankme  | ent               |                                   |                        |  |
| 2.7 Presence of                | f Invasive Exotics   | (Score as: S =    | Scattered, F = Frequ              | ent, or C = Com        | mon):                                  |
| Garlic M                       | ustard   | G                 | lossy Buckthorn                   |                        |  |
| Phragmi                        | ties   | R                 | eed canary grass                  |                        |  |
| Purple lo                      | osestrife  | C                 | other (list):                     |                        |  |
| 2.8 Presence of                | f Special Hydrolog   | ic Conditions (   | i.e. seeps, wet slope             | es, floating mat):     |  |
| 2.9 Presence of                | f Special Commun   | ity Types:        |                                   |                        |  |
| Bog                            | ·  | Fen_              | We                                | et Sand / Muck F       | ats or Mari Seeps                      |
| 2.10 Presence                  | of Known Federal o   | or Indiana Rare   | e, Threatened or End              | angered Specie         | s:                                     |
|                                | observed or known<br>Present (list)                                | •                 |                                   |                        |  |
|                                | · · · —  |                   | Notional Quality Door             |                        |  |
|                                | olygon Quality Des<br>X  | Medium            | <b>Vetland Quality Desc</b><br>Po | oor                    | eur uile).                             |

| INVV  | ורכ | οιy | jon  | #     | <u>620</u> Data   | Refere    | 10e # <u>55W</u>  | <i>J</i> 02  |              |                |
|-------|-----|-----|------|-------|---|-----------|-------------------|--------------|--------------|----------------|
| Tier  | 3a  | In  | div  | idu   | al Polygon: Rapid Hydrology Indicato  | ors       |                   |              |              |                |
| 3a.1  | Not | ab  | e F  | eatu  | res that influence water quality and hydrolog   | jy:       |                   |              |              |                |
| Estir | nat | ed  | herb | ace   | ous plant cover (percentage) in the polygon   |           | 100-75            | _ 75-50      | X 50-2       | 25 <25         |
| Estir | nat | ed  | woo  | dy p  | lant foliar cover in the polygon  | X         | 100-75            | _ 75-50      | 50-2         | 25 <25         |
| Amo   | unt | of  | dea  | d wo  | oody material on the soil surface:  X nil (<5% cover) scat  | ttered (  | 5-15% cover)      |              | Frequent     | (>20% cover    |
| 3a.2  | Wa  | ter | Qua  | ality | Protection Questions:   |           |                   |              |              |                |
| 1.    | Χ   | Y   |      | N     | Does the wetland have a significant amount of density to potentially uptake dissolved nutrient                  |           | ative (specifica  | ly peren     | nial and wo  | oody plant)    |
| 2.    | X   | Y   |      | N     | Managed water (e.g. municipal or road stormwor municipal wastewater) is <b>not</b> discharged int               |           |                   |              | inage outle  | et, industrial |
| 3.    |     |     |      |       | If wetland in question is a depressional wetlan   | d answ    | er 3a, if not, ar | nswer 3b     |              |                |
| 3a.   |     | Y   |      | N     | Does the wetland have a shape or flow that all before the water reaches the center of the wet                   |           | r the settling ou | ıt of susp   | oended ma    | terials        |
| 3b.   | X   | Y   |      | N     | Is the position of the wetland in the landscape surface body of water down gradient?                            | such th   | hat run-off is he | eld or filte | ered before  | entering a     |
| 4.    | X   | Y   |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), lawith row cropping, or areas with severe overgrounds.        |           |                   |              |              | (6-12%)        |
| 5.    |     | Y   | X    | N     | Are there recreational lakes, navigable watero down gradient in the local watershed?                            | ourses,   | , or water supp   | ly source    | es located v | within a mile  |
| 6.    | X   | Υ   |      | N     | Is a vegetative buffer area (>15 m wide) or and could be filtered) located upland and adjacent width and slope. |           |                   |              |              |                |
|       |     |     |      |       | Average width of buffer area (in meters) 20   | )         | Approximate       | slope (pe    | ercent)      | 1-2            |
| 3a.3  | Flo | od  | and  | Sto   | rmwater Storage / Attenuation Questions:  |           |                   |              |              |                |
| 1.    |     |     |      |       | If wetland in question is a depressional wetlan   | d answ    | er 1a, if not, ar | nswer 1b     |              |                |
| 1a.   |     | Y   |      | N     | Around the wetland is there a buffer strip of na slow overland flow into the wetland?                           | itural ve | egetation (fores  | sted, old    | field, scrub | ) that will    |
| 1b.   | X   | Y   |      | N     | Is there a significant amount of microtopograph the velocity of the water leaving the wetland?                  | hy or ve  | egetative dens    | ty within    | the wetlan   | d to reduce    |
| 2.    | X   | Y   |      | N     | Does the wetland <b>lack</b> man-made structures the (tiles, culverts, ditches)?                                | hat wou   | uld speed the fl  | ow of wa     | ater from th | e wetland      |
| 3.    | X   | Y   |      | N     | Is the flood potential high in the sub-watershed damages)?  | in whi    | ich the wetland   | is locate    | ed (history  | of flood       |
| 4.    |     | Y   | X    | N     | Is the wetland located in a watershed where the impermeable, or is bedrock within two feet of t                 |           |                   |              | are clayey   | and            |
| 5.    | Χ   | Υ   |      | N     | Is the wetland located in a local watershed wh existing development (e.g. >50% area in row of                   |           |                   |              |              | due to         |

| <b>3b.1 Zonation and</b> 1. How many              | vegetation zones are evident<br>vegetation zone is evident, wh<br>Polygon composed of a mosa<br>heterogeneous textures across                                | in this wetland polygon?1 nich best describes the site? nic of small vegetation patches, hummocks, or tussocks; |
|---|--|---|
| <ol> <li>How many</li> <li>If only one</li> </ol> | vegetation zones are evident<br>vegetation zone is evident, wh<br>Polygon composed of a mosa<br>heterogeneous textures acros<br>Polygon composed of a single | nich best describes the site?  iic of small vegetation patches, hummocks, or tussocks;  ss the polygon.         |
|   | Polygon composed of a mosa<br>heterogeneous textures acros<br>Polygon composed of a single   | ic of small vegetation patches, hummocks, or tussocks; as the polygon.  |
| X   | heterogeneous textures acros<br>Polygon composed of a single   | ss the polygon.   |
|   | · ·  | a vegetation type with more or less uniform texture across the  |
|   | noivaon  | by vegetation type with more of less difficing texture across the   |
|   | polygom  |   |
|   | one vegetation zone is presen<br>on of these zones?  | t in the polygon, which interspersion diagram most closely represents   |
| Туре  | One Interspersion  | Type Two Interspersion  |
|   |  |   |
| 3b.2 Dominant Plan                                | nt Species: Vegetation zone  | A Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)                               |
| What % of the polyg                               | on does this vegetative zone o   | ,   |
| 10 – 25%  | 25 – 50 %  | 50 - 75% 75 - 90% _X >90%   |
| Is there notable laye                             | ring/stratification in this vegeta   |   |
| with an * any specie                              | s that forms extensive monocu  | re than 10% of the area) listed in order of relative abundance. (Mark altural patches).                         |
| a Lysimachia nun                                  |  | d   |
| b Laportea canad                                  | ensis  | e   |
| С   |  |   |
| Dominant <b>Shrub</b> So                          | ecies listed in order of relative  | ahundance   |
| a Acer negundo                                    | coled noted in order of relative   | C   |
| b Ulmus americai                                  |  | _   |
|   |  |   |
| Dominant Tree Spec                                | cies listed in order of relative a   | bundance.   |
| a Fraxinus penns                                  |  | c   |
| b Acer saccharing                                 |  | d   |
| Tree & shrub canopy                               | r: nil separate  | , seldom touching often touching _X_ More or less closed  |
| Mature trees (>12" o                              | bh) present: yes   | X no  |
| Other remarks (incl                               | ude personal comments about  | what adds to or detracts from the quality of this wetland site).  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

species from one genus of family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana  $sum_{N} = sum_{N} = sum_$ 

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10  | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4 *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8 *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2  |
|---|---|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus)  *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10 *sundew spp. (Drosera, N) 10  | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3 *fen betony (Pedicularis lanceolata) 6 *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2               |
| Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5 bulrush spp. (Scirpus / Schoenoplectus) 5  *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1  *cotton grass spp. (Eriophorum, N) 10  | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  X moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  purple loosestrife (Lythrum salicaria) 0  |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species  a. *wild rice ( <i>Zizania aquatica</i> , N) 10  b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa] needle sedge spp. (Eleocharis) sp.1 =2 *additional=8 nutsedge spp. (Cyperus) 2 *orchid spp.: species (if known) | *richweed (Collinsonia canadensis) 8  *St. John's wort spp. (Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8  swamp milkweed (Asclepias incarnata) 4  toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8  virgin's bower (vine) (Clematis virginiana) 3  water puslane (Ludwigia palustris) 3  winged loosestrife (Lythrum alatum) 5  Herbs: (vines): dicots - Ivs. alternate or basal and simple |
| rush spp. (Juncus) 4 sedge spp. (Carex) sp.1=3 *additional=7 *spiderlily (Hymenocallis occidentalis) 9 sweet flag (Acorus calamus) 0 *3-way sedge (Dulichium arundinaceum) 10 *twig rush (Cladium mariscoides, N) 10 *umbrella sedge (Fuirena squarrosa, N) 10 wild hyacinth (Camassia scilloides) 5 *yellow-eyed grass (Xyris torta, N) 9  | Amer. bellflower (Campanula americana) 4  *asters: bristly aster (Aster puniceus) 7  *flat-topped aster (A. umbellatus) 8  other aster spp. (e.g. New Engl, panicled-a) 3  *black-eyed Susan (Rudbeckia fulgida) 8  cardinal flower (Lobelia cardinalis) 4  InWrap, Terg revised June 2005  |

buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 \*dogwood, blue-fruited or silky Cornus

obliqua) 7

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

| Date Report Genera                    |  | port Generated: 10/13/2011  |  |  |  |
|---------------------------------------|--|---|--|--|--|
| Wetland site name:                    |  | site name: S5W063   |  |  |  |
| Data Reference #: Date of Site Visit: |  | ference #: 63   |  |  |  |
|                                       |  | Site Visit: 10/12/2011  |  |  |  |
| NWI                                   | poly   | gons in Site (quadrangle and NWI id. numbers: Bloomington                                     |  |  |  |
|                                       |  |   |  |  |  |
| TIER                                  | R 1 S  | SUMMARY:  |  |  |  |
|                                       | a. Total wetland area (hectares): 0.82 (2.0 acres) |   |  |  |  |
|                                       | b.   | Wetland size and connectivity – contribution to animal habitat:                               |  |  |  |
|                                       |  |   |  |  |  |
|                                       | C.   | Surrounding land use – numerical rank (max. = 1): 0.45  |  |  |  |
|                                       | d.   | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                    |  |  |  |
|                                       |  |   |  |  |  |
| TIE                                   | R 2  | SUMMARY: NWI Polygon Id. 63a  |  |  |  |
|                                       | a.   | Indiana Wetland community type: Sedge Meadow  |  |  |  |
|                                       | b.   | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |  |  |  |
|                                       | C.   | Disturbances to site: None  |  |  |  |
|                                       | d.   | Exotic species rating:   Good  Medium  Poor   |  |  |  |
|                                       | e.   | Special Hydrologic Conditions Observed: None  |  |  |  |
|                                       | f.   | Special Community Type: None  |  |  |  |
|                                       | g.   | Rare-Threatened-Endangered Species: None  |  |  |  |
|                                       | h.   | Polygon Quality Description: Good Medium Poor   |  |  |  |
|                                       |  |   |  |  |  |
| IIE                                   | R 3A   | A SUMMARY:  |  |  |  |
|                                       | a.   | Dead woody material as indicator of animal habitat:   |  |  |  |
|                                       | b.   | Water quality protection – numerical rank (6 max): 5 Rating: ☐ Good ☐ Medium ☐ Poor           |  |  |  |
|                                       | C.   | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor            |  |  |  |
|                                       |  |   |  |  |  |
| TIE                                   | R 31   | B SUMMARY:  |  |  |  |
|                                       | a.   | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |  |  |  |
|                                       | b.   | Stratification as indicator of animal habitat:   Valuable   Neutral                           |  |  |  |
|                                       | C.   | Number of dominant plant taxa observed: 6 Rating: ☐ Good ☒ Medium ☐ Poor                      |  |  |  |
|                                       | d.   | Average coefficient of conservatism: 3.3 Rating: Good Medium Poor                             |  |  |  |
|                                       | e.   | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |  |  |  |
|                                       | f.   | Mature trees as indicator of animal habitat:   Valuable   Favorable   Neutral                 |  |  |  |
|                                       | g.   | Total hydrophytic taxa observed: 13 Rating: ☐ Good ☐ Medium ☒ Poor                            |  |  |  |
|                                       | h.   | Number of indicator taxa 0 Rating: ☐ Good ☐ Medium ☒ Poor                                     |  |  |  |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2 | SUMMARY: NWI Polygon Id. 63b   |  |  |  |
|--------|--|--|--|--|
| a.     | Indiana Wetland community type: Floodplain Forest  |  |  |  |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral        |  |  |  |
| C.     | Disturbances to site: None   |  |  |  |
| d.     | Exotic species rating:   |  |  |  |
| e.     | Special Hydrologic Conditions Observed: None   |  |  |  |
| f.     | Special Community Type: None   |  |  |  |
| g.     | Rare-Threatened-Endangered Species: None   |  |  |  |
| h.     | Polygon Quality Description: Good Medium Poor  |  |  |  |
|        |  |  |  |  |
| TIER 3 | A SUMMARY:   |  |  |  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral       |  |  |  |
| b.     | Water quality protection – numerical rank (6 max): 5 Rating: ⊠ Good ☐ Medium ☐ Poor      |  |  |  |
| C.     | Flood and storm water storage – numerical rank (5 max): 4 Rating: 🖂 Good 🔲 Medium 🔲 Poor |  |  |  |
|        |  |  |  |  |
| TIER 3 | B SUMMARY:   |  |  |  |
| a.     | Zonation and interspersion as indicator of animal habitat:   Valuable Favorable Neutral  |  |  |  |
| b.     | Stratification as indicator of animal habitat:   |  |  |  |
| C.     | Number of dominant plant taxa observed: 6 Rating: Good Medium Poor                       |  |  |  |
| d.     | Average coefficient of conservatism: 2.5 Rating: Good Medium Poor                        |  |  |  |
| e.     | Tree canopy as indicator of animal habitat:   Valuable   Neutral                         |  |  |  |
| f.     |  |  |  |  |
|        | Mature trees as indicator of animal habitat:   ☐ Valuable ☐ Favorable ☐ Neutral          |  |  |  |
| g.     | Total hydrophytic taxa observed: 9 Rating: Good Medium Poor                              |  |  |  |
| h.     | Number of indicator taxa 0 Rating:   Good   Medium   Poor                                |  |  |  |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W063

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W06   | 3  |  |                  |                        |                |  |  |
|--|--|--|------------------|------------------------|----------------|--|--|
| Ownership (if known):  |  |  |                  |                        |                |  |  |
| USGS Topographic Quadrang  | le(s): Blooming  | iton   |                  |                        |                |  |  |
| USGS Watershed map 14-Dig  | USGS Watershed map 14-Digit HUC: Beanblossom Creek- Buck Creek/Muddy Fork 05120202010060 |  |                  |                        |                |  |  |
| •  |  |  |                  |                        |                |  |  |
| Identify each NWI Polygon with NWI Polygon ID Number   | in the Wetland Sit   | e (Polygon specif<br>63b                             | ic data)         |                        |                |  |  |
| Cowardin Classification  | PEMC   | PFO1A  |                  |                        |                |  |  |
| Polygon Size (hectares)  | 0.58 (1.4 acres)   | 0.24 (0.60 acre)                                     |                  |                        |                |  |  |
| NIMI Daluman ID Number   | T  |  |                  |                        |                |  |  |
| NWI Polygon ID Number Cowardin Classification  |  |  |                  |                        |                |  |  |
| Polygon Size (hectares)  |  |  |                  |                        |                |  |  |
| 1.2 Site Visit: Team Members: K. Schroed   | der & D. White   |  |                  |                        |                |  |  |
| Agency: INDOT  |  |  |                  |                        |                |  |  |
| Date assessed: 10/12/2011  | 1  | Time a   | ssessed: 5:45    | pm                     |                |  |  |
| Weather conditions: Sunny  |  |  |                  |                        |                |  |  |
| vvoamer containerie. <u>-caring</u>  | y 10 1   |  |                  |                        |                |  |  |
| recent heavy rains, an unusuall  1.3 Wetland Size:   | y dry season, an   | especially early sp                                  | oring, etc.):    |                        |                |  |  |
| Size of site under assessment  | : 0.58 hectares  | s (1.4 acres)- PEN                                   | ЛС, 0.24 hectare | es (0.60 acres)-PFC    | )              |  |  |
| Size of total wetland complex  | (all continuous we   | etland polygons):                                    | 0.82 hectares    | s (2.0 acres)          |                |  |  |
| 1.4 Site Setting:  Degree of isolation from other v  X The site is connected up  The site is only connected  The site is only connected  Other wetlands are near  The wetland site is isolar | estream and dowr<br>ed upstream with<br>ed downstream w<br>by (within 0.25 m             | estream with other other wetlands ith other wetlands |                  |                        |                |  |  |
| (General assessment of adjace site (indicate the % abundance   |  | cover in the area                                    | within 50 meter  | rs of the perimeter of | of the wetland |  |  |
| 25 Native Vegetation - woo   | ,  | 50   | Road / highwa    | y / railroad bed / pa  | rkina lot      |  |  |
| 25 Native Vegetation - old f   |  |  | Industrial       | , , .a saa saa , pa    | 9              |  |  |
|  | icia / Scrub   |  | -                | single family          |                |  |  |
| Agricultural- tilled   |  |  | Residential – s  | _                      |                |  |  |
| Agricultural - pasture   |  |  | Commercial or    | multifamily residen    | ıtial          |  |  |
| Recreation - green space   | e, mowed   |  |                  |                        |                |  |  |

| NWI Polygo<br>(see table on ) |                                 |   | Data Reference #           | S5W063                 | InWRAP, TERG May 2000               |
|-------------------------------|---------------------------------|---|----------------------------|------------------------|-------------------------------------|
| Tier 2 Indivining the wetland |                                 | ygon: Preliminary <i>i</i>  | <b>Assessment</b> (to be o | completed on-site      | for <u>each</u> NWI polygon present |
|                               | <b>Geomorphic</b> pressional    | Setting and Surface.  |                            | <b>e):</b><br>podplain | Lacustrine                          |
|                               | •                               | the river/stream banks)   | <del></del>                | ·                      | <del></del>                         |
| 2.2 Presence                  | e of Standing                   | g Water:  |                            |                        |                                     |
| • If sta                      | anding water                    | y present in the polygon<br>is present, is the water of<br>y present in an adjacent | greater than 2 meters in   | depth? No              |                                     |
| 2.3 Apparent                  | t Hydroperio                    | d (check one):  |                            |                        |                                     |
|                               | anently Flood                   |   | Artific                    | cially Flooded         |                                     |
|                               | onally Flooded<br>ated (surface | d<br>water seldom present)  | Artific                    | cially Drained         |                                     |
| 2.4 Soil Type                 | e:<br>ganic (i.e. pea           | at, etc.) X   | Mineral                    | Both M                 | ineral and Organic Present          |
| 2.5 Wetland                   | -                               | Type for this NWI poly  | gon (see Key to Wetla      | and Communities        | s of Indiana):                      |
| Seage Mead                    | dow                             |   |                            |                        |                                     |
| 2.6 Disturbar                 | nces of Hydı                    | ology (check all that a   | ipply):                    |                        |                                     |
| Ditchii                       | ng                              |   | Culvert                    |                        |                                     |
| Tiles<br>Dams                 |                                 |   | Other Hu                   | ıman Disturbance       | s to the Hydrology (explain):       |
| Road                          | or Railroad E                   | mbankment   |                            |                        |                                     |
| 2.7 Presence                  | e of Invasive                   | Exotics (Score as: S =  | = Scattered, F = Frequ     | ent, or C = Comn       | non):                               |
| Garlic                        | Mustard                         |   | Glossy Buckthorn           |                        |                                     |
|                               | ımities                         |   | Reed canary grass          |                        |                                     |
| Purple                        | e loosestrife                   |   | Other (list):              |                        |                                     |
| 2.8 Presence                  | e of Special I                  | Hydrologic Conditions   | (i.e. seeps, wet slope     | s, floating mat):      |                                     |
|                               | -                               | Community Types:  |                            |                        |                                     |
| Bo                            | g                               | Fen   | We                         | et Sand / Muck Fla     | ats or Mari Seeps                   |
| 2.10 Presence                 | ce of Known                     | Federal or Indiana Ra   | re, Threatened or End      | angered Species        | :                                   |
| X No                          | ne observed                     | or known to be present  |                            |                        |                                     |
|                               | ES Present (                    | ·   |                            |                        |                                     |
|                               |                                 | uality Descriptor (see:   | -                          | -                      | ck one):                            |
| Go                            | od                              | X Medium  | Po                         | or                     |                                     |

| NWI    | Po   | olyg | on   | #     | <b>63</b> a                            |   | Data F       | Refere   | nce# S        | 5W063                     |                  |         |      |
|--------|------|------|------|-------|--|---|--------------|----------|---------------|---------------------------|------------------|---------|------|
| Tier   | 3a   | In   | div  | idua  | al Polygon: Ra <sub>l</sub>            | pid Hydrology lı                                      | ndicato      | rs       |               |                           |                  |         |      |
| 3a.1 l | Not  | abl  | e Fe | atu   | res that influence                     | water quality and h                                   | hydrolog     | y:       |               |                           |                  |         |      |
| Estin  | nate | ed ł | erb  | aceo  | ous plant cover (pe                    | rcentage) in the poly                                 | /gon         | Χ        | _ 100-75      | 75-50                     | 50-25            |         | <25  |
| Estin  | nate | ed v | voo  | dy pl | ant foliar cover in t                  | he polygon  |              |          | 100-75        | 75-50                     | 50-25            | Х       | <25  |
| Amo    | unt  | of   | dea  | d wo  | ody material on the                    | e soil surface:<br>nil (<5% cover)                    | scatt        |          |               |                           |                  |         |      |
| 3a.2 \ | Nat  | ter  | Qua  | lity  | Protection Questi                      | ons:  |              |          |               |                           |                  |         |      |
| 1.     | Χ    | Y    |      | N     |  | have a significant a<br>ally uptake dissolved         |              |          | ative (speci  | fically peren             | nial and wood    | ly plaı | nt)  |
| 2.     | X    | Y    |      | N     |  | e.g. municipal or roa<br>ewater) is <b>not</b> discha |              |          |               |                           | inage outlet, i  | ndust   | rial |
| 3.     |      |      |      |       | If wetland in ques                     | tion is a depression                                  | al wetland   | d answ   | er 3a, if no  | t, answer 3b              | 1                |         |      |
| 3a.    |      | Y    |      | N     |  | have a shape or floreaches the center o               |              |          | r the settlin | g out of sus <sub>l</sub> | pended mater     | ials    |      |
| 3b.    | Χ    | Y    |      | N     |  | the wetland in the lare atter down gradient?          |              | such th  | nat run-off i | s held or filte           | ered before er   | nterin  | g a  |
| 4.     | X    | Y    |      | N     |  | lack steep slopes (a                                  |              |          |               |                           |                  | 12%)    |      |
| 5.     |      | Y    | Χ    | N     |  | onal lakes, navigable<br>the local watershed?         |              | urses,   | or water s    | upply source              | es located with  | nin a ı | mile |
| 6.     | X    | Y    |      | N     |  | offer area (>15 m wid<br>located upland and a         |              |          |               |                           |                  |         |      |
|        |      |      |      |       | Average width of                       | buffer area (in meter                                 | rs) 30       |          | Approxima     | ate slope (pe             | ercent) 1-2      |         |      |
| 3a.3 l | Flo  | od a | and  | Sto   | rmwater Storage /                      | Attenuation Quest                                     | tions:       |          |               |                           |                  |         |      |
| 1.     |      |      |      |       | If wetland in ques                     | tion is a depression                                  | al wetland   | d answ   | er 1a, if no  | t, answer 1b              |                  |         |      |
| 1a.    |      | Y    |      | N     |  | nd is there a buffer s<br>w into the wetland?         | strip of nat | tural ve | egetation (f  | orested, old              | field, scrub) tl | nat wi  | II   |
| 1b.    | Χ    | Y    |      | N     | •                                      | ant amount of microt<br>water leaving the w           |              | y or ve  | egetative d   | ensity within             | the wetland t    | o red   | uce  |
| 2.     | X    | Y    |      | N     | Does the wetland (tiles, culverts, dit | lack man-made struches)?                              | uctures th   | at wou   | ıld speed th  | ne flow of wa             | ater from the v  | vetlar  | nd   |
| 3.     | X    | Y    |      | N     | Is the flood potent<br>damages)?       | tial high in the sub-w                                | vatershed    | in whi   | ch the wetl   | and is locate             | ed (history of f | lood    |      |
| 4.     | X    | Y    |      | N     |  | ated in a watershed<br>s bedrock within two           |              |          |               |                           | are clayey and   | d       |      |

Is the wetland located in a local watershed which has highly modified runoff conditions due to

existing development (e.g. >50% area in row crop, commercial, or residential use)?

**X Y** 

Ν

5.

| NWI Polygon #                        | 63a  | Data Refe                    | erence # <u>S5W063</u>  |                       |
|--------------------------------------|--|------------------------------|---|-----------------------|
| Tier 3b Individu                     | ıal Polygon: Rapid V                         | egetation Description        | า   |                       |
| <b>3b.1 Zonation and</b> 1. How many |  | ident in this wetland polygo | n? 1  |                       |
| 1b. If only one                      | e vegetation zone is evide                   | nt, which best describes the | e site?   |                       |
| X                                    | Polygon composed of a heterogeneous textures |                              | patches, hummocks, or tus                                     | socks;                |
|                                      | •  |                              | more or less uniform texture                                  | e across the          |
|                                      |  | resent in the polygon, which | n interspersion diagram mos                                   | st closely represents |
|                                      | e One Interspersion                          |                              | Type Two Intersp  | persion               |
| (                                    |  |                              |   |                       |
| 3b.2 Dominant Pla                    | nt Species: Vegetation z                     |                              | Observation Poil Photo number(s) Note: V-mark location on the |                       |
| What % of the polyg                  | gon does this vegetative z                   | ,                            |   | ,                     |
|                                      | =  |                              | 75 – 90%  | X >90%                |
| Is there notable laye                | ering/stratification in this v               | egetation zone? No           |   |                       |
|                                      | es that forms extensive mo                   | onocultural patches).        | rea) listed in order of relati                                | ve abundance. (Mark   |
| c Carex sp.                          |  | f                            |   |                       |
|                                      | pecies listed in order of rel                | ative abundance.  c d        |   |                       |
| Dominant <b>Tree</b> Sne             | cies listed in order of rela                 | tive ahundance               |   |                       |
| -                                    | cies listed in order of rela                 |                              |   |                       |
| I.                                   |  |                              |   |                       |
|                                      | y: X nil se                                  |                              | often touching  | More or less closed   |
| Mature trees (>12"                   | dbh) present:                                | yes X no                     |   |                       |
| Other remarks (inc                   | lude personal comments                       | about what adds to or detra  | acts from the quality of this v                               | vetland site).        |
| The wetland is likely                | y an abandoned settling b                    | asin for an inactive sewage  | treatment facility.   |                       |

| ADAIL Die Lease en 11 | 00 - | D-1- D-(         | 0514/000 |
|-----------------------|------|------------------|----------|
| NWI Polygon #         | 63a  | Data Reference # | S5W063   |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| $\dot{N} = northern India$ | ana SW = southwestern Indiana                                  | numbers = C-coefficie | ents *= species with high conservationism  |
|----------------------------|--|-----------------------|--|
| Herbs: non-se              | ed plants  | Herbs:                | wide-leafed monocots   |
|                            | ail, scouring rush spp. (Equisetum) 2                          |                       | *arrow arum (Peltandra virginica, N) 6   |
|                            | marsh shield fern spp. (Dryopteris)                            |                       | arrow-head spp. (Sagittaria) 4   |
|                            | mon fern (Osmunda cinnamomea) 9                                |                       | *green dragon (Arisaema dracontium) 6  |
| *roval                     | fern (Osmunda regalis) 8                                       |                       | Jack-in-the-pulpit (Arisaema triphyllum) 4                                       |
| sensiti                    | ive fern (Onoclea sensibilis) 4                                |                       | pickerel weed (Pontederia cordata, N) 5  |
| *othor:                    | : species (if known)   |                       | *skunk cabbage (Symplocarpus foetidus) 8   |
| Oli lei .                  | club moss <i>(Selaginella apoda) 4</i>                         |                       |  |
|                            | gnum moss spp. <i>(Sphagnum,</i> N) 10                         |                       | *water arum (Calla palustris, N) 10<br>water plantain (Alisma plantago-aquat.) 2 |
| Opila                      | gridin moss spp. ( <i>opnagnam,</i> 14) 10                     |                       | water plantain (Anoma plantage aquat.) 2   |
|                            | pating or submergent   |                       | dicots - Ivs. opposite/whorled   |
|                            | lerwort spp. <i>(Utricularia,</i> N) 10                        |                       | *bedstraw spp. (Galium) 6  |
|                            | ail (Ceratophyllum demersum, N) 1                              |                       | beggar's tick spp. (Bidens) 3  |
| duckw                      | reed spp. <i>(Lemnaceae)</i> 3                                 |                       | blue vervain (Verbena hastata) 3   |
| *pond\                     | weed spp. (Potamogeton) 8 (except                              | 0 for                 | boneset (Eupatorium perfoliatum) 4   |
| introdu                    | uced <i>P. crispus)</i>  |                       | bugleweed spp. (Lycopus) 5   |
| *water                     | lily (Nymphaea tuberosa, N) 6                                  |                       | clearweed spp. (Pilea) 3   |
| water                      | shield <i>(Brasenia schreberi,</i> N) 4                        |                       | cup plant (Silphium perfoliatum) 4   |
| *yellov                    | v spatterdock spp. (Nuphar) 6                                  |                       | false nettle (Boehmeria cylindrica) 3 *fon betony (Bodicylaris Jancoplata) 6     |
|                            |  |                       | *fen betony (Pedicularis lanceolata) 6   |
|                            | ivorous plants   |                       | *gentian spp. (Gentiana & Gentianopsis) 8  |
|                            | er plant (Sarracenia purpurea,N) 10                            |                       | giant ragweed (Ambrosia trifida) 0   |
| *sunde                     | ew spp. <i>(Drosera,</i> N) 10                                 |                       | Indian hemp (Apocynum cannabinum) 2  |
|                            |  |                       | Joe-pye weed spp. (Eupatorium) 5   |
|                            | lvs. or leafless ± monocots                                    |                       | *loosestrife spp. (Lysimachia) 6   |
|                            | rush spp. (Rhynchospora, N) 10                                 |                       | meadow beauty (Rhexia virginica) 5   |
|                            | ng iris (Iris virginica) 5                                     |                       | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5                                |
|                            | h spp. (Scirpus / Schoenoplectus) 5                            |                       | moneywort (Lysimachia nummularia) 0  |
|                            | eed spp. <i>(Sparganium)</i> 9                                 |                       | monkey flower spp. (Mimulus) 4   |
|                            | l spp. <i>(Typha)</i> 1  |                       | nettle (Urtica pro cera) 1   |
| *cottor                    | n grass spp. <i>(Eriophorum,</i> N) 10                         |                       | purple loosestrife (Lythrum salicaria) 0   |
| Grasses (family            | ( Gramineae) - indicate types & number of sp                   |                       | *richweed (Collinsonia canadensis) 8   |
|                            | ild rice <i>(Zizania aquatica,</i> N) 10                       |                       | *St. John's wort <i>spp.(Hypericum/Triandeum)8</i>                               |
|                            | ost native perennial grass spp. 4: e.g.                        |                       | sunflower spp. (Helianthus) 4  |
|                            | t-grass, manna-g, Canada bluejoint,                            |                       | *swamp loosestrife (Decodon verticillatus, N) 8                                  |
|                            | lopecurus]; other  |                       |  |
|                            | roduced grass spp. 0: reed canary                              |                       | swamp milkweed (Asclepias incarnata) 4   |
|                            | ass [Phalaris], reed [Phragmites], a                           |                       | toothcup spp. (Ammania & Rotala) 2   |
|                            | asses such as annual foxtail <i>[Seta</i>                      |                       | *turtlehead spp. (Chelone) 8   |
|                            | rnyard grass <i>Echinochloa</i> ]                              | <u> </u>              | virgin's bower (vine) (Clematis virginiana) 3                                    |
|                            | e sedge spp. <i>(Eleocharis)</i> sp.1 =2                       |                       | water puslane (Ludwigia palustris) 3   |
|                            | dditional=8  |                       | winged loosestrife (Lythrum alatum) 5  |
|                            | lge spp. <i>(Cyperus)</i> 2                                    | Harhs:                | (vines): dicots - lvs. alternate or basal  |
|                            | d spp.: species (if known)                                     | and sim               |  |
|                            | pp. (Juncus) 4   |                       | Amer. bellflower (Campanula americana) 4   |
|                            | spp. (Carex) sp.1=3 *additional=7                              |                       | *asters: bristly aster (Aster puniceus) 7  |
|                            | rlily (Hymenocallis occidentalis) 9                            |                       | *flat-topped aster (A. umbellatus) 8   |
|                            | flag (Acorus calamus) 0  |                       | other aster spp. (e.g. New Engl, panicled-a) 3                                   |
|                            | riag (Acorus calamus) o<br>r sedge (Dulichium arundinaceum) 10 | <u> </u>              | *black-eyed Susan (Rudbeckia fulgida) 8  |
|                            | ush <i>(Cladium mariscoides,</i> N) 10                         | , <u> </u>            | •  |
|                            | ella sedge <i>(Fuirena squarrosa,</i> N) 10                    |                       | cardinal flower (Lobelia cardinalis) 4   |
|                            |  | InWran                | Terg revised June 2005   |
|                            | vacinth (Camassia scilloides) 5                                | ар,                   |  |
| yellov                     | v-eyed grass (Xyris torta, N) 9                                |                       |  |

| NWI Polygon # 63a   | Data Reference # S5W063   |
|---|---|
| cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4 *marsh marigold (Caltha palustris) 7 *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4  smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10 *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3                            | Shrubs - Ivs. alternate  *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp. (Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5  Trees - Ivs. needle shaped  *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7  ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10 |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5  Shrubs - leaves opposite or whorled  bladdernut (Staphylea trifolia) 5  buckthorn spp. (Rhamnus cathar. & frangula) 0  X button bush (Cepha/anthus occidentalis) 5  dogwood, red-osier (Cornus stolonifera) 4  *dogwood, blue-fruited or silky Cornus obliqua) 7 | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7  OTHER Tuliptree (Liriodendron tulipifera)  |
| dogwood, gray (C. racemosa) 2  X elderberry (Sambucus) 2  | InWrap, Terg revised June 200   |

| NWI Polygon (see table on page |   |                           | Data Reference #          | S5W063                 | InWRAP, TERG May 2000               |
|--------------------------------|---|---------------------------|---------------------------|------------------------|-------------------------------------|
|                                | ,   | Preliminary A             | <b>ssessment</b> (to be d | completed on-site      | for <u>each</u> NWI polygon present |
|                                | eomorphic Setting   | g and Surface. W<br>Slope | ater Flow (check on X     | <b>e):</b><br>oodplain | Lacustrine                          |
| River                          | ine (within the rive  |                           |                           | _                      |                                     |
| 2.2 Presence o                 | f Standing Water  | :                         |                           |                        |                                     |
| • If stand                     | ter normally preser<br>ding water is prese<br>ter normally preser | nt, is the water gr       | eater than 2 meters in    | depth? No              |                                     |
| 2.3 Apparent H                 | lydroperiod (chec   | k one):                   |                           |                        |                                     |
|                                | ently Flooded   |                           | Artific                   | cially Flooded         |                                     |
|                                | ally Flooded<br>ed (surface water s                               | eldom present)            | Artific                   | cially Drained         |                                     |
| 2.4 Soil Type: Organ           | nic (i.e. peat, etc.)   | X                         | Mineral                   | Both M                 | ineral and Organic Present          |
| 25 Wetland Co                  | ommunity Type fo  | or this NWI nalva         | on (see Key to Wetla      | and Communities        | s of Indiana):                      |
| Floodplain For                 |   | in this itti poryg        | on (see hey to wear       |                        | o indiana).                         |
|                                |   |                           |                           |                        |                                     |
|                                | es of Hydrology (   | check all that ap         |                           |                        |                                     |
| Ditching                       |   |                           | Culvert                   |                        |                                     |
| Tiles<br>Dams                  |   |                           | Other Hu                  | ıman Disturbance       | s to the Hydrology (explain):       |
| Road or                        | Railroad Embankr  | nent                      |                           |                        |                                     |
| 2.7 Presence o                 | f Invasive Exotics  | s (Score as: S =          | Scattered, F = Frequ      | ent, or C = Comn       | non):                               |
| Garlic M                       |   |                           | lossy Buckthorn           |                        | •                                   |
| ——— Phragmi                    |   |                           | eed canary grass          |                        |                                     |
| Purple lo                      | oosestrife  | c                         | other (list):             |                        |                                     |
| 2.8 Presence o                 | f Special Hydrolo   | egic Conditions (         | i.e. seeps, wet slope     | s, floating mat):      |                                     |
| None                           |   |                           |                           |                        |                                     |
| 2.9 Presence o                 | f Special Commu   | nity Types:               |                           |                        |                                     |
| Bog                            |   | Fen                       | We                        | et Sand / Muck Fla     | ats or Mari Seeps                   |
| 2.10 Presence                  | of Known Federa   | I or Indiana Rare         | e, Threatened or End      | angered Species        | :                                   |
|                                | observed or know  |                           | ,                         | <u> </u>               |                                     |
|                                | S Present (list)  |                           |                           |                        |                                     |
|                                | · · · -   | escriptor (see: V         | Vetland Quality Desc      | eriptions and che      | ck one):                            |
| Good                           | X   | Medium                    | Po                        | or                     |                                     |

| NWI    | l Po | olyg  | on   | #     | 63b Data Reference # S5W063   |          |
|--------|------|-------|------|-------|---|----------|
| Tier   | 3а   | In    | div  | idua  | l Polygon: Rapid Hydrology Indicators   |          |
| 3a.1 I | Not  | abl   | e Fe | eatui | es that influence water quality and hydrology:  |          |
| Estin  | nate | ed h  | erb  | aced  | us plant cover (percentage) in the polygon 100-75 75-50 50-25 _X <2   | 25       |
| Estin  | nate | ed v  | voo  | dy pl | nt foliar cover in the polygon 100-75 _X _75-50 50-25 <2  | 25       |
| Amo    | unt  | of o  | dead | d wo  | dy material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)   | er)      |
| 3a.2 \ | Wat  | ter ( | Qua  | lity  | rotection Questions:  |          |
| 1.     | Χ    | Υ     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |          |
| 2.     | X    | Y     |      | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     | I        |
| 3.     |      |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |          |
| 3a.    |      | Y     |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |          |
| 3b.    | Χ    | Y     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |          |
| 4.     | X    | Y     |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |          |
| 5.     |      | Y     | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   | е        |
| 6.     | X    | Y     |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |          |
|        |      |       |      |       | Average width of buffer area (in meters) 10-30 Approximate slope (percent) 1-2  |          |
| 3a.3 I | Flo  | od a  | and  | Sto   | nwater Storage / Attenuation Questions:   |          |
| 1.     |      |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |          |
| 1a.    |      | Y     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |          |
| 1b.    |      | Y     | Χ    | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  | <b>;</b> |
| 2.     | Χ    | Y     |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |          |
| 3.     | X    | Y     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |          |
| 4.     | Χ    | Υ     |      | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |          |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

| NWI Polygon #                       | _63b   | Data Reference # S5W063   |  |  |  |  |  |  |  |
|-------------------------------------|--|---|--|--|--|--|--|--|--|
| Tier 3b Individu                    | ual Polygon: Rapid Vegetation Description            |   |  |  |  |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man | Interspersion:<br>y vegetation zones are evident i   | n this wetland polygon? 1   |  |  |  |  |  |  |  |
| 1b. If only one                     | e vegetation zone is evident, wh                     | ich best describes the site?  |  |  |  |  |  |  |  |
|                                     |  | Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks; heterogeneous textures across the polygon. |  |  |  |  |  |  |  |
| X                                   | Polygon composed of a single polygon.                | vegetation type with more or less uniform texture across the  |  |  |  |  |  |  |  |
|                                     | n one vegetation zone is present ion of these zones? | in the polygon, which interspersion diagram most closely represents   |  |  |  |  |  |  |  |
|                                     | e One Interspersion                                  | Type Two Interspersion  |  |  |  |  |  |  |  |
| (                                   |  |   |  |  |  |  |  |  |  |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zone A                        | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)   |  |  |  |  |  |  |  |
| What % of the poly                  | gon does this vegetative zone or                     | ,   |  |  |  |  |  |  |  |
| 10 – 25%                            | -  | 50 - 75% 75 - 90% _X >90%   |  |  |  |  |  |  |  |
| <br>Is there notable lave           |  | tion zone? Yes, herb cover sparse   |  |  |  |  |  |  |  |
|                                     | es that forms extensive monocul                      | e than 10% of the area) listed in order of relative abundance. (Mark tural patches).  d e f                                 |  |  |  |  |  |  |  |
| Dominant <b>Shrub</b> Sp            | pecies listed in order of relative a                 | abundance.  |  |  |  |  |  |  |  |
| a Fraxinus penns                    | sylvanica  | c   |  |  |  |  |  |  |  |
| b Acer saccharin                    | num  | d   |  |  |  |  |  |  |  |
| Dominant <b>Tree</b> Spe            | ecies listed in order of relative ab                 | oundance.   |  |  |  |  |  |  |  |
| a Acer saccharin                    | num  | c Platanus occidentalis   |  |  |  |  |  |  |  |
| b Fraxinus penns                    |  | d   |  |  |  |  |  |  |  |
|                                     | dbh) present: X yes                                  | seldom touching X often touching More or less closed  no  what adds to or detracts from the quality of this wetland site).  |  |  |  |  |  |  |  |
| other remarks (IIIC                 | nade personal comments about                         | what adds to or detracts from the quality of this wetland site).  |  |  |  |  |  |  |  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| Harber non-good plants  |  |
|---|--|
| Herbs: non-seed plants  | Herbs: wide-leafed monocots  |
| horsetail, scouring rush spp. (Equisetum) 2                     | *arrow arum (Peltandra virginica, N) 6   |
| *ferns: marsh shield fern spp. (Dryopteris) 7                   | arrow-head spp. (Sagittaria) 4   |
| *cinnamon fern (Osmunda cinnamomea) 9                           | *green dragon (Arisaema dracontium) 6  |
| *royal fern (Osmunda regalis) 8                                 | Jack-in-the-pulpit (Arisaema triphyllum) 4   |
| sensitive fern (Onoclea sensibilis) 4                           | pickerel weed (Pontederia cordata, N) 5  |
| *other: species (if known)                                      | *skunk cabbage (Symplocarpus foetidus) 8   |
| marsh club moss (Selaginella apoda) 4                           | *water arum (Calla palustris, N) 10  |
| *Sphagnum moss spp. (Sphagnum, N) 10                            | water plantain (Alisma plantago-aquat.) 2  |
| Herbs: Ivs. floating or submergent                              | Herbs: dicots - Ivs. opposite/whorled  |
| *bladderwort spp. (Utricularia, N) 10                           | *bedstraw spp. (Galium) 6  |
| coontail (Ceratophyllum demersum, N) 1                          | beggar's tick spp. (Bidens) 3  |
| duckweed spp. (Lemnaceae) 3                                     | blue vervain (Verbena hastata) 3   |
| *pondweed spp. (Potamogeton) 8 (except 0 for                    | boneset (Eupatorium perfoliatum) 4   |
| introduced P. crispus)  | bugleweed spp. (Lycopus) 5   |
| *water lily (Nymphaea tuberosa, N) 6                            | clearweed spp. (Pilea) 3   |
| water shield (Brasenia schreberi, N) 4                          | cup plant (Silphium perfoliatum) 4   |
| *yellow spatterdock spp. (Nuphar) 6                             | false nettle (Roehmeria cylindrica) 3  |
|   | *fen heteny (Padicularis lanceolata) 6   |
| Herbs: insectivorous plants                                     | false nettle (Boehmeria cylindrica) 3  *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8 |
| *pitcher plant (Sarracenia purpurea,N) 10                       | giant regueed (Ambrosis trifide) 0   |
| *sundew spp. (Drosera, N) 10                                    | giant ragweed (Ambrosia trifida) 0   |
|   | Indian hemp (Apocynum cannabinum) 2  |
| Herbs: linear-lvs. or leafless ± monocots                       | Joe-pye weed spp. (Eupatorium) 5   |
| *beak rush spp. <i>(Rhynchospora,</i> N) 10                     | *loosestrife spp. (Lysimachia) 6   |
| blueflag iris (Iris virginica) 5                                | meadow beauty (Rhexia virginica) 5   |
| bulrush spp. (Scirpus / Schoenoplectus) 5                       | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  |
| *bur reed spp. (Sparganium) 9                                   | moneywort (Lysimachia nummularia) 0  |
| cat-tail spp. <i>(Typha)</i> 1                                  | monkey flower spp. (Mimulus) 4   |
| *cotton grass spp. (Eriophorum, N) 10                           | nettle (Urtica pro cera) 1   |
| Grasses (family Gramineae) - indicate types & number of species | purple loosestrife (Lythrum salicaria) 0   |
| a. *wild rice (Zizania aquatica, N) 10                          | *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8  |
| 1 b. most native perennial grass spp. 4: e.g.                   | *St. John's wort spp.(Hypericum/Triandeum)8  |
| cut-grass, manna-g, Canada bluejoint, foxtail                   | sunflower spp. (Helianthus) 4  |
| [Alopecurus]; other   | *swamp loosestrife (Decodon verticillatus, N) 8  |
| c. introduced grass spp. 0: reed canary                         | swamp milkweed (Asclepias incarnata) 4   |
| grass [Phalaris], reed [Phragmites], annual                     | toothcup spp. <i>(Ammania &amp; Rotala) 2</i>  |
| grasses such as annual foxtail [Setaria] &                      | *turtlehead spp. (Chelone) 8   |
| barnyard grass Echinochloa                                      | virgin's bower (vine) (Clematis virginiana) 3  |
| needle sedge spp. (Eleocharis) sp.1 =2                          | water puslane (Ludwigia palustris) 3   |
| *additional=8   | winged loosestrife (Lythrum alatum) 5  |
| nutsedge spp. (Cyperus) 2                                       | <del></del>  |
|   | Herbs: (vines): dicots - Ivs. alternate or basal   |
| *orchid spp.: species (if known)                                | and simple   |
| rush spp. (Juncus) 4  | Amer. bellflower (Campanula americana) 4   |
| 1 sedge spp. (Carex) sp.1=3 *additional=7                       | *asters: bristly aster (Aster puniceus) 7  |
| *spiderlily (Hymenocallis occidentalis) 9                       | *flat-topped aster (A. umbellatus) 8   |
| sweet flag (Acorus calamus) 0                                   | other aster spp. (e.g. New Engl, panicled-a) 3   |
| *3-way sedge (Dulichium arundinaceum) 10                        | *black-eyed Susan (Rudbeckia fulgida) 8  |
| *twig rush (Cladium mariscoides, N) 10                          | cardinal flower (Lobelia cardinalis) 4   |
| *umbrella sedge (Fuirena squarrosa, N) 10                       | · · · · · · · · · · · · · · · · · · ·  |
| wild hyacinth (Camassia scilloides) 5                           | InWrap, Terg revised June 2005   |

\*yellow-eyed grass (Xyris torta, N) 9

|       | (O  | Observing the alternate  |
|-------|---|--|
|       | cress spp. (Cardamine) 4  | Shrubs - Ivs. alternate  |
|       | dock spp.: swamp-, water-, pale- (Rumex) 4  | *cranberry spp. (Vaccinium, N) 10  |
|       | garlic mustard (Alliaria petio/ata) 0   | *dwarf birch (Betula pumila, N) 10   |
|       | golden ragwort (Senecio aureus) 4   | *high bush blueberry (V. corymbosum, N) 9  |
|       | _ *goldenrod spp. <i>(Solidago ohioensis, S.</i>  | *leatherleaf (Chamaedaphne calycul., N) 10   |
|       | patula, S. riddellil) 9   | meadowsweet & hardhack spp.(Spiraea) 4   |
|       | *grass of Parnassus (Parnassia glauca) 10   | *ninebark (Physocarpus opulifoius) 7   |
|       | *Indian plantain (Cacalia plantaginea) 10   | *shrubby cinquefoil (Potentilla fruticosa) 9   |
|       | ironweed spp. (Vernonia) 4  | spice bush (Lindera benzoin) 5   |
| X     | jewelweed, touch-me-not spp. (Impatiens) 3  | *swamp dewberry (Rubus hispidus) 6   |
|       | lizard's tail (Saururus cernuus) 4  | *swamp holly & winterberry (/lex spp.) 7   |
|       | lobelia spp. (Lobelia) 4  | swamp rose (Rosa palustris) 5  |
|       | *marsh marigold (Caltha palustris) 7  |  |
|       | *moonseed (vine) (Menispermum canadense) 6  | Trees - Ivs. needle shaped   |
|       | primrose-willow spp.(Epilobium &Ludwigia) 3   | *tamarack <i>(Larix laricina,</i> N) 10  |
|       | rose mallow spp. ( <i>Hibiscus</i> ) 4  |  |
|       | smartweed spp.: incl. jumpseed, pinkweed,   | Trees - Ivs. compound  |
|       | -   | *ash, black <i>(Fraxinus nigra) 7</i>  |
|       | tearthumb, water-pepper, water-sm.  | <b>X</b> ash, green (Fraxinus pensylvanica) 3  |
|       | (Polygonum) 4 [Except *for P. arifolium 10]   | *ash, pumpkin (Fraxinus tomentosa, SW) 8   |
|       | sneezeweed (Helenium autumnale) 3   | boxelder (Acer negundo) 1  |
|       | stinging nettle (Laportea canadensis) 2   | hickory, bitternut (Carya cordiformis) 5   |
|       | *swamp saxifrage (Saxifraga pa.) 10   | *hickory, shell bark (Carya laciniosa) 8   |
|       | *Virginia bluebells (Mertensia virginica) 6   | honey locust (Gleditsia triacanthos) 1   |
|       | waterhemp (Amaranthus tuberculatus) 1   | *poison sumac (Rhus vernix) 10   |
|       | wingstem (Actinomeris alternifolia) 3   | poison sumac (rands vernix) to   |
| compo | adicots - Ivs. basal or alternate and bund or deeply lobed aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6  *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrub | s - leaves opposite or whorled bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2  | OTHER  |
|       | elderberry (Sambucus) 2   | InWrap. Terg revised June 200  |

| Date Re                        | ort Generated: 10/14/2011   |   |  |  |  |
|--------------------------------|---|---|--|--|--|
| Wetland                        | site name: S5W065   |   |  |  |  |
| Data Re                        | erence #: 65  |   |  |  |  |
| Date of Site Visit: 10/13/2011 |   |   |  |  |  |
| NWI po                         | gons in Site (quadrangle and NWI id. numbers: Bloomington                                     |   |  |  |  |
|                                |   |   |  |  |  |
| TIER 1                         | UMMARY:   |   |  |  |  |
| a.                             | Total wetland area (hectares): 0.29 (0.71 acre)   |   |  |  |  |
| b.                             | Wetland size and connectivity – contribution to animal habitat:                               |   |  |  |  |
|                                |   |   |  |  |  |
| C.                             | Surrounding land use – numerical rank (max. = 1): 0.5   |   |  |  |  |
| d.                             | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                    |   |  |  |  |
| TIER 2                         | SUMMARY: NWI Polygon Id. 65   |   |  |  |  |
| a.                             | Indiana Wetland community type: Swamp Forest  |   |  |  |  |
| b.                             | Standing water – contribution to animal habitat:   Valuable Favorable Neutral                 | _ |  |  |  |
| C.                             | Disturbances to site: None  |   |  |  |  |
| d.                             | Exotic species rating:  |   |  |  |  |
| e.                             | Special Hydrologic Conditions Observed: None  |   |  |  |  |
| f.                             | Special Community Type: None  |   |  |  |  |
| g.                             | Rare-Threatened-Endangered Species: None  |   |  |  |  |
| h.                             | Polygon Quality Description: Good Description Description                                     |   |  |  |  |
| TIED (                         |   |   |  |  |  |
|                                | A SUMMARY:  |   |  |  |  |
| a.                             | Dead woody material as indicator of animal habitat:   Valuable Favorable Neutral              |   |  |  |  |
| b.                             | Water quality protection – numerical rank (6 max): 5 Rating: ☐ Good ☐ Medium ☐ Poor           |   |  |  |  |
| C.                             | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor            |   |  |  |  |
| TIER 3                         | SSUMMARY:   |   |  |  |  |
| a.                             | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |   |  |  |  |
| b.                             | Stratification as indicator of animal habitat:   Valuable   Neutral                           |   |  |  |  |
| C.                             | Number of dominant plant taxa observed: 6 Rating: Good Medium Poor                            |   |  |  |  |
| d.                             | Average coefficient of conservatism: 2.8 Rating: Good Medium Poor                             |   |  |  |  |
| e.                             | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |   |  |  |  |
| f.                             | Mature trees as indicator of animal habitat:   Valuable   Favorable   Neutral                 |   |  |  |  |
| g.                             | Total hydrophytic taxa observed: 14 Rating: ☐ Good ☐ Medium ☒ Poor                            |   |  |  |  |
| h.                             | Number of indicator taxa 2 Rating: ☐ Good ☐ Medium ☒ Poor                                     |   |  |  |  |
|                                |   |   |  |  |  |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W065

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W06   | 5  |   |   |                  |                   |   |
|--|--|---|---|------------------|-------------------|---|
| Ownership (if known):  |  |   |   |                  |                   |   |
| USGS Topographic Quadrang  | gle(s): Blooming   | ton   |   |                  |                   |   |
| USGS Watershed map 14-Dig  | git HUC: Bean B  | lossom Creek-B  | uck Creek/Muddy   | Fork 0512020     | 2010060           |   |
|  |  |   |   |                  |                   |   |
| Identify each NWI Polygon with NWI Polygon ID Number   | in the Wetland Site  | e (Polygon spec<br>I  | ific data)  |                  |                   | 1 |
| Cowardin Classification  | PFO1A  |   |   |                  |                   |   |
| Polygon Size (hectares)  | 0.29 (0.71 acre)   |   |   |                  |                   |   |
| NWI Polygon ID Number  | -  | I   |   |                  |                   | 1 |
| Cowardin Classification  |  |   |   |                  |                   |   |
| Polygon Size (hectares)  |  |   |   |                  |                   |   |
| 1.2 Site Visit:  Team Members: K. Schroed  Agency: INDOT   | der & D. White   |   |   |                  |                   |   |
|  | 4  | Time  | 2222222di 0:454   |                  |                   |   |
|  |  |   | assessed: 9:45a   | 4111             |                   |   |
| Weather conditions: Over   | cast, approx. 70F,   | light rain  |   |                  |                   |   |
| recent heavy rains, an unusual   | iy dry season, an e  | especially early s  | spring, etc.):  |                  |                   |   |
| 1.3 Wetland Size:  |  |   |   |                  |                   |   |
| 1.3 Wetland Size: Size of site under assessmen   | t: 0.29 hectare  | (0.71 acre)   |   |                  |                   |   |
|  |  | ,   | 0.29 hectare  | (0.71 acre)      |                   |   |
| Size of site under assessmen   | (all continuous we wetlands or wetlands or wetlands ostream and downed upstream with a downstream with the continuous wetlands of the continuous wetlands or wetlands or wetlands of the continuous wetlands or we | tland polygons): d complexes: stream with other other wetlands                                    | er wetlands<br>s  | (0.71 acre)      |                   |   |
| Size of site under assessmen Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other of the site is connected up  The site is only connected in the site is only connected.  Other wetlands are near  | (all continuous we wetlands or wetlands or wetlands ostream and downed upstream with ded downstream without within 0.25 mileted  | tland polygons): d complexes: stream with othe other wetlands th other wetland                    | er wetlands<br>s<br>ected   |                  | er of the wetland |   |
| Size of site under assessmen Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other of the site is connected up  The site is only connected.  The site is only connected.  Other wetlands are neated.  The wetland site is isolated.  (General assessment of adjaces.)   | (all continuous we wetlands or wetlands or wetlands ostream and downed upstream with one downstream without the work (within 0.25 minuted ent land use / land of each type):   | tland polygons): d complexes: stream with othe other wetlands th other wetland                    | er wetlands<br>s<br>ected<br>a within 50 meter                                  |                  |                   |   |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other of the site is connected up the site is only connected.  The site is only connected.  Other wetlands are nead.  The wetland site is isolated (General assessment of adjaces site (indicate the % abundance).  | (all continuous we wetlands or wetlands or wetlands ostream and down ed upstream with one downstream without the continuous of each type):   | tland polygons): d complexes: stream with other other wetlands th other wetland le) but not conne | er wetlands<br>s<br>ected<br>a within 50 meter                                  | s of the perimet |                   |   |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected.  The site is only connected.  Other wetlands are nead.  The wetland site is isolated (General assessment of adjaces site (indicate the % abundance).  Native Vegetation - wood.                    | (all continuous we wetlands or wetlands or wetlands ostream and down ed upstream with one downstream without the continuous of each type):   | tland polygons): d complexes: stream with other other wetlands th other wetland le) but not conne | er wetlands s ected a within 50 meter _ Road / highwa                           | s of the perimet |                   |   |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected up The site is only connected. The site is only connected. Other wetlands are near the wetland site is isolated.  (General assessment of adjaces site (indicate the % abundance) Native Vegetation - wood. Native Vegetation - old. | (all continuous we wetlands or wetlands or wetlands ostream and down ed upstream with one downstream without the continuous of each type):   | tland polygons): d complexes: stream with other other wetlands th other wetland le) but not conne | er wetlands s ected a within 50 meter Road / highway Industrial Residential – s | s of the perimet | parking lot       |   |

|                 | Polygon #<br>de on page (       | 65<br>one)   |                | Data Refere     | nce #     | S5W065                   | InV                 | VRAP, TERG May 2000 |
|-----------------|---------------------------------|--|----------------|-----------------|-----------|--------------------------|---------------------|---------------------|
| Tier 2 in the w |                                 | al Polygon: Prel   | iminary A      | ssessment       | (to be o  | completed on-sit         | e for <u>each</u> l | NWI polygon present |
| 2.1 Wet         | _ Depress                       | norphic Setting and ional (within the river/stre                       | Slope          | ater Flow (ch   |           | <b>e):</b><br>oodplain _ | L                   | acustrine           |
| 2.2 Pre         | sence of S                      | tanding Water:   |                |                 |           |                          |                     |                     |
| •               | <ul> <li>If standing</li> </ul> | normally present in t<br>water is present, is<br>normally present in a | the water gr   | eater than 2 m  |           | depth? No                |                     |                     |
| 2.3 App         | parent Hyd                      | roperiod (check on   | e):            |                 |           |                          |                     |                     |
|                 | Permanentl                      |  |                |                 | _ Artific | cially Flooded           |                     |                     |
|                 | Seasonally<br>Saturated (       | Flooded<br>surface water seldon  | n present)     |                 | _ Artific | cially Drained           |                     |                     |
| 2.4 Soil        |                                 | (i.e. peat, etc.)  | X              | Mineral         |           | Both                     | Mineral and         | l Organic Present   |
| 2.6 Dis         | p Forest turbances Ditching     | of Hydrology (chec   | k all that ap  |                 | ulvert    |                          |                     |                     |
|                 | Tiles<br>Dams                   |  |                | 0               | ther Hu   | ıman Disturband          | ces to the H        | ydrology (explain): |
|                 | Road or Ra                      | ilroad Embankment  |                |                 |           |                          |                     |                     |
| 2.7 Pre         | sence of In                     | vasive Exotics (Sc   | ore as: S = \$ | Scattered, F =  | Frequ     | ent, or C = Com          | nmon):              |                     |
|                 | Garlic Must                     | ard  | G              | lossy Buckthorn | l         |                          |                     |                     |
|                 | Phragmities                     | 3  | R              | eed canary gras | SS        |                          |                     |                     |
|                 | Purple loos                     | estrife  | 0              | ther (list):    |           |                          |                     |                     |
| 2.8 Pre         | sence of S                      | pecial Hydrologic (  | Conditions (   | i.e. seeps, we  | t slope   | s, floating mat)         | ):                  |                     |
| 2.9 Pre         | sence of S                      | pecial Community F   | Types:         |                 | We        | et Sand / Muck F         | -<br>lats or Mar    | i Seeps             |
| 2.10 Pr         | esence of                       | Known Federal or I   | ndiana Rare    | , Threatened    | or End    | angered Specie           | es:                 |                     |
| Χ               | _ None ob                       | served or known to bresent (list)                                      |                |                 |           | - ·                      |                     |                     |
|                 | -                               | gon Quality Descri   | •              | Vetland Qualit  | -         | -                        | neck one):          |                     |
| <u> </u>        | Good                            |  | Medium         |                 | Po        | or                       |                     |                     |

| NW     | l Pa | olvo | on   | #     | 65 Data Reference # S5W065  |
|--------|------|------|------|-------|---|
|        |      |      |      |       | al Polygon: Rapid Hydrology Indicators  |
|        |      |      |      |       |   |
|        |      |      |      |       | res that influence water quality and hydrology:   |
| Estir  | nate | ed r | nerb | aceo  | ous plant cover (percentage) in the polygon 100-75 75-50 _X 50-25 <25   |
| Estir  | nate | ed v | voo  | dy pl | ant foliar cover in the polygon 100-75 _X _75-50 50-25 <25  |
| Amo    | unt  | of ( | dea  | ow b  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers)   |
| 3a.2 \ | Wat  | ter  | Qua  | lity  | Protection Questions:   |
| 1.     | X    | Y    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.     | X    | Y    |      | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.    | Χ    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.     | Χ    | Y    |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.     |      | Y    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.     | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|        |      |      |      |       | Average width of buffer area (in meters) 20 Approximate slope (percent) 1-2   |
| 3a.3 l | Flo  | od a | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.    | X    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.     | Х    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.     | Χ    | Y    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

X Y

**X Y** 

Ν

5.

| NWI Polygon #  | 65  | Data Reference # S5W065   |
|--|---|---|
| Tier 3b Individu   | al Polygon: Rapid Veget                                       | ation Description   |
| <b>3b.1 Zonation and</b> 1. How many                         | Interspersion: / vegetation zones are evident in              | n this wetland polygon? 1   |
| ·  | vegetation zone is evident, whi                               |   |
| X  | _   | c of small vegetation patches, hummocks, or tussocks;                                       |
|  | •   | vegetation type with more or less uniform texture across the                                |
|  | one vegetation zone is present on of these zones?             | in the polygon, which interspersion diagram most closely represents                         |
| Туре   | One Interspersion   | Type Two Interspersion  |
|  |   |   |
| 3b.2 Dominant Pla  | nt Species: Vegetation zone A                                 | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)             |
| What % of the polyc  | on does this vegetative zone or                               |   |
|  | ·   | 50 – 75% 75 – 90% _X >90%   |
| Is there notable lave  | ering/stratification in this vegetat                          |   |
|  | ous Species (i.e. covering more sthat forms extensive monocul | e than 10% of the area) listed in order of relative abundance. (Mark tural patches).  d e f |
|  | pecies listed in order of relative a                          |   |
| <ul><li>a Acer saccharin</li><li>b Lindera benzoi</li></ul>  |   | c <i>Juglans nigra</i><br>d   |
| Dominant <b>Tree</b> Spe                                     | cies listed in order of relative ab                           | oundance.   |
| <ul><li>a Acer saccharin</li><li>b Platanus occide</li></ul> |   | cd  |
| Tree & shrub canop   |   |   |
| Mature trees (>12" of  | dbh) present:xyes   | no  |
| Other remarks (inc   | lude personal comments about                                  | what adds to or detracts from the quality of this wetland site).                            |

\* = species with high conservationism

(N = northern Indiana)

\*yellow-eyed grass (Xyris torta, N) 9

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. SW = southwestern Indiana

*numbers* = *C-coefficients* 

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known)  | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4 *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8  |
|--|---|
| marsh club moss (Selaginella apoda) 4  *Sphagnum moss spp. (Sphagnum, N) 10  | *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2   |
| Herbs: Ivs. floating or submergent *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus) *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  Herbs: insectivorous plants *pitcher plant (Sarracenia purpurea, N) 10 *sundew spp. (Drosera, N) 10 | Herbs: dicots - Ivs. opposite/whorled  X *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 Clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3 *fen betony (Pedicularis lanceolata) 6 *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2   |
| Herbs: linear-lvs. or leafless ± monocots  | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 moneywort (Lysimachia nummularia) 0 monkey flower spp. (Mimulus) 4 nettle (Urtica pro cera) 1 purple loosestrife (Lythrum salicaria) 0 *richweed (Collinsonia canadensis) 8 *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4 *swamp loosestrife (Decodon verticillatus, N) 8 swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2 *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5 |
| nutsedge spp. (Cyperus) 2  *orchid spp.: species (if known)  rush spp. (Juncus) 4  2 sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9  sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10  | Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4 *asters: bristly aster (Aster puniceus) 7 *flat-topped aster (A. umbellatus) 8 other aster spp. (e.g. New Engl, panicled-a) 3 *black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4  |

| cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3  | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  X spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  |
|--|---|
| lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4  *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4  1 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10  *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1  | *swamp holly & winterberry (/lex spp.) 7 swamp rose (Rosa palustris) 5  Trees - Ivs. needle shaped  |
| wingstem (Actinomeris alternifolia) 3  Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  X swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5 | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5 X silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 X sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrubs - leaves opposite or whorled bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2  | OTHER <u>Juglans nigra (shrub)</u> InWrap, Terg revised June 2005   |

| Date Re                        | port Generated: 10/15/2011  |  |  |  |  |  |
|--------------------------------|---|--|--|--|--|--|
| Wetland                        | site name: S5W066   |  |  |  |  |  |
| Data Ref                       | erence #: 66  |  |  |  |  |  |
| Date of Site Visit: 10/14/2011 |   |  |  |  |  |  |
| NWI poly                       | VI polygons in Site (quadrangle and NWI id. numbers: Bloomington  |  |  |  |  |  |
|                                |   |  |  |  |  |  |
| TIER 1                         | SUMMARY:  |  |  |  |  |  |
| a.                             | Total wetland area (hectares): 0.06 (0.15 acre)   |  |  |  |  |  |
| b.                             | Wetland size and connectivity – contribution to animal habitat:   |  |  |  |  |  |
|                                |   |  |  |  |  |  |
| C.                             | Surrounding land use – numerical rank (max. = 1): 0.5   |  |  |  |  |  |
| d.                             | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low  |  |  |  |  |  |
| TIER 2                         | SUMMARY: NWI Polygon Id. 66   |  |  |  |  |  |
| a.                             | Indiana Wetland community type: Seasonally Flooded Basin  |  |  |  |  |  |
| b.                             | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral   |  |  |  |  |  |
| c.                             | Disturbances to site: Road/Railroad Embankment  |  |  |  |  |  |
| d.                             | Exotic species rating:  |  |  |  |  |  |
| e.                             | Special Hydrologic Conditions Observed: None  |  |  |  |  |  |
| f.                             | Special Community Type: None  |  |  |  |  |  |
| g.                             | Rare-Threatened-Endangered Species: None  |  |  |  |  |  |
| h.                             | Polygon Quality Description: Good Medium Poor   |  |  |  |  |  |
|                                |   |  |  |  |  |  |
| TIER 3                         | A SUMMARY:  |  |  |  |  |  |
| a.                             | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral  |  |  |  |  |  |
| b.                             | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☑ Medium ☐ Poor   |  |  |  |  |  |
| C.                             | Flood and storm water storage – numerical rank (5 max): Rating: \( \subseteq \text{Good} \) \( \subseteq \text{Medium} \) \( \subseteq \text{Poor} \) |  |  |  |  |  |
|                                |   |  |  |  |  |  |
| TIER 3                         | B SUMMARY:  |  |  |  |  |  |
| a.                             | Zonation and interspersion as indicator of animal habitat:  |  |  |  |  |  |
| b.                             | Stratification as indicator of animal habitat:   Valuable   Neutral   |  |  |  |  |  |
| C.                             | Number of dominant plant taxa observed: 1 Rating: ☐ Good ☐ Medium ☒ Poor  |  |  |  |  |  |
| d.                             | Average coefficient of conservatism: 5 Rating: Sood Medium Poor   |  |  |  |  |  |
| e.                             | Tree canopy as indicator of animal habitat:   Valuable   Neutral  |  |  |  |  |  |
| f.                             | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral   |  |  |  |  |  |
| g.                             | Total hydrophytic taxa observed: 5 Rating: ☐ Good ☐ Medium ☒ Poor   |  |  |  |  |  |
| h.                             | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor   |  |  |  |  |  |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W066

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W0  | 66   |  |  |                  |                 |                   |
|--|--|--|--|------------------|-----------------|-------------------|
| Ownership (if known):  |  |  |  |                  |                 |                   |
| USGS Topographic Quadrar   | ngle(s): Blooming  | iton   |  |                  |                 |                   |
| USGS Watershed map 14-D  | igit HUC: Bean B   | lossom Creek-S   | tout Creek 051   | 20202010080      |                 |                   |
| Identify each NIVII Dalygon wit  | thin the Wetland Sit   | o (Dolygon ango  | fic data)  |                  |                 |                   |
| Identify each NWI Polygon wit NWI Polygon ID Number  | 66   | e (Polygon speci   | lic data)  |                  |                 |                   |
| Cowardin Classification  | PEMH   |  |  |                  |                 |                   |
| Polygon Size (hectares)  | 0.06 (0.15 acre)   |  |  |                  |                 |                   |
| NWI Polygon ID Number  |  |  |  |                  |                 |                   |
| Cowardin Classification  |  |  |  |                  |                 |                   |
| Polygon Size (hectares)  |  |  |  |                  |                 |                   |
| 1.2 Site Visit:  |  |  |  |                  |                 |                   |
| Team Members: K. Schroe  | eder & D. White  |  |  |                  |                 |                   |
| Agency: INDOT  |  |  |  |                  |                 |                   |
| Date assessed: 10/14/20  | 11   | Time a   | ssessed: 10:3  | 0 am             |                 |                   |
| Weather conditions: 60°F   | =  |  |  |                  |                 |                   |
| Note any unusual weather ev  | anta that may have   | influenced the   | urrant aanditian   | o within this wa | stland avetam   | /o. a             |
|  | enis mai may nave  | iniluencea the c   | arrent condition:  | s wiinin inis we | anano system    | ( <del>e</del> () |
| •  | ,  | especially early s   |  |                  | Juliana System  | (0.9.             |
| recent heavy rains, an unusua  | ,  | especially early s   |  |                  | and Gyotom      | (O.g.             |
| recent heavy rains, an unusua  | ,  | especially early s   |  |                  |                 | (0.9.             |
| 1.3 Wetland Size:  | ally dry season, an e  |  |  |                  | The system      | (0.9.             |
| 1.3 Wetland Size: Size of site under assessment  | ally dry season, an e  | e)   | pring, etc.):  |                  | Table System    | (0.9.             |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  | ally dry season, an e  | e)   |  |                  | nana ayatanı    | (0.9.             |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complete.  1.4 Site Setting:   | ally dry season, an entry and the season and the se | etland polygons):  | pring, etc.):  |                  | nana ayatanı    | (0.9.             |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland completed.  1.4 Site Setting: Degree of isolation from other   | nt: 0.06 (0.15 acre  x (all continuous we wetlands or wetlands   | etland polygons): d complexes:   | pring, etc.):  |                  | Talle System    | (0.9.             |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complete.  1.4 Site Setting: Degree of isolation from other X The site is connected to the size of the size of total wetland.  | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan  upstream and down   | etland polygons): d complexes: stream with othe  | pring, etc.):  |                  | Talle System    |                   |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex.  1.4 Site Setting: Degree of isolation from other X The site is connected to The site is only connected.  | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan  upstream and down  cted upstream with o   | etland polygons): d complexes: stream with othe  | pring, etc.):  |                  | Tank System     |                   |
| 1.3 Wetland Size:  Size of site under assessment Size of total wetland completed.  1.4 Site Setting:  Degree of isolation from other X The site is connected with the site is only connected.  The site is only connected.   | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan  upstream and down  cted upstream with o   | etland polygons): d complexes: stream with othe other wetlands   | pring, etc.):  0.06 (0.15 acr r wetlands                                       |                  |                 |                   |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland completed in the site is connected in the site is only connected.  The site is only connected in the site is only connected.  Other wetlands are near  | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan upstream and down cted upstream with o cted downstream wi arby (within 0.25 mi   | etland polygons): d complexes: stream with othe other wetlands   | pring, etc.):  0.06 (0.15 acr r wetlands                                       |                  |                 |                   |
| 1.3 Wetland Size:  Size of site under assessment Size of total wetland completed.  1.4 Site Setting:  Degree of isolation from other X The site is connected with the site is only connected.  The site is only connected.   | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan upstream and down cted upstream with o cted downstream wi arby (within 0.25 mi   | etland polygons):  d complexes: stream with othe other wetlands  | pring, etc.):  0.06 (0.15 acr r wetlands                                       |                  |                 |                   |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland completed in the site is connected in the site is only connected.  The site is only connected in the site is only connected.  Other wetlands are near  | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan upstream and down cted upstream with o cted downstream wi arby (within 0.25 mi lated   | etland polygons): d complexes: stream with othe other wetlands th other wetlands le) but not conne       | pring, etc.):  0.06 (0.15 acr r wetlands                                       | re)              |                 |                   |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex.  1.4 Site Setting: Degree of isolation from other X The site is connected to The site is only connected to The wetlands are nected to The wetlands are nected to The wetlands are nected to The wetland site is isolated.   | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan  upstream and down  cted upstream with o  cted downstream wi  arby (within 0.25 mi  lated  cent land use / land e of each type):   | etland polygons): d complexes: stream with othe other wetlands th other wetlands le) but not conne       | pring, etc.):  0.06 (0.15 acr  r wetlands  cted  within 50 mete                | re)              | eter of the wet |                   |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex.  1.4 Site Setting: Degree of isolation from other X The site is connected to The site is only connected.  The site is only connected to The site is only connected.  Other wetlands are new The wetland site is isolation from other wetlands are new The wetlands are new The wetland site is isolatic (General assessment of adjaces site (indicate the % abundance)  | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan upstream and down cted upstream with o cted downstream wi arby (within 0.25 mi lated cent land use / land e of each type):   | etland polygons): d complexes: stream with other other wetlands th other wetlands le) but not connectors | pring, etc.):  0.06 (0.15 acr  r wetlands  cted  within 50 mete                | rs of the perime | eter of the wet |                   |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland completed in the site is connected in the site is only connected.  The site is only connected in the site is only connected.  The site is only connected in the site is only connected.  The site is only connected in the site is only connected.  The wetlands are near the wetlands are near the wetland site is isological site (indicate the % abundance to site (indicate the % abun | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan upstream and down cted upstream with o cted downstream wi arby (within 0.25 mi lated cent land use / land e of each type):   | etland polygons): d complexes: stream with other other wetlands th other wetlands le) but not connectors | pring, etc.):  0.06 (0.15 acr  r wetlands  cted  within 50 mete  Road / highwa | rs of the perime | eter of the wet |                   |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland completed in the site is connected in the site is only connected.  The site is only connected in the site is only connected.  The site is only connected in the site is only connected.  The site is only connected in the site is only connected.  The wetlands are near the wetlands are near the wetland site is isolated (indicate the % abundance site (indicate the %  | nt: 0.06 (0.15 acre  x (all continuous we  wetlands or wetlan upstream and down cted upstream with o cted downstream wi arby (within 0.25 mi lated cent land use / land e of each type):   | etland polygons): d complexes: stream with other other wetlands th other wetlands le) but not connectors | pring, etc.):  | rs of the perime | eter of the wet |                   |

|                    | Polygon #<br>able on page o            |                               |                        | _ Data Reference #     | S5W066                 | InWRAP, TERG May 2000               |
|--------------------|--|-------------------------------|------------------------|------------------------|------------------------|-------------------------------------|
| Tier               |  | •                             | eliminary A            | ssessment (to be o     | completed on-site      | for <u>each</u> NWI polygon present |
| 2.1 W              | etland Geon<br>Depress                 |                               | nd Surface. V<br>Slope | later Flow (check on   | <b>e):</b><br>podplain | Lacustrine                          |
|                    |  | (within the river/st          |                        | <u></u>                |                        |                                     |
| 2.2 Pr             | resence of S                           | tanding Water:                |                        |                        |                        |                                     |
| ls sta             | anding water                           | normally present ir           | the polygon?           | Yes                    |                        |                                     |
|                    | •                                      | • •                           |                        | eater than 2 meters in | depth? No              |                                     |
| ls sta             | _                                      | normally present ir           | _                      |                        | <u> </u>               |                                     |
| 2.3 A <sub> </sub> | pparent Hyd                            | roperiod (check o             | one):                  |                        |                        |                                     |
|                    | Permanent                              | y Flooded                     |                        | Artific                | cially Flooded         |                                     |
| Χ                  | Seasonally                             |                               |                        | ۸ سد:د:                | sially Drainad         |                                     |
| -                  | Saturated (                            | surface water seld            | om present)            | Aniio                  | cially Drained         |                                     |
| 2.4 Sc             | oil Type:                              |                               |                        |                        |                        |                                     |
|                    | Organic                                | (i.e. peat, etc.)             | X                      | Mineral                | Both M                 | lineral and Organic Present         |
|                    |  | ed Basin<br>of Hydrology (che | eck all that ap        |                        |                        |                                     |
|                    | Ditching                               |                               |                        | Culvert                |                        |                                     |
|                    | Tiles                                  |                               |                        | Other Hu               | ıman Disturbance       | s to the Hydrology (explain):       |
|                    | Dams                                   |                               |                        |                        |                        |                                     |
| <u>X</u>           | Road or Ra                             | ilroad Embankmer              | nt                     |                        |                        |                                     |
| 2.7 Pı             | resence of Ir                          | vasive Exotics (S             | Score as: S =          | Scattered, F = Frequ   | ent, or C = Comr       | mon):                               |
|                    | Garlic Must                            | ard                           |                        | Blossy Buckthorn       |                        |                                     |
|                    | Phragmities                            |                               | F                      | Reed canary grass      |                        |                                     |
|                    | Purple loos                            | estrife                       |                        | Other (list):          |                        |                                     |
| 2.8 Pr             | resence of S                           | pecial Hydrologic             | : Conditions           | i.e. seeps, wet slope  | s, floating mat):      |                                     |
| Non                | е                                      |                               |                        |                        |                        |                                     |
| 2 0 D.             | ······································ | nasial Cammunit               | Tumaa.                 |                        |                        |                                     |
| 2.9 PI             | Bog                                    | pecial Communit               |                        | \//                    | et Sand / Muck Fl      | ats or Mari Seeps                   |
|                    | bog                                    |                               | Fen                    |                        | ot Garia / Widek Fl    | ato of Ivian Occps                  |
| 2.10 F             | Presence of                            | Known Federal o               | r Indiana Rare         | e, Threatened or End   | angered Species        | S:                                  |
| Х                  | None ob                                | served or known to            | o be present           |                        |                        |                                     |
|                    |  | resent (list)                 |                        |                        |                        |                                     |
| 2 11 \             | Wetland Poly                           | rgon Quality Desc             | crintor (see: I        | Wetland Quality Desc   | crintions and che      | eck one).                           |
|                    | Good                                   | X                             | Medium                 | Po                     | -                      | <b></b>                             |

| NWI    | Po   | olyg | on   | #     | Data Reference # S5W066   |
|--------|------|------|------|-------|---|
| Tier   | 3a   | In   | div  | idua  | al Polygon: Rapid Hydrology Indicators  |
| 3a.1 I | Not  | abl  | e Fe | eatui | res that influence water quality and hydrology:   |
| Estin  | nate | ed h | nerb | aced  | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |
| Estin  | nate | ed v | voo  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _X <25   |
| Amo    | unt  | of ( | dead | d wo  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |
| 3a.2 \ | Nat  | er   | Qua  | lity  | Protection Questions:   |
| 1.     | Χ    | Υ    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.     |      | Y    | Χ    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.    | Χ    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.     |      | Υ    | Χ    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.     |      | Y    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.     | X    | Υ    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|        |      |      |      |       | Average width of buffer area (in meters) 1-5 Approximate slope (percent) 1-2  |
| 3a.3 I | Floo | od a | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.    |      | Υ    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.    | X    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.     | X    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.     | Χ    | Υ    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

impermeable, or is bedrock within two feet of the top of the soil profile?

X Y

**X Y** 

Ν

5.

| NWI Polygon #                       | 66   | Data Reference   | ce # <u>S5W066</u>                                       |                       |
|-------------------------------------|--|--|--|-----------------------|
| Tier 3b Individu                    | ıal Polygon: Rapid \                         | egetation Description                                      |  |                       |
| <b>3b.1 Zonation and</b> 1. How man | -  | vident in this wetland polygon?                            | 1  |                       |
| 1b. If only one                     | e vegetation zone is evide                   | ent, which best describes the site                         |  |                       |
| X                                   | Polygon composed of a heterogeneous textures | mosaic of small vegetation pate across the polygon.        | ches, hummocks, or tus                                   | socks;                |
|                                     | Polygon composed of a polygon.               | single vegetation type with more                           | e or less uniform texture                                | e across the          |
|                                     |  | present in the polygon, which into                         | erspersion diagram mos                                   | st closely represents |
|                                     | e One Interspersion                          |  | Type Two Intersp   | ersion                |
| (                                   |  |  |  |                       |
| 3b.2 Dominant Pla                   | nt Species: Vegetation :                     | Р  | Observation Poir hoto number(s) : V-mark location on the |                       |
| What % of the poly                  | gon does this vegetative z                   | •  | . V mark loodion on the                                  | , rever polygon,      |
|                                     | =  | 50 – 75%   | 75 – 90%   | X >90%                |
| Is there notable laye               | ering/stratification in this v               | egetation zone? no   |  |                       |
|                                     | es that forms extensive m                    | ng more than 10% of the area) onocultural patches).  d e f |  | ve abundance. (Mark   |
|                                     |  |  |  |                       |
| Dominant <b>Shrub</b> Sp            | pecies listed in order of re                 | lative abundance.  |  |                       |
|                                     |  |  |  |                       |
| b                                   |  | d  |  |                       |
| Dominant <b>Tree</b> Spe            | cies listed in order of rela                 | tive abundance.  |  |                       |
| -                                   |  |  |  |                       |
| b                                   |  | d  |  |                       |
| Tree & shrub canop                  | y: X nil se                                  | parate, seldom touching                                    | often touching   | More or less closed   |
| Mature trees (>12"                  | dbh) present:                                | _ yesX _ no  |  |                       |
| Other remarks (inc                  | lude personal comments                       | about what adds to or detracts f                           | from the quality of this v                               | vetland site).        |

\*yellow-eyed grass (Xyris torta, N) 9

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10 | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5  *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10 |
|--|---|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3   | water plantain (Alisma plantago-aquat.) 2  Herbs: dicots - Ivs. opposite/whorled  |
| *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus)  *water lily (Nymphaea tuberosa, N) 6  water shield (Brasenia schreberi, N) 4  *yellow spatterdock spp. (Nuphar) 6   | boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3   |
| Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10  *sundew spp. (Drosera, N) 10   | *fen betony (Pedicularis lanceolata) 6 *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2   |
| Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5   | Joe-pye weed spp. (Eupatorium) 5 *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5  |
| <ul> <li>bulrush spp. (Scirpus / Schoenoplectus) 5</li> <li>*bur reed spp. (Sparganium) 9</li> <li>cat-tail spp. (Typha) 1</li> </ul>  | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 moneywort (Lysimachia nummularia) 0 monkey flower spp. (Mimulus) 4  |
| *cotton grass spp. ( <i>Eriophorum</i> , N) 10 Grasses (family <i>Gramineae</i> ) - indicate types & number of species   | nettle ( <i>Urtica pro cera</i> ) 1 purple loosestrife ( <i>Lythrum salicaria</i> ) 0 *richweed ( <i>Collinsonia canadensis</i> ) 8   |
| a. *wild rice (Zizania aquatica, N) 10 b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other   | *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4 *swamp loosestrife (Decodon verticillatus, N) 8 swamp milkweed (Asclepias incarnata) 4  |
| c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa] needle sedge spp. (Eleocharis) sp.1 =2 *additional=8  | toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8  virgin's bower (vine) (Clematis virginiana) 3  water puslane (Ludwigia palustris) 3  winged loosestrife (Lythrum alatum) 5  |
| nutsedge spp. (Cyperus) 2 *orchid spp.: species (if known)   | Herbs: (vines): dicots - lvs. alternate or basal and simple   |
| rush spp. (Juncus) 4 sedge spp. (Carex) sp.1=3 *additional=7 *spiderlily (Hymenocallis occidentalis) 9 sweet flag (Acorus calamus) 0 *3-way sedge (Dulichium arundinaceum) 10 *twig rush (Cladium mariscoides, N) 10   | Amer. bellflower (Campanula americana) 4  *asters: bristly aster (Aster puniceus) 7  *flat-topped aster (A. umbellatus) 8  other aster spp. (e.g. New Engl, panicled-a) 3  *black-eyed Susan (Rudbeckia fulgida) 8  cardinal flower (Lobelia cardinalis) 4  |
| *umbrella sedge (Fuirena squarrosa, N) 10  | InWran Terg revised June 2005   |

| dock s garlic golder *golder *grass *India ironwe jewelv lizard'   | spp. (Cardamine) 4 spp.: swamp-, water-, pale- (Rumex) 4 mustard (Alliaria petio/ata) 0 n ragwort (Senecio aureus) 4 enrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 s of Parnassus (Parnassia glauca) 10 n plantain (Cacalia plantaginea) 10 eed spp. (Vernonia) 4 weed, touch-me-not spp. (Impatiens) 3 s tail (Saururus cernuus) 4 a spp. (Lobelia) 4  | Shrubs | *cranberry spp. (Vaccinium, N) 10 *dwarf birch (Betula pumila, N) 10 *high bush blueberry (V. corymbosum, N) 9 *leatherleaf (Chamaedaphne calycul., N) 10 meadowsweet & hardhack spp.(Spiraea) 4 *ninebark (Physocarpus opulifoius) 7 *shrubby cinquefoil (Potentilla fruticosa) 9 spice bush (Lindera benzoin) 5 *swamp dewberry (Rubus hispidus) 6 *swamp holly & winterberry (/lex spp.) 7 swamp rose (Rosa palustris) 5  |
|--|--|--------|--|
| *moor primro rose r smart to ( sneez stingir *swan *Virgir water)  | ch marigold (Caltha palustris) 7 ch seed (vine) (Menispermum canadense) 6 ch see-willow spp. (Epilobium &Ludwigia) 3 ch mallow spp. (Hibiscus) 4 ch weed spp.: incl. jumpseed, pinkweed, ch earthumb, water-pepper, water-sm. ch polygonum) 4 [Except *for P. arifolium 10] ch weed (Helenium autumnale) 3 ch gn nettle (Laportea canadensis) 2 ch p saxifrage (Saxifraga pa.) 10 ch hemp (Amaranthus tuberculatus) 1  |        | Ivs. needle shaped *tamarack (Larix laricina, N) 10  Ivs. compound *ash, black (Fraxinus nigra) 7 ash, green (Fraxinus pensylvanica) 3 *ash, pumpkin (Fraxinus tomentosa, SW) 8 boxelder (Acer negundo) 1 hickory, bitternut (Carya cordiformis) 5 *hickory, shell bark (Carya laciniosa) 8 honey locust (Gleditsia triacanthos) 1 *poison sumac (Rhus vernix) 10  |
| Herbs: dicots compound or aven s *butte s chervi *cowb *great hog pe honev mead poisor *quee senna swam *swam aswam *swam tall co *wate water  Shrubs - leav | tem (Actinomeris alternifolia) 3  5 - Ivs. basal or alternate and redeeply lobed spp.: rough a., white a. (Geum) 2 stroup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 stl (Chaerophyllum procumbens) 3 stane (Oxypolis rigidior) 7 st angelica (Angelica atropurpurea) 6 stanut/gd. nut spp. (Amphicarpaea&Apios) 5 stanut/gd. nut spp. (Amphicarpaea&Apios) 5 stanut/gd. nut spp. (Thalictrum) 5 stanut/gd. nut spp. (Thalictrum) 5 stanut/gd. nut spp. (Thalictrum) 9 stanut/gd. nut spp. (Filipendula rubra) 9 stanut/gd. pagrimony (Agrimonia parviflora) 4 stanut/gd. pagrimony (Agrimonia parviflora) 4 stanut/gd. pagrimony (Agrimonia parviflora) 4 stanut/gd. pagrimony (Agrimonia parviflora) 3 stanut/gd. pagrimony (Cicuta) 7 stanut/gd. pagrimony (Sium suave) 5 stanut/gd. |        | red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  lvs. simple and alternate *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| bladde bucktl buttor dogwe *dogwe dogwe  | ernut (Staphylea trifolia) 5 norn spp. (Rhamnus cathar. & frangula) 0 n bush (Cepha/anthus occidentalis) 5 nood, red-osier (Cornus stolonifera) 4 yood, blue-fruited or silky Cornus obliqua) 7 nood, gray (C. racemosa) 2 noerry (Sambucus) 2   | OTHER  | InWrap, Terg revised June 200  |

| Date Report Generat |        | port Generated: 10/15/2011  |
|---------------------|--------|---|
| Wet                 | land s | site name: S5W068   |
| Data Reference #:   |        | erence #: 68  |
| Date of Site Visit: |        | Site Visit: 10/14/2011  |
| NWI                 | poly   | gons in Site (quadrangle and NWI id. numbers: Bloomington                                   |
|                     |        |   |
| TIEF                | R 1 S  | SUMMARY:  |
|                     | a.     | Total wetland area (hectares): 0.06 (0.16 acre)   |
|                     | b.     | Wetland size and connectivity – contribution to animal habitat:                             |
|                     |        | ☐ Valuable  |
|                     | C.     | Surrounding land use – numerical rank (max. = 1): 0.1                                       |
|                     | d.     | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                  |
| TIE                 | R 2    | SUMMARY: NWI Polygon Id. 68   |
|                     | a.     | Indiana Wetland community type: Wet meadow  |
|                     | b.     | Standing water – contribution to animal habitat:  |
|                     | c.     | Disturbances to site: Road/Railroad Embankment  |
|                     | d.     | Exotic species rating: Good Medium Poor   |
|                     | e.     | Special Hydrologic Conditions Observed: None  |
|                     | f.     | Special Community Type: None  |
|                     | g.     | Rare-Threatened-Endangered Species: None  |
|                     | h.     | Polygon Quality Description: Good Medium Poor   |
| <b>T.</b>           | · D    | A OLUMBIA DV  |
| <i>     </i>        |        | A SUMMARY:  |
|                     | a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable Neutral            |
|                     | b.     | Water quality protection – numerical rank (6 max): 3 Rating: Good Medium Poor               |
|                     | C.     | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor          |
| TIE                 | R 3E   | B SUMMARY:  |
|                     | a.     | Zonation and interspersion as indicator of animal habitat: 🛛 Valuable 🔲 Favorable 🔲 Neutral |
|                     | b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                         |
|                     | C.     | Number of dominant plant taxa observed: 5 Rating: ☐ Good ☐ Medium ☐ Poor                    |
|                     | d.     | Average coefficient of conservatism: 1.8 Rating: Good Medium Poor                           |
|                     | e.     | Tree canopy as indicator of animal habitat:   Valuable   Neutral                            |
|                     | f.     | Mature trees as indicator of animal habitat:  |
|                     | g.     | Total hydrophytic taxa observed: 11 Rating: ☐ Good ☐ Medium ☒ Poor                          |
|                     | h.     | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                   |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W068

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W06  | 8  |   |                   |                       |                |  |  |
|---|--|---|-------------------|-----------------------|----------------|--|--|
| Ownership (if known):   |  |   |                   |                       |                |  |  |
| USGS Topographic Quadrangle(s): Bloomington   |  |   |                   |                       |                |  |  |
| USGS Watershed map 14-Dig   | git HUC: Bean B  | lossom Creek-S  | tout Creek 0512   | 0202010080            |                |  |  |
|   |  |   |                   |                       |                |  |  |
| Identify each NWI Polygon with NWI Polygon ID Number  | in the Wetland Sit   | e (Polygon spec<br>T                                    | ific data)        |                       |                |  |  |
| Cowardin Classification   | PEMA   |   |                   |                       |                |  |  |
| Polygon Size (hectares)   | 0.06 (0.16 acre)   |   |                   |                       |                |  |  |
| NWI Polygon ID Number   | I  | -   | -                 |                       |                |  |  |
| Cowardin Classification   |  |   |                   |                       |                |  |  |
| Polygon Size (hectares)   |  |   |                   |                       |                |  |  |
| 1.2 Site Visit:  Team Members: K. Schroed  Agency: INDOT  | der & D. White   |   |                   |                       |                |  |  |
| Date assessed: 10/14/2011   |  | Time  | assessed: 9:30    | am                    |                |  |  |
| Weather conditions: Sunny   |  |   |                   |                       |                |  |  |
| Note any unusual weather ever   |  |   |                   |                       |                |  |  |
| 1.3 Wetland Size:   | y dry season, an e   | especially early s                                      | spring, etc.):    |                       |                |  |  |
| Size of site under assessment   | : 0.06 hectare   | (0.16 acre)   |                   |                       |                |  |  |
| Size of total wetland complex   | (all continuous we   | tland polygons):  | 0.06 hectare      | (0.16 acre)           |                |  |  |
| 1.4 Site Setting:  Degree of isolation from other v  The site is connected up  The site is only connected  X The site is only connected  Other wetlands are near  The wetland site is isola | estream and down<br>ed upstream with o<br>ed downstream wi<br>by (within 0.25 mi | stream with other<br>other wetlands<br>th other wetland | s                 |                       |                |  |  |
| (General assessment of adjace   |  | cover in the era  | a within 50 mata  | re of the perimeter   | of the wetland |  |  |
| site (indicate the % abundance  |  | cover in the are  | a within 50 mete  | is of the perimeter ( | or the wettand |  |  |
| Native Vegetation - woo   | dland  | 50  | _ Road / highwa   | y / railroad bed / pa | arking lot     |  |  |
| Native Vegetation - old f   | field / scrub  |   | Industrial        |                       |                |  |  |
| 50 Agricultural- tilled   |  |   | _ Residential – s | single family         |                |  |  |
| Agricultural - pasture  |  |   | _ Commercial o    | r multifamily resider | ntial          |  |  |
| Recreation - green space  | e, mowed   |   |                   |                       |                |  |  |

| NWI Pol    | lygon #<br>on page o       |  |                        | Data Reference #                   | S5W068                 | InWRAP, TERG May 2000               |
|------------|----------------------------|--|------------------------|------------------------------------|------------------------|-------------------------------------|
| •          | ndividua                   | •                                      | eliminary A            | ssessment (to be o                 | completed on-site      | for <u>each</u> NWI polygon present |
| 2.1 Wetla  | ind Geom<br>Depression     |  | nd Surface. W<br>Slope | /ater Flow (check on               | <b>e):</b><br>podplain | Lacustrine                          |
|            | •                          | (within the river/s                    |                        | <del></del>                        | ·                      |                                     |
| 2.2 Prese  | ence of St                 | anding Water:                          |                        |                                    |                        |                                     |
| Is standii | ng water n                 | ormally present i                      | n the polygon?         | Yes                                |                        |                                     |
|            | _                          | water is present,<br>ormally present i | -                      | eater than 2 meters in oolygon? No | n depth? No            |                                     |
| 2.3 Appa   | rent Hydr                  | operiod (check                         | one):                  |                                    |                        |                                     |
|            | ermanently                 |  |                        | Artific                            | cially Flooded         |                                     |
|            | easonally F<br>aturated (s | Flooded<br>urface water seld           | lom present)           | Artific                            | cially Drained         |                                     |
| 2.4 Soil T |                            | :                                      | V                      | Minanal                            | Dath M                 | in and and Ornania Danasat          |
|            | Organic (                  | i.e. peat, etc.)                       | X                      | Mineral<br>—                       | Both IV                | lineral and Organic Present         |
| 2.5 Wetla  | nd Comm                    | nunity Type for t                      | his NWI polyg          | on (see Key to Wetla               | and Communities        | s of Indiana):                      |
| Wet Mea    | adow                       |  |                        |                                    |                        | •                                   |
| 2 6 Dietu  | *banasa a                  | of Lludralagu (ala                     | ook all that am        | amb da                             |                        |                                     |
|            | tching                     | of Hydrology (ch                       | eck all that ap        | Culvert                            |                        |                                     |
|            | les                        |  |                        |                                    | ıman Disturbanca       | s to the Hydrology (explain):       |
|            | ams                        |  |                        | Other no                           | illali Disturbance     | s to the rigurology (explain).      |
| X Ro       | oad or Rai                 | road Embankme                          | nt                     |                                    |                        |                                     |
| 2.7 Prese  | ence of Inv                | vasive Exotics (                       | Score as: S =          | Scattered, F = Frequ               | ent, or C = Comr       | non):                               |
|            | arlic Musta                |  |                        | Blossy Buckthorn                   |                        |                                     |
| Pł         | hragmities                 |  |                        | Reed canary grass                  |                        |                                     |
| Ρι         | ırple loose                | strife                                 | 0                      | Other (list):                      |                        |                                     |
| 2.8 Prese  | ence of Sp                 | ecial Hydrologi                        | c Conditions (         | i.e. seeps, wet slope              | es, floating mat):     |                                     |
|            |                            |  |                        |                                    |                        |                                     |
| 2.9 Prese  | ence of Sp                 | ecial Communi                          | ty Types:              |                                    |                        |                                     |
|            | Bog                        |  | Fen                    | We                                 | et Sand / Muck Fla     | ats or Mari Seeps                   |
| 2.10 Pres  | sence of K                 | ínown Federal o                        | r Indiana Rare         | e, Threatened or End               | angered Species        | <b>:</b>                            |
| X          |                            | served or known t                      |                        |                                    | -                      |                                     |
|            |                            | esent (list)                           | 1 - 22                 |                                    |                        |                                     |
| 2.11 Wetl  | land Poly                  | gon Quality Des                        | criptor (see: l        | Vetland Quality Desc               | criptions and che      | ck one):                            |
|            | Good                       | <u>X</u>                               | Medium                 | Po                                 | -                      | •                                   |

|        | _    |      |      | _     |   |
|--------|------|------|------|-------|---|
| NWI    |      |      |      | •     | 68 Data Reference # S5W068  |
| Tier   | 3a   | In   | vib  | idua  | al Polygon: Rapid Hydrology Indicators  |
| 3a.1 N | Not  | abl  | e Fe | eatui | res that influence water quality and hydrology:   |
| Estin  | nate | ed h | erb  | aced  | ous plant cover (percentage) in the polygon 100-75 _X_ 75-50 50-25 <25  |
| Estin  | nate | ed v | voo  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _X <25   |
| Amo    | unt  | of o | dead | ow b  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers)   |
| 3a.2 \ | Nat  | er ( | Qua  | lity  | Protection Questions:   |
| 1.     | Χ    | Υ    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.    | Χ    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.     |      | Y    | Χ    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.     |      | Y    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.     | X    | Υ    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|        |      |      |      |       | Average width of buffer area (in meters) 1-2 Approximate slope (percent) 1-5  |
| 3a.3 F | Floo | od a | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.    | Χ    | Υ    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.     | X    | Υ    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.     | Χ    | Υ    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

X Y

**X Y** 

Ν

5.

| NWI Polygon #                        | 68   | Data F   | Reference #      | S5W068   |                           |  |  |  |
|--------------------------------------|--|--|------------------|--|---------------------------|--|--|--|
| Tier 3b Individu                     | ıal Polygon: Rapi  | d Vegetation Descrip                               | tion             |  |                           |  |  |  |
| <b>3b.1 Zonation and</b> 1. How many |  | e evident in this wetland po                       | lygon? 1         |  |                           |  |  |  |
| 1b. If only one                      | 1b. If only one vegetation zone is evident, which best describes the site? |  |                  |  |                           |  |  |  |
| X                                    | - ' - '  | of a mosaic of small vegeta                        | tion patches, h  | nummocks, or tuss                                    | socks;                    |  |  |  |
|                                      | Polygon composed o   | of a single vegetation type v                      | with more or le  | ess uniform texture                                  | e across the              |  |  |  |
|                                      |  | is present in the polygon, w                       | hich intersper   | rsion diagram mos                                    | t closely represents      |  |  |  |
|                                      | e One Interspersion  |  | T                | Гуре Two Intersp                                     | ersion                    |  |  |  |
| (                                    |  |  |                  |  |                           |  |  |  |
| 3b.2 Dominant Pla                    | nt Species: Vegetati   | on zone A  |                  | Observation Poin<br>number(s)<br>ark location on the |                           |  |  |  |
| What % of the polyc                  | gon does this vegetati   | ve zone occupy?                                    | (110101 1 1110   |  | ····· polygon/            |  |  |  |
|                                      | 25 – 50 °  | • •  | %<br>            | 75 – 90%   | X >90%                    |  |  |  |
| Is there notable laye                | ering/stratification in th   | nis vegetation zone? No                            |                  |  |                           |  |  |  |
|                                      | es that forms extensive  | rering more than 10% of the monocultural patches). | ŕ                | in order of relativ                                  | e abundance. <b>(Mark</b> |  |  |  |
| b <i>Typha latifolia</i>             |  | e  | Polygonur        | m pensylvanicum                                      |                           |  |  |  |
| c Juncus effusus                     | 1  | f  |                  |  |                           |  |  |  |
| •                                    | pecies listed in order c   |  | ;                |  |                           |  |  |  |
|                                      |  |  | ı                |  |                           |  |  |  |
|                                      | cies listed in order of  | <u> </u>   | -                |  |                           |  |  |  |
| a                                    |  |  |                  |  |                           |  |  |  |
|                                      |  |  |                  |  |                           |  |  |  |
| Tree & shrub canop                   | y: <u>X</u> nil  | separate, seldom touching                          | g ofter          | n touching   | More or less closed       |  |  |  |
| Mature trees (>12"                   | dbh) present:  | yes X n  | 10               |  |                           |  |  |  |
| Other remarks (inc                   | lude personal comme  | ents about what adds to or c                       | letracts from th | he quality of this w                                 | retland site).            |  |  |  |

\*yellow-eyed grass (Xyris torta, N) 9

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10 | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5  *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2 |
|--|---|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus) *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6   | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4   |
| Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10  *sundew spp. (Drosera, N) 10   | false nettle (Boehmeria cylindrica) 3  *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8  giant ragweed (Ambrosia trifida) 0  Indian hemp (Apocynum cannabinum) 2   |
| Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5  1 bulrush spp. (Scirpus / Schoenoplectus) 5  *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1  *cotton grass spp. (Eriophorum, N) 10  | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species  a. *wild rice ( <i>Zizania aquatica</i> , N) 10  b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail  | purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8   |
| [Alopecurus]; other  1 c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa]  needle sedge spp. (Eleocharis) sp.1 =2  *additional=8   | swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2 *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5   |
| nutsedge spp. (Cyperus) 2  | Herbs: (vines): dicots - Ivs. alternate or basal  |
| *orchid spp.: species (if known) rush spp. (Juncus) 4 sedge spp. (Carex) sp.1=3 *additional=7 *spiderlily (Hymenocallis occidentalis) 9 sweet flag (Acorus calamus) 0 *3-way sedge (Dulichium arundinaceum) 10 *twig rush (Cladium mariscoides, N) 10 *umbrella sedge (Fuirena squarrosa, N) 10                                    | and simple Amer. bellflower (Campanula americana) 4  *asters: bristly aster (Aster puniceus) 7  *flat-topped aster (A. umbellatus) 8  1 other aster spp. (e.g. New Engl, panicled-a) 3  *black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4  |
| wild hyacinth (Camassia scilloides) 5  | InWran Tara ravised June 2005   |

|        | cress spp. (Cardamine) 4                       | Shrubs - Ivs. alternate  |
|--------|--|--|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4     | *cranberry spp. (Vaccinium, N) 10                                  |
|        | garlic mustard (Alliaria petio/ata) 0          | *dwarf birch (Betula pumila, N) 10                                 |
| -      | golden ragwort (Senecio aureus) 4              | *high bush blueberry (V. corymbosum, N) 9                          |
|        |  | *leatherleaf (Chamaedaphne calycul., N) 10                         |
| -      | *goldenrod spp. (Solidago ohioensis, S.        |  |
|        | patula, S. riddellil) 9                        | meadowsweet & hardhack <i>spp.(Spiraea)</i> 4                      |
|        | *grass of Parnassus (Parnassia glauca) 10      | *ninebark (Physocarpus opulifoius) 7                               |
|        | *Indian plantain (Cacalia plantaginea) 10      | *shrubby cinquefoil (Potentilla fruticosa) 9                       |
|        | ironweed spp. (Vernonia) 4                     | spice bush (Lindera benzoin) 5                                     |
| X      |  | *swamp dewberry (Rubus hispidus) 6                                 |
|        | lizard's tail (Saururus cernuus) 4             | *swamp holly & winterberry <i>(/lex</i> spp.) 7                    |
|        | lobelia spp. (Lobelia) 4                       | swamp rose (Rosa palustris) 5                                      |
|        | *marsh marigold (Caltha palustris) 7           |  |
| '      | *moonseed (vine) (Menispermum canadense) 6     | Trees - Ivs. needle shaped   |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3    | *tamarack <i>(Larix laricina,</i> N) 10                            |
|        | rose mallow spp. (Hibiscus) 4                  |  |
| 1      |  | Trees - Ivs. compound  |
|        | tearthumb, water-pepper, water-sm.             | *ash, black (Fraxinus nigra) 7                                     |
|        | (Polygonum) 4 [Except *for P. arifolium 10]    | ash, green (Fraxinus pensylvanica) 3                               |
|        | sneezeweed (Helenium autumnale) 3              | *ash, pumpkin (Fraxinus tomentosa, SW) 8 boxelder (Acer negundo) 1 |
|        | stinging nettle (Laportea canadensis) 2        | boxelder <i>(Acer negundo)</i> 1                                   |
|        | *swamp saxifrage (Saxifraga pa.) 10            | hickory, bitternut <i>(Carya cordiformis) 5</i>                    |
| -      | *Virginia bluebells (Mertensia virginica) 6    | *hickory, shell bark (Carya laciniosa) 8                           |
|        | . • • • • • • • • • • • • • • • • • • •        | honey locust (Gleditsia triacanthos) 1                             |
|        | waterhemp (Amaranthus tuberculatus) 1          | *poison sumac <i>(Rhus vernix)</i> 10                              |
| -      | wingstem (Actinomeris alternifolia) 3          |  |
| Herbs: | dicots - lvs. basal or alternate and           | Trees – Ivs. simple and opposite                                   |
|        | ound or deeply lobed                           | red maple (Acer rubrum) 5  |
| pc     | aven spp.: rough a., white a. (Geum) 2         | silver maple (A. saccharinum) 1                                    |
|        | *buttercup spp: e.g. cursed b., hooked b.,     | Turner than about and alternate                                    |
|        | swamp b. (Ranunculus) 6                        | Trees – Ivs. simple and alternate                                  |
|        | chervil (Chaerophyllum procumbens) 3           | *alder, speckled (Alnus rugosa) 9                                  |
|        | *cowbane (Oxypolis rigidior) 7                 | birch, river (Betula nigra) 2                                      |
| -      | *great angelica (Angelica atropurpurea) 6      | black gum (Nyssa sylvatica) 5                                      |
|        | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 | cottonwood, eastern (Populus deltoides) 1                          |
|        |  | *cottonwood, swamp (P. heterophylla, SW) 8                         |
| -      | honewort (Cryptotaenia canadensis) 3           | elm, Amer. (Ulmus americana) 3                                     |
|        | meadow rue spp. (Thalictrum) 5                 | hackberry (Celtis occidentalis) 3                                  |
|        | poison ivy (vine) (Rhus radicans) 1            | ironwood <i>(Carpinus caroliniana) 5</i>                           |
| -      | *queen-of-the-prairie (Filipendula rubra) 9    | oak, pin or white (Quercus) 4                                      |
|        | senna spp. (Cassia) 4                          | *oak, Shumard's, sw. chestnut, sw. white 7                         |
|        | swamp agrimony (Agrimonia parviflora) 4        | *papaw (Asimina triloba) 6   |
|        | *swamp thistle (Cirsium muticum) 8             | *sugarberry (Celtis laevigata, S) 7                                |
|        | tall coneflower (Rudbeckia laciniata) 3        | sweet gum (Liquidambar styraciflua) 4                              |
|        | *water hemlock spp. <i>(Cicuta) 7</i>          | sycamore, Amer. (Platanus occidentalis) 3                          |
|        | water parsnips (Sium suave) 5                  | willow spp. (Salix) sp.1=3; *additional=7                          |
| ChL    | a laguag annocita ar wherlad                   |  |
| Snrub  | s - leaves opposite or whorled                 | OTHER  |
|        | bladdernut (Staphylea trifolia) 5              |  |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0  |  |
|        | button bush (Cepha/anthus occidentalis) 5      |  |
|        | dogwood, red-osier (Cornus stolonifera) 4      |  |
|        | *dogwood, blue-fruited or silky <i>Cornus</i>  |  |
|        | obliqua) 7                                     |  |
|        | dogwood, gray (C. racemosa) 2                  |  |
|        | elderberry (Sambucus) 2                        | InWrap. Terg revised June 200                                      |

| Date Report Generat |       | ort Generated: 7/25/2012  |
|---------------------|-------|---|
| Wetla               | and s | site name: S5W069   |
| Data Reference #:   |       | erence #: 69  |
| Date of Site Visit: |       | ite Visit: 10/13/2011   |
| NWI                 | polyg | gons in Site (quadrangle and NWI id. numbers: Bloomington                                   |
|                     |       |   |
| TIER                | 1 S   | CUMMARY:  |
| 6                   | a.    | Total wetland area (hectares): 1.42 (3.51 acres)  |
| k                   | b.    | Wetland size and connectivity – contribution to animal habitat:                             |
|                     |       |   |
| (                   |       | Surrounding land use – numerical rank (max. = 1): 0.15                                      |
| (                   | d.    | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                  |
| TIER                | ₹25   | SUMMARY: NWI Polygon Id. 69a  |
| á                   | a.    | Indiana Wetland community type: Seasonally Flooded Basin                                    |
| k                   |       | Standing water – contribution to animal habitat:   Valuable Favorable Neutral               |
|                     |       | Disturbances to site:   |
| (                   | d.    | Exotic species rating:  |
| 6                   | e.    | Special Hydrologic Conditions Observed: None  |
| f                   | f.    | Special Community Type: None  |
| Ç                   | g.    | Rare-Threatened-Endangered Species: None  |
| ł                   | h.    | Polygon Quality Description: Good Medium Poor   |
| <b>TIC</b> C        | A     | A CUMMA DV  |
| IIER                |       | A SUMMARY:  |
|                     |       | Dead woody material as indicator of animal habitat:   Valuable Favorable Neutral            |
| k                   |       | Water quality protection – numerical rank (6 max): 4 Rating: Good Medium Poor               |
| (                   | C.    | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor          |
| TIE                 | ם פ   | B SUMMARY:  |
|                     |       |   |
|                     |       | Zonation and interspersion as indicator of animal habitat:   Valuable   Favorable   Neutral |
|                     |       | Stratification as indicator of animal habitat:  |
|                     |       | Number of dominant plant taxa observed: 5 Rating: Good Medium Poor                          |
|                     |       | Average coefficient of conservatism: 2.6 Rating: Good Medium Poor                           |
|                     |       | Tree canopy as indicator of animal habitat:   Valuable   Neutral                            |
| f                   |       | Mature trees as indicator of animal habitat:   Valuable   Favorable   Neutral               |
| ç                   | _     | Total hydrophytic taxa observed: 18 Rating: Good Medium Poor                                |
| ł                   | h.    | Number of indicator taxa 4 Rating: ☐ Good ☐ Medium ☒ Poor                                   |

| TIER 2 | SUMMARY: NWI Polygon Id. 69b  |
|--------|---|
| a.     | Indiana Wetland community type: Floodplain Forest   |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.     | Disturbances to site: Ditching  |
| d.     | Exotic species rating:  |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable  Favorable  Neutral            |
| b.     | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.     | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor            |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.     | Stratification as indicator of animal habitat: 🛛 Valuable 🔲 Neutral                           |
| C.     | Number of dominant plant taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                      |
| d.     | Average coefficient of conservatism: 3 Rating: Good Medium Poor                               |
| e.     | Tree canopy as indicator of animal habitat:   |
| f.     | Mature trees as indicator of animal habitat:  |
| g.     | Total hydrophytic taxa observed: 10 Rating: ☐ Good ☐ Medium ☒ Poor                            |
| h.     | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                     |
|        |   |

| TIER 2 | SUMMARY: NWI Polygon Id. 69e  |
|--------|---|
| a.     | Indiana Wetland community type: Shallow Marsh   |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.     | Disturbances to site: Bridge Abutment   |
| d.     | Exotic species rating:  |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral            |
| b.     | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.     | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor            |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.     | Number of dominant plant taxa observed: 2 Rating: ☐ Good ☐ Medium ☒ Poor                      |
| d.     | Average coefficient of conservatism: 4 Rating: Good Medium Poor                               |
| e.     | Tree canopy as indicator of animal habitat:     Valuable   Neutral                            |
| f.     | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral                 |
| g.     | Total hydrophytic taxa observed: 8 Rating: ☐ Good ☑ Medium ☐ Poor                             |
| h.     | Number of indicator taxa 1 Rating: Good Medium Poor   |

| TIER 2 | SUMMARY: NWI Polygon Id. 69f  |
|--------|---|
| a.     | Indiana Wetland community type: Shallow marsh   |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral         |
| C.     | Disturbances to site: Bridge Abutment   |
| d.     | Exotic species rating:  |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description:  |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral        |
| b.     | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☑ Medium ☐ Poor       |
| C.     | Flood and storm water storage – numerical rank (5 max): 4 Rating: Good Medium Poor        |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral |
| b.     | Stratification as indicator of animal habitat:     Valuable   Neutral                     |
| c.     | Number of dominant plant taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                  |
| d.     | Average coefficient of conservatism: 4 Rating: Good Medium Poor                           |
| e.     | Tree canopy as indicator of animal habitat:   |
| f.     | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☐ Neutral             |
| g.     | Total hydrophytic taxa observed: 17 Rating: Good Medium Poor                              |
| h.     | Number of indicator taxa 2 Rating: ☐ Good ☐ Medium ☒ Poor                                 |
|        |   |

| TIER 2 | SUMMARY: NWI Polygon Id. 69g  |
|--------|---|
| a.     | Indiana Wetland community type: Shallow Open Water  |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| c.     | Disturbances to site: Dam and Livestock   |
| d.     | Exotic species rating: Good Medium Poor   |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral            |
| b.     | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.     | Flood and storm water storage – numerical rank (5 max): 4 Rating: Good Medium Poor            |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.     | Number of dominant plant taxa observed: 1 Rating: ☐ Good ☐ Medium ☒ Poor                      |
| d.     | Average coefficient of conservatism: 3 Rating: Sood Medium Poor                               |
|        |   |
| e.     | Tree canopy as indicator of animal habitat:   |
| f.     | Mature trees as indicator of animal habitat:  Valuable Favorable Neutral                      |
| g.     | Total hydrophytic taxa observed: 3 Rating: S Good Medium Poor                                 |
| h.     | Number of indicator taxa 1 Rating: Good Medium Poor   |

| TIER 2 | SUMMARY: NWI Polygon Id. 69i  |
|--------|---|
| a.     | Indiana Wetland community type: Deep Marsh  |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral         |
| c.     | Disturbances to site: Dam and Livestock   |
| d.     | Exotic species rating: Good Medium Poor   |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: Not Present   |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral        |
| b.     | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☑ Medium ☐ Poor       |
| C.     | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor        |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                       |
| C.     | Number of dominant plant taxa observed: 6 Rating: ☐ Good ☐ Medium ☒ Poor                  |
| d.     | Average coefficient of conservatism: 2.67 Rating: Good Medium Poor                        |
| e.     | Tree canopy as indicator of animal habitat:   |
| f.     | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral             |
| g.     | Total hydrophytic taxa observed: 21 Rating: ☐ Good ☐ Medium ☐ Poor                        |
| h.     | Number of indicator taxa 3 Rating: Good Medium Poor                                       |
|        | - Tang. Graduit Ziron   |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W069

TERG May 2000

## **Tier 1: Assessment Overview**

| 1.1 | Site | lde | ٠  | ١t | ifi | ic | atio | on  | 1: |  |
|-----|------|-----|----|----|-----|----|------|-----|----|--|
| 1.1 | Oite | IUC | 71 | 11 | ••• | ·  | au   | UII |    |  |

| Wetland site name: _S5W069  |      |
|---|------|
| Ownership (if known):   |      |
| USGS Topographic Quadrangle(s): Bloomington   |      |
| USGS Watershed map 14-Digit HUC: Bean Blossom Creek-Stout Creek 05120202010080  |      |
| · · · · · · · · · · · · · · · · · · ·   |      |
| Identify each NWI Polygon within the Wetland Site (Polygon specific data)   |      |
| NWI Polygon ID Number69a69b69e69f69gCowardin ClassificationPSS1APFO1AfPEMHPSS1APAB  |      |
| Polygon Size (hectares) 0.29 (0.72 ac.) 0.67 (1.67ac.) 0.01 (0.02ac.) 0.03 (0.06ac.) 0.31 (0.76   | ac.) |
|   | ,    |
| NWI Polygon ID Number 69i   |      |
| Cowardin Classification PEM   |      |
| Polygon Size (hectares) 0.11 (0.28ac.)  |      |
| 1.2 Site Visit:   |      |
| Team Members: K.Schroeder & D. White  |      |
| Agency: INDOT   |      |
| Date assessed: 10/13/2011 Time assessed: 11:30 am   |      |
| Weather conditions: Sunny   |      |
| - Carry   |      |
| Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g.  |      |
| recent heavy rains, an unusually dry season, an especially early spring, etc.):   |      |
|   |      |
| 1.3 Wetland Size:   |      |
|   |      |
| Size of site under assessment: 0.12 hectares-PEM; 0.32 hectares-PSS; 0.67 hectares-PFO; 0.31 hectares-PAI   | 3    |
|   | 3    |
| Size of total wetland complex (all continuous wetland polygons): 1.42 hectares (3.51 acres)   | 3    |
| Size of total wetland complex (all continuous wetland polygons): 1.42 hectares (3.51 acres)  1.4 Site Setting:  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.4 Site Setting:  Degree of isolation from other wetlands or wetland complexes:  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.46 hectares (3.51 acres)  1.47 hectares (3.51 acres)  1.48 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.40 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.4 Site Setting:  Degree of isolation from other wetlands or wetland complexes:  x The site is connected upstream and downstream with other wetlands  The site is only connected upstream with other wetlands  The site is only connected downstream with other wetlands  Other wetlands are nearby (within 0.25 mile) but not connected   | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.4 Site Setting:  Degree of isolation from other wetlands or wetland complexes:  x The site is connected upstream and downstream with other wetlands  The site is only connected upstream with other wetlands  The site is only connected downstream with other wetlands  Other wetlands are nearby (within 0.25 mile) but not connected   | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.43 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.46 hectares (3.51 acres)  1.46 hectares (3.51 acres)  1.47 hectares (3.51 acres)  1.48 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.40 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.43 hectares (3.51 acres)  1.44 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.46 hectares (3.51 acres)  1.47 hectares (3.51 acres)  1.48 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.40 hectares (3.51 acres)  1.42 hectares (3.51 acres)  | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.42 hectares (3.51 acres)  1.43 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.45 hectares (3.51 acres)  1.46 hectares (3.51 acres)  1.46 hectares (3.51 acres)  1.47 hectares (3.51 acres)  1.48 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.49 hectares (3.51 acres)  1.40 hectares (3.51 acres)  1.42 hectares (3.51 | 3    |
| Size of total wetland complex (all continuous wetland polygons):  1.42 hectares (3.51 acres)  1.42 hectares (3.51 | 3    |

| NWI Polygon (see table on page |                      |                            | Data Reference #       | S5W069                 | InWRAP, TERG May 2000               |
|--------------------------------|----------------------|----------------------------|------------------------|------------------------|-------------------------------------|
|                                |                      | : Preliminary A            | ssessment (to be o     | completed on-site      | for <u>each</u> NWI polygon present |
|                                | omorphic Settir      | ng and Surface. W<br>Slope | ater Flow (check on    | <b>e):</b><br>oodplain | Lacustrine                          |
|                                |                      | er/stream banks)           |                        |                        |                                     |
| 2.2 Presence o                 | f Standing Wate      | er:                        |                        |                        |                                     |
| Is standing wat                | er normally prese    | ent in the polygon?        | No                     |                        |                                     |
| •                              |                      |                            | eater than 2 meters in | depth?                 |                                     |
|                                | •                    | ent in an adjacent p       |                        |                        |                                     |
| 2.3 Apparent H                 | ydroperiod (che      | eck one):                  |                        |                        |                                     |
|                                | ently Flooded        |                            | Artific                | cially Flooded         |                                     |
|                                | Illy Flooded         | aaldam praaant)            | A mtific               | sially Drainad         |                                     |
| Saturate                       | d (surface water     | seidom present)            | AITIIIC                | cially Drained         |                                     |
| 2.4 Soil Type:                 |                      |                            |                        |                        |                                     |
| Orgar                          | nic (i.e. peat, etc. | ) <u>x</u>                 | Mineral                | Both M                 | ineral and Organic Present          |
| 2.5 Wetland Co                 | mmunity Type f       | or this NWI polyg          | on (see Key to Wetla   | and Communitie         | s of Indiana):                      |
| Seasonally Flo                 |                      |                            | ,                      |                        | •                                   |
| -                              |                      |                            |                        |                        |                                     |
| 2.6 Disturbance                | es of Hydrology      | (check all that ap         | ply):                  |                        |                                     |
| Ditching                       |                      |                            | Culvert                |                        |                                     |
| Tiles                          |                      |                            |                        |                        | s to the Hydrology (explain):       |
| Dams                           |                      |                            | -                      | wetland vegetation     | n has been cut in an attempt to     |
| Road or                        | Railroad Embanl      | kment                      | grow row crop.         |                        |                                     |
| 2.7 Presence o                 | f Invasive Exotic    | cs (Score as: S =          | Scattered, F = Frequ   | ent, or C = Comr       | non):                               |
| Garlic M                       | ustard               | G                          | lossy Buckthorn        |                        |                                     |
| Phragmi                        | ties                 | R                          | eed canary grass       |                        |                                     |
| Purple lo                      | osestrife            | C                          | ther (list):           |                        |                                     |
| 2.8 Presence o                 | f Special Hydrol     | logic Conditions (         | i.e. seeps, wet slope  | s, floating mat):      |                                     |
| 2 9 Presence of                | f Special Comm       | unity Types                |                        |                        |                                     |
| Bog                            | opeciai comm         | Fen                        | We                     | et Sand / Muck Fla     | ats or Mari Seeps                   |
|                                |                      |                            |                        |                        |                                     |
| 2.10 Presence                  | of Known Feder       | al or Indiana Rare         | , Threatened or End    | angered Species        | <b>:</b>                            |
| x None                         | observed or kno      | wn to be present           |                        |                        |                                     |
| RTES                           | Present (list)       |                            |                        |                        |                                     |
| 2.11 Wetland P                 | olygon Quality l     | Descriptor (see: V         | Vetland Quality Desc   | eriptions and che      | ck one):                            |
| Good                           | _ X                  | Medium                     | Po                     | or                     |                                     |

| NWI    | Po   | olyg | jon  | #     | 69a Data Reference # S5W069   |
|--------|------|------|------|-------|---|
| Tier   | 3а   | In   | div  | idua  | al Polygon: Rapid Hydrology Indicators  |
| 3a.1 l | Not  | abl  | e Fe | eatui | res that influence water quality and hydrology:   |
| Estin  | nate | ed l | nerb | acec  | ous plant cover (percentage) in the polygon <u>x</u> 100-75 75-50 50-25 <25   |
| Estin  | nate | ed v | woo  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _x <25   |
| Amo    | unt  | of   | dea  | d wo  | ody material on the soil surface:  nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers)   |
| 3a.2 \ | Nat  | ter  | Qua  | ality | Protection Questions:   |
| 1.     | X    | Υ    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.    | X    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.     | x    | Y    |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.     |      | Y    | х    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.     | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|        |      |      |      |       | Average width of buffer area (in meters) 10-20 Approximate slope (percent) 1-2  |
| 3a.3 l | Floo | od a | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.    | x    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.     | x    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.     | v    | v    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

impermeable, or is bedrock within two feet of the top of the soil profile?

 $\mathbf{x}$   $\mathbf{Y}$ 

**x Y** 

Ν

5.

damages)?

| NWI Polygon #                       | 69a                              | Data Referenc  | e # _S5W069   |                         |
|-------------------------------------|----------------------------------|--|---|-------------------------|
| Tier 3b Individu                    | ıal Polygon: Rapid Ve            | egetation Description                                  |   |                         |
| <b>3b.1 Zonation and</b> 1. How man |                                  | dent in this wetland polygon?                          | 2   |                         |
| 1b. If only one                     | e vegetation zone is eviden      | t, which best describes the site                       | ?   |                         |
|                                     | Polygon composed of a n          | nosaic of small vegetation patch                       | nes, hummocks, or tussoc                                    | ks;                     |
|                                     | Polygon composed of a s polygon. | ingle vegetation type with more                        | e or less uniform texture a                                 | cross the               |
|                                     |                                  | esent in the polygon, which inte                       | rspersion diagram most c                                    | osely represents        |
|                                     | e One Interspersion              |  | Type Two Interspers   | sion                    |
|                                     | x                                |  |   |                         |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zo        | Ph   | Observation Point # noto number(s) V-mark location on the N |                         |
| What % of the poly                  | gon does this vegetative zo      |  | v manciocation on the re-                                   | vi polygon)             |
| 10 – 25%                            | 25 – 50 %                        | x 50 – 75%   | 75 – 90%  | >90%                    |
| Is there notable lave               | ering/stratification in this ve  |  |   |                         |
|                                     | es that forms extensive mor      | more than 10% of the area) I nocultural patches).  d e | isted in order of relative a                                | abundance. <b>(Mark</b> |
| c Typha latifolia                   |                                  | f  |   |                         |
| a                                   | pecies listed in order of rela   | c  |   |                         |
|                                     | cies listed in order of relative |  |   |                         |
| a                                   |                                  | C  |   |                         |
|                                     |                                  |  |   |                         |
| Tree & shrub canop                  | y: <u>x</u> nil sepa             | arate, seldom touching                                 | often touching x M  | ore or less closed      |
| Mature trees (>12"                  | dbh) present:                    | yes <u>x</u> no  |   |                         |
| Other remarks (inc                  | lude personal comments a         | bout what adds to or detracts fr                       | rom the quality of this wetl                                | and site).              |

| NWI Polygon # 69a   |                             | Data Reference #            | S5W069                        |                     |
|---|-----------------------------|-----------------------------|-------------------------------|---------------------|
| 3b.2 Dominant Plant Specie  | s: Vegetation zone B        |                             | Observation Poil on number(s) |                     |
| What % of the polygon does t  | his vegetative zone occu    |                             |                               | , , ,               |
| x 10 – 25%  | 25 – 50 %                   | 50 – 75%                    | 75 – 90%                      | >90%                |
| Is there notable layering/strati  | fication in this vegetation | zone? No                    |                               |                     |
| Dominant <b>Herbaceous</b> Species with an * any species that form a <i>Solidago canadensis</i> | ` <u> </u>                  | al patches).                |                               | •                   |
| <del></del>   |                             |                             |                               |                     |
|   |                             | £                           |                               |                     |
| L   | ed in order of relative abu | C                           |                               |                     |
| Dominant Tree Species listed  | in order of relative abun   | dance.                      |                               |                     |
| •   |                             |                             |                               |                     |
| b   |                             | d                           |                               |                     |
| Tree & shrub canopy: x  | nil separate, se            | eldom touching oft          | en touching                   | More or less closed |
| Mature trees (>12" dbh) prese   | ent: yes                    | x no                        |                               |                     |
| Other remarks (include person   | onal comments about wh      | at adds to or detracts from | n the quality of this v       | vetland site).      |
|   |                             |                             |                               |                     |

| NWI Polygon # | 69a | Data Reference # | S5W069 |  |
|---------------|-----|------------------|--------|--|
|---------------|-----|------------------|--------|--|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10   | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4 *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8 *water arum (Calla palustris, N) 10 X water plantain (Alisma plantago-aquat.) 2  |
|--|---|
| *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus) *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  Herbs: insectivorous plants*pitcher plant (Sarracenia purpurea,N) 10 *sundew spp. (Drosera, N) 10  Herbs: linear-Ivs. or leafless ± monocots *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5 X bulrush spp. (Scirpus / Schoenoplectus) 5 *bur reed spp. (Sparganium) 9 X cat-tail spp. (Typha) 1 *cotton grass spp. (Eriophorum, N) 10  Grasses (family Gramineae) - indicate types & number of species a. *wild rice (Zizania aquatica, N) 10 b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa] N needle sedge spp. (Eleocharis) sp.1 =2 *additional=8 | *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3 *fen betony (Pedicularis lanceolata) 6 *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  X moneywort (Lysimachia nummularia) 0 monkey flower spp. (Mimulus) 4 nettle (Urtica pro cera) 1 purple loosestrife (Lythrum salicaria) 0 *richweed (Collinsonia canadensis) 8 *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4 *swamp loosestrife (Decodon verticillatus, N) 8 swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2 *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5 |
| nutsedge spp. (Cyperus) 2  *orchid spp.: species (if known)  rush spp. (Juncus) 4  5 sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9  sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10  wild hyacinth (Camassia scilloides) 5  *yellow-eyed grass (Xyris torta, N) 9  | Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4   |

|       | cress spp. (Cardamine) 4  | Shrubs - Ivs. alternate  |
|-------|---|--|
|       | dock spp.: (Sardamine) 4  dock spp.: swamp-, water-, pale- (Rumex) 4                                  | *cranberry spp. (Vaccinium, N) 10  |
|       | garlic mustard (Alliaria petio/ata) 0   | *dwarf birch (Betula pumila, N) 10   |
|       | golden ragwort (Senecio aureus) 4   | *high bush blueberry (V. corymbosum, N) 9  |
|       | goldenragwort ( <i>Seriecio adreus) 4</i><br>*goldenrod spp. ( <i>Solidago ohioensis</i> , <i>S</i> . | *leatherleaf (Chamaedaphne calycul., N) 10                                       |
|       | patula, S. riddellil) 9   | meadowsweet & hardhack spp.(Spiraea) 4   |
|       |   | *ninebark (Physocarpus opulifoius) 7   |
|       | *grass of Parnassus (Parnassia glauca) 10   |  |
|       | *Indian plantain (Cacalia plantaginea) 10   | *shrubby cinquefoil (Potentilla fruticosa) 9                                     |
|       | ironweed spp. (Vernonia) 4  | spice bush (Lindera benzoin) 5   |
|       | jewelweed, touch-me-not spp. (Impatiens) 3  | *swamp dewberry (Rubus hispidus) 6   |
|       | lizard's tail (Saururus cernuus) 4  | *swamp holly & winterberry (/lex spp.) 7   |
|       | lobelia spp. (Lobelia) 4  | swamp rose (Rosa palustris) 5  |
|       | *marsh marigold (Caltha palustris) 7  | Trees - Ivs. needle shaped   |
|       | *moonseed (vine) (Menispermum canadense) 6  | *tamarack (Larix laricina, N) 10   |
|       | primrose-willow spp.(Epilobium &Ludwigia) 3   | tamarack (Lanx lancina, N) 10  |
|       | rose mallow spp. (Hibiscus) 4   | Trees - Ivs. compound  |
|       |   | *ash, black (Fraxinus nigra) 7   |
|       | tearthumb, water-pepper, water-sm.  | <b>X</b> ash, green (Fraxinus pensylvanica) 3                                    |
|       | (Polygonum) 4 [Except *for P. arifolium 10]   | *ash, pumpkin ( <i>Fraxinus tomentosa</i> , SW) 8                                |
|       | sneezeweed (Helenium autumnale) 3   | boxelder (Acer negundo) 1  |
|       | stinging nettle (Laportea canadensis) 2   | hickory, bitternut (Carya cordiformis) 5   |
|       | _ *swamp saxifrage (Saxifraga pa.) 10   | *hickory, shell bark (Carya laciniosa) 8   |
|       | _ *Virginia bluebells (Mertensia virginica) 6   | honey locust (Gleditsia triacanthos) 1   |
|       | _ waterhemp (Amaranthus tuberculatus) 1   | *poison sumac (Rhus vernix) 10   |
|       | _ wingstem (Actinomeris alternifolia) 3   | poison sumae (mus vernix) to   |
|       | : dicots - Ivs. basal or alternate and<br>ound or deeply lobed  | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5                       |
| •     | aven spp.: rough a., white a. (Geum) 2  | silver maple (A. saccharinum) 1  |
|       | *buttercup spp: e.g. cursed b., hooked b.,  | Trees – Ivs. simple and alternate  |
|       | swamp b. (Ranunculus) 6   | *alder, speckled <i>(Alnus rugosa)</i> 9   |
|       | chervil (Chaerophyllum procumbens) 3  | birch, river (Betula nigra) 2  |
|       | *cowbane (Oxypolis rigidior) 7  | black gum (Nyssa sylvatica) 5  |
|       | *great angelica (Angelica atropurpurea) 6   | X cottonwood, eastern (Populus deltoides) 1                                      |
|       | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  | *cottonwood, eastern (*ropulas delibides) 1                                      |
|       | honewort (Cryptotaenia canadensis) 3  | elm, Amer. (Ulmus americana) 3   |
|       | meadow rue spp. (Thalictrum) 5  | hackberry (Celtis occidentalis) 3  |
|       | poison ivy (vine) <i>(Rhus radicans)</i> 1  |  |
|       | *queen-of-the-prairie (Filipendula rubra) 9   | ironwood <i>(Carpinus caroliniana) 5</i><br>oak, pin or white <i>(Quercus) 4</i> |
|       | senna spp. <i>(Cassia)</i> 4  |  |
|       | swamp agrimony (Ágrimonia parviflora) 4   | *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6            |
|       | *swamp thistle <i>(Cirsium muticum)</i> 8   | *sugarberry <i>(Celtis laevigata,</i> S) 7                                       |
|       | tall coneflower (Rudbeckia laciniata) 3   | sweet gum (Liquidambar styraciflua) 4  |
|       | *water hemlock spp. (Cicuta) 7  |  |
|       | water parsnips (Sium suave) 5   | x sycamore, Amer. (Platanus occidentalis) 3                                      |
|       |   | <b>X</b> willow spp. (Salix) sp.1=3; *additional=7                               |
| Shrub | s - leaves opposite or whorled  | OTHER  |
|       | _ bladdernut <i>(Staphylea trifolia)</i> 5  |  |
|       | buckthorn spp. (Rhamnus cathar. & frangula) 0   |  |
| X     | button bush (Cepha/anthus occidentalis) 5   |  |
|       | dogwood, red-osier (Cornus stolonifera) 4   |  |
|       | *dogwood, blue-fruited or silky Cornus  |  |
|       | obliqua) 7  |  |
|       | dogwood, gray (C. racemosa) 2   | InWrap, Terg revised June 2005   |
|       | elderberry (Sambucus) 2   | initiap, reig revised dulle 2005   |

| Tier 2 Individual Polygon: Preliminary Assessment (to be completed on-site for each NWI polygon present in the wetland)  2.1 Wetland Geomorphic Setting and Surface. Water Flow (check one):  Depressional Slope X Floodplain Lacustrine Riverine (within the river/stream banks)  2.2 Presence of Standing Water:  Is standing water normally present in the polygon? No  If standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon? Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded Seasonally Flooded Seasonally Flooded Artificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.) X Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Floodplain Forest  2.6 Disturbances of Hydrology (check all that apply):  X Ditching Culvert Tiles Other Human Disturbances to the Hydrology (explain): Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common): Garlic Mustard Glossy Buckthorn  | ent |
|---|-----|
| Depressional Slope x Floodplain Lacustrine Riverine (within the river/stream banks)  2.2 Presence of Standing Water:  Is standing water normally present in the polygon? No If standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon? Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded X Seasonally Flooded Saturated (surface water seldom present)  Artificially Flooded Artificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.) X Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Floodplain Forest  2.6 Disturbances of Hydrology (check all that apply): X Ditching Culvert Tiles Other Human Disturbances to the Hydrology (explain): Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  |     |
| Is standing water normally present in the polygon? No  If standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon? Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded Seasonally Flooded Artificially Flooded Artificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.) Vamineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Floodplain Forest  2.6 Disturbances of Hydrology (check all that apply):  XDitching Culvert Tiles Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  |     |
| It standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon?  Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded X Seasonally Flood |     |
| Permanently Flooded X Seasonally Flooded Saturated (surface water seldom present) Artificially Flooded Artificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.) Y Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Floodplain Forest  2.6 Disturbances of Hydrology (check all that apply): X Ditching Culvert Tiles Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):   |     |
| Seasonally Flooded Saturated (surface water seldom present)  2.4 Soil Type: Organic (i.e. peat, etc.) Organic (i.e. peat, etc.)  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Floodplain Forest  2.6 Disturbances of Hydrology (check all that apply):  x Ditching Culvert Tiles Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):   |     |
| Organic (i.e. peat, etc.) x Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):  Floodplain Forest  2.6 Disturbances of Hydrology (check all that apply):  x Ditching Culvert  Tiles Other Human Disturbances to the Hydrology (explain): Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):   |     |
| 2.6 Disturbances of Hydrology (check all that apply):  x Ditching Culvert  Tiles Other Human Disturbances to the Hydrology (explain): Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  |     |
| <ul> <li>Ditching</li> <li>Tiles</li> <li>Dams</li> <li>Road or Railroad Embankment</li> <li>Culvert</li> <li>Other Human Disturbances to the Hydrology (explain):</li> <li>Road or Railroad Embankment</li> <li>Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):</li> </ul>  |     |
| Tiles Other Human Disturbances to the Hydrology (explain):  Dams Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  |     |
| Dams  Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):   |     |
| 2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  |     |
|   |     |
| Garlic Mustard Glossy Buckthorn   |     |
|   |     |
| Phragmities Reed canary grass   |     |
| Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):   |     |
|   |     |
| 2.9 Presence of Special Community Types:  Bog Fen Wet Sand / Muck Flats or Mari Seeps   |     |
| 2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:   |     |
| x None observed or known to be present RTES Present (list)  |     |
| 2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  Good x Medium Poor  |     |

| NWI Polygon # 69b |      |       |      |       |   |  |  |  |  |  |
|-------------------|------|-------|------|-------|---|--|--|--|--|--|
| Tier              | 3a   | Inc   | vik  | idua  | al Polygon: Rapid Hydrology Indicators  |  |  |  |  |  |
| 3a.1              | Not  | able  | e Fe | eatui | res that influence water quality and hydrology:   |  |  |  |  |  |
| Estir             | nate | ed h  | erb  | aceo  | ous plant cover (percentage) in the polygon 100-75 _x _75-50 50-25 <25  |  |  |  |  |  |
| Estir             | nate | ed v  | v00  | dy pl | ant foliar cover in the polygon 100-75 75-50 _x _50-25 <25  |  |  |  |  |  |
| Amo               | unt  | of o  | dea  | d wo  | ody material on the soil surface: nil (<5% cover) scattered (5-15% cover)x Frequent (>20% covers)   |  |  |  |  |  |
| 3a.2              | Wat  | ter ( | Qua  | ality | Protection Questions:   |  |  |  |  |  |
| 1.                | x    | Υ     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |  |  |
| 2.                |      | Υ     | x    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |  |  |
| 3.                |      |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |  |  |  |  |  |
| 3a.               |      | Y     |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |  |  |
| 3b.               | х    | Υ     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |  |  |  |
| 1.                | х    | Υ     |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |  |  |
| 5.                |      | Υ     | х    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |  |  |
| 5.                | х    | Y     |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |  |  |
|                   |      |       |      |       | Average width of buffer area (in meters) 10-20 Approximate slope (percent) 1-2  |  |  |  |  |  |
| 3a.3              | Flo  | od a  | and  | Sto   | rmwater Storage / Attenuation Questions:  |  |  |  |  |  |
| 1.                |      |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |  |  |
| 1a.               |      | Y     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |  |  |
| 1b.               | х    | Υ     |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |  |  |
| 2.                | х    | Y     |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |  |  |
| 3.                | х    | Υ     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |  |  |  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

impermeable, or is bedrock within two feet of the top of the soil profile?

5.

 $\mathbf{x}$   $\mathbf{Y}$ 

| NWI Polygon #                        | 69b  | Data Reference # S5W069   |
|--------------------------------------|--|---|
| Tier 3b Individu                     | al Polygon: Rapid Vege                       | etation Description   |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion: y vegetation zones are eviden | t in this wetland polygon? _ 1  |
| 1b. If only one                      | e vegetation zone is evident, w              | hich best describes the site?   |
| X                                    | Polygon composed of a mos                    | aic of small vegetation patches, hummocks, or tussocks;                                       |
|                                      | Polygon composed of a sing polygon.          | le vegetation type with more or less uniform texture across the                               |
|                                      |  | nt in the polygon, which interspersion diagram most closely represents                        |
|                                      | One Interspersion                            | Type Two Interspersion  |
| (                                    |  |   |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone                  | Photo number(s)  (Note: V-mark location on the NWI polygon)                                   |
| What % of the poly                   | gon does this vegetative zone                | ,   |
| 10 – 25%                             |  | 50 – 75% 75 – 90%x >90%   |
| <br>Is there notable lave            | ering/stratification in this veget           |   |
|                                      | es that forms extensive monoc                | ore than 10% of the area) listed in order of relative abundance. (Mark ultural patches).  d e |
| С                                    |  | f   |
|                                      | pecies listed in order of relative           |   |
|                                      |  |   |
| Dominant <b>Tree</b> Spe             | cies listed in order of relative             |   |
| a Acer rubrum                        |  | c   |
|                                      | sylvanicus<br>., .                           | d   |
| Mature trees (>12"                   |  | e, seldom touching often touching _x More or less closed sx no                                |
| Other remarks (inc                   | lude personal comments abou                  | at what adds to or detracts from the quality of this wetland site).                           |

| NWI F               | olygon #  | 69b  |   | Data Reference #  | S5W069  |
|---------------------|---|--|---|---|---|
| 3b.4 S <sub>l</sub> | pecies richr  | ness and indica  | itor species. Check a   | <br>II species observed wi  | ithin the polygon. Important: if multiple   |
| •                   | s from one ge<br>hern Indiana   | enus or family (ma<br>SW = southwe   | arked with spp.) are seen, stern Indiana num  | nbers = C <u>-coeffic</u> ients   | species.  * = species with high conservationism eyed grass (Xyris torta, N) 9   |
|                     | *ferns: mars *cinnamon *royal fern ( sensitive fe *other: spec marsh club *Sphagnum  Ivs. floating *bladderwo coontail (Ce duckweed s *pondweed introduced *water lily (          | couring rush spp. sh shield fern spp. fern (Osmunda regaliant (Onoclea senscies (if known) moss (Selaginel moss spp. (Sph. for submergent spp. (Utriculariant spp. (Lemnaceae spp. (Potamoge P. crispus) | to. (Dryopteris) 7 cinnamomea) 9 s) 8 sibilis) 4 lla apoda) 4 nagnum, N) 10 t ia, N) 10 mersum, N) 1 e) 3 eton) 8 (except 0 for | Herbs: wide-lea  *arrow a arrow-he *green d Jack-in-t pickerel *skunk c *water a water pla  Herbs: dicots - *bedstra beggar's blue very boneset buglewe | afed monocots arum (Peltandra virginica, N) 6 ead spp. (Sagittaria) 4 dragon (Arisaema dracontium) 6 the-pulpit (Arisaema triphyllum) 4 weed (Pontederia cordata, N) 5 eabbage (Symplocarpus foetidus) 8 arum (Calla palustris, N) 10 antain (Alisma plantago-aquat.) 2  Ivs. opposite/whorled aw spp. (Galium) 6 s tick spp. (Bidens) 3 vain (Verbena hastata) 3 (Eupatorium perfoliatum) 4 eed spp. (Lycopus) 5     |
|                     | *yellow spa<br>insectivoro<br>*pitcher pla<br>*sundew sp<br>linear-lvs. o<br>*beak rush<br>blueflag iris<br>bulrush spp<br>*bur reed sp<br>cat-tail spp.                          | nt (Sarracenia pu<br>pp. (Drosera, N) 1<br>pr leafless ± mo<br>spp. (Rhynchosp<br>(Iris virginica) 5<br>o. (Scirpus / Scho<br>pp. (Sparganium)   | urpurea,N) 10 10 nocots pora, N) 10 penoplectus) 5  | cup plan false net *fen beto *gentian giant rag Indian ho Joe-pye *loosest meadow mint spp X moneyw monkey  | ed spp. (Pilea) 3 Int (Silphium perfoliatum) 4 Ittle (Boehmeria cylindrica) 3 Iony (Pedicularis lanceolata) 6 In spp. (Gentiana & Gentianopsis) 8 Igweed (Ambrosia trifida) 0 Iemp (Apocynum cannabinum) 2 Iweed spp. (Eupatorium) 5 Irife spp. (Lysimachia) 6 Iv beauty (Rhexia virginica) 5 Ion: e.g. hedge nettle, mtn. m., skullcap 5 Irort (Lysimachia nummularia) 0 Iflower spp. (Mimulus) 4 Irtica pro cera) 1 |
| Grasses X           | a. *wild rio b. most na cut-gras [Alopec c. introduc grass [  | te (Zizania aquat<br>ative perennial gr<br>as, manna-g, Car<br>aurus]; other<br>aed grass spp. 0:<br>Phalaris], reed p   | rass spp. 4: e.g.<br>nada bluejoint, foxtail  | purple lo *richwee *St. Johr sunflowe *swamp swamp r toothcup   | cosestrife (Lythrum salicaria) 0 ed (Collinsonia canadensis) 8 en's wort spp.(Hypericum/Triandeum)8 er spp. (Helianthus) 4 loosestrife (Decodon verticillatus, N) 8 emilkweed (Asclepias incarnata) 4 es spp. (Ammania & Rotala) 2 ead spp. (Chelone) 8   |
|                     | barnyar<br>needle sede<br>*additio<br>nutsedge sp<br>*orchid spp<br>rush spp. (a<br>sedge spp.<br>*spiderlily (a<br>sweet flag (a<br>*3-way sede<br>*twig rush (a<br>*umbrella se | d grass <i>Echinoci</i><br>ge spp. <i>(Eleocha</i><br>nal=8<br>pp. <i>(Cyperus)</i> 2<br>.: species (if knov   | hloa] vris) sp.1 =2 wn) fadditional=7 cidentalis) 9 ) 0 undinaceum) 10 vides, N) 10 quarrosa, N) 10                             | virgin's be water put winged I  Herbs: (vines): 6 and simple Amer. be *asters: *flat-topp other as *black-e   | cower (vine) (Clematis virginiana) 3 uslane (Ludwigia palustris) 3 loosestrife (Lythrum alatum) 5  dicots - Ivs. alternate or basal  ellflower (Campanula americana) 4 bristly aster (Aster puniceus) 7 ped aster (A. umbellatus) 8 ter spp. (e.g. New Engl, panicled-a) 3 yed Susan (Rudbeckia fulgida) 8 flower (Lobelia cardinalis) 4  |

X willow spp. (Salix) sp.1=3; \*additional=7

**OTHER** Polygonum virginiana

|          | dock spp swamp-, water-, pale- (Rumex) 4   |
|----------|--|
|          | garlic mustard (Alliaria petio/ata) 0  |
|          | golden ragwort (Senecio aureus) 4  |
|          | *goldenrod spp. (Solidago ohioensis, S.  |
|          | patula, S. riddellil) 9  |
|          | *grass of Parnassus (Parnassia glauca) 10  |
|          | *Indian plantain (Cacalia plantaginea) 10  |
|          | ironweed spp. (Vernonia) 4   |
|          | jewelweed, touch-me-not spp. (Impatiens) 3   |
|          | lizard's tail (Saururus cernuus) 4   |
|          | lobelia spp. (Lobelia) 4   |
|          |  |
|          | *marsh marigold (Caltha palustris) 7   |
|          | *moonseed (vine) (Menispermum canadense) 6   |
|          | primrose-willow spp.(Epilobium &Ludwigia) 3  |
|          | rose mallow spp. (Hibiscus) 4  |
| <u> </u> | smartweed spp.: incl. jumpseed, pinkweed,  |
|          | tearthumb, water-pepper, water-sm.   |
|          | (Polygonum) 4 [Except *for P. arifolium 10]  |
|          | sneezeweed (Helenium autumnale) 3  |
|          | stinging nettle (Laportea canadensis) 2  |
|          | *swamp saxifrage (Saxifraga pa.) 10  |
|          | *Virginia bluebells (Mertensia virginica) 6  |
|          | waterhemp (Amaranthus tuberculatus) 1  |
| X        | wingstem (Actinomeris alternifolia) 3  |
|          | und or deeply lobed  |
|          | und or deeply lobed aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4   |
|          | aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b.,     swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4   |
|          | aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b.,     swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8  |
|          | aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b.,     swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4   |
|          | aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b.,     swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8  |
|          | aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b.,     swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3                                |
|          | aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b.,     swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 |

elderberry (Sambucus) 2

**NWI Polygon #** 

69b

cress spp. (Cardamine) 4

| NWI Polygon # 6 (see table on page one) | 9e   | Data Reference #      | S5W069                                       |  |  |  |  |  |
|---|--|-----------------------|--|--|--|--|--|--|
| Tier 2 Individual F in the wetland)     | Tier 2 Individual Polygon: Preliminary Assessment (to be completed on-site for <u>each</u> NWI polygon present in the wetland) |                       |  |  |  |  |  |  |
| x Depressiona                           | ohic Setting and Surface. Wal Slope hin the river/stream banks)  | •                     | e):<br>odplain Lacustrine                    |  |  |  |  |  |
| 2.2 Presence of Stand                   | ding Water:  |                       |  |  |  |  |  |  |
| <ul> <li>If standing wa</li> </ul>      | nally present in the polygon?<br>ter is present, is the water gre<br>nally present in an adjacent p                            |                       | depth? Yes                                   |  |  |  |  |  |
| 2.3 Apparent Hydrope                    | eriod (check one):   |                       |  |  |  |  |  |  |
| x Permanently Fl                        |  | Artific               | ially Flooded                                |  |  |  |  |  |
| Seasonally Floor Saturated (surfa       | ace water seldom present)  | Artific               | ially Drained                                |  |  |  |  |  |
| 2.4 Soil Type:<br>Organic (i.e.         | peat, etc.) x  | Mineral               | Both Mineral and Organic Present             |  |  |  |  |  |
| Shallow Marsh                           | lity Type for this NWI polygo  |                       | nd Communities of Indiana):                  |  |  |  |  |  |
| Tiles                                   |  |                       | man Disturbances to the Hydrology (explain): |  |  |  |  |  |
| Dams                                    |  | Bridge abutment       |  |  |  |  |  |  |
| Road or Railroa                         | ad Embankment  |                       |  |  |  |  |  |  |
| 2.7 Presence of Invas                   | sive Exotics (Score as: S = S  | Scattered, F = Freque | ent, or C = Common):                         |  |  |  |  |  |
| Garlic Mustard                          |  | ossy Buckthorn        |  |  |  |  |  |  |
| <i>Phragmities</i> Purple loosestri     |  | eed canary grass      |  |  |  |  |  |  |
|   | ial Hydrologic Conditions (i   |                       | s, floating mat):                            |  |  |  |  |  |
| 2.9 Presence of Spec Bog                | ial Community Types: Fen   | We                    | et Sand / Muck Flats or Mari Seeps           |  |  |  |  |  |
| 2.10 Presence of Kno                    | wn Federal or Indiana Rare   | , Threatened or Enda  | angered Species:                             |  |  |  |  |  |
| x None observ                           | ved or known to be present   |                       |  |  |  |  |  |  |
| RTES Prese                              | ent (list)   |                       |  |  |  |  |  |  |
| 2.11 Wetland Polygor                    | n Quality Descriptor (see: И   | etland Quality Desc   | riptions and check one):                     |  |  |  |  |  |
| X Good                                  | Medium   | Po                    | or   |  |  |  |  |  |

| Tier  | 3а  | Inc   | vik  | idua  | al Polygon: Rapid Hydrology Indicators  |
|-------|-----|-------|------|-------|---|
| 3a.1  | Not | able  | e Fe | eatui | es that influence water quality and hydrology:  |
| Estir | nat | ed h  | erb  | aceo  | ous plant cover (percentage) in the polygon <u>x</u> 100-75 75-50 50-25 <25   |
| Estir | nat | ed v  | v00  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _x <25   |
| Amo   | unt | of o  | dea  | d wo  | ody material on the soil surface:  nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers  |
| 3a.2  | Wa  | ter ( | Qua  | ality | Protection Questions:   |
| 1.    | x   | Υ     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.    |     | Y     | х    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.    |     |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.   | х   | Y     |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.   |     | Y     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.    |     | Y     | х    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.    |     | Υ     | х    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.    | x   | Υ     |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|       |     |       |      |       | Average width of buffer area (in meters) 1-10 Approximate slope (percent) 2-4   |
| 3a.3  | Flo | od a  | nd   | Sto   | mwater Storage / Attenuation Questions:   |
| 1.    |     |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.   |     | Y     | х    | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.   |     | Υ     |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.    | х   | Y     |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.    | X   | Y     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |
| 4.    |     | Y     | х    | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |
| 5.    | .,  | v     |      | N     | Is the wetland located in a local watershed which has highly modified runoff conditions due to  |

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Data Reference # \$5W069

NWI Polygon #

69e

| NWI Polygon #                       | 69e   | Data Reference # S5W069   |
|-------------------------------------|---|---|
| Tier 3b Individu                    | ıal Polygon: Rapid Ve                             | getation Description  |
| <b>3b.1 Zonation and</b> 1. How man | -   | ent in this wetland polygon? _ 1  |
| 1b. If only one                     | e vegetation zone is evident                      | which best describes the site?  |
| X                                   | Polygon composed of a m heterogeneous textures ac | osaic of small vegetation patches, hummocks, or tussocks;<br>cross the polygon.             |
|                                     | Polygon composed of a sin polygon.                | ngle vegetation type with more or less uniform texture across the                           |
|                                     |   | sent in the polygon, which interspersion diagram most closely represents                    |
|                                     | e One Interspersion                               | Type Two Interspersion  |
| (                                   |   |   |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zo                         | Photo number(s)  (Note: V-mark location on the NWI polygon)                                 |
| What % of the polyg                 | gon does this vegetative zor                      | e occupy?   |
| 10 – 25%                            | 25 – 50 %   | 50 - 75% 75 - 90%x >90%   |
| Is there notable laye               | ering/stratification in this veg                  |   |
|                                     | es that forms extensive mon                       | more than 10% of the area) listed in order of relative abundance. (Mark ocultural patches). |
| b Polygonum sag                     |   | e   |
| С                                   | -   | f   |
| Dominant <b>Shrub</b> Sp            | pecies listed in order of relat                   | ive abundance.  |
|                                     |   |   |
| b                                   |   | d   |
| -                                   | cies listed in order of relativ                   |   |
| L                                   |   | _1  |
| ·                                   | ov. x nil sena                                    | rate, seldom touching often touching More or less closed                                    |
| Mature trees (>12"                  |   | /es no  |
| Other remarks (inc                  | clude personal comments ab                        | out what adds to or detracts from the quality of this wetland site).                        |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 X clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 2 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*3-way sedge (Dulichium arundinaceum) 10 \*black-eyed Susan (Rudbeckia fulgida) 8 \*twig rush (Cladium mariscoides, N) 10 cardinal flower (Lobelia cardinalis) 4

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\*umbrella sedge (Fuirena squarrosa, N) 10

wild hyacinth (Camassia scilloides) 5
\*yellow-eyed grass (Xyris torta, N) 9

| cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4  | Shrubs - Ivs. alternate  *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5 |
|--|--|
| *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4  smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10  *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3   | Trees - Ivs. needle shaped  *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7  ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10   |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5  Shrubs - leaves opposite or whorled | Trees – Ivs. simple and opposite   |
| bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2  | InWrap, Terg revised June 200  |

| Tier 2 Individual Polygon: Preliminary Assessment (to be completed on-site for each NWI polygon present in the wetland)  2.1 Wetland Geomorphic Setting and Surface. Water Flow (check one):   |         | Polygon #<br>ble on page or            | 69f<br>ne)          |               | _ Data Ref        | erence #      | S5W069           | InWRAP, TERG May 2000                 |
|--|---------|--|---------------------|---------------|-------------------|---------------|------------------|---------------------------------------|
| Depressional   Slope   x   Floodplain   Lacustrine   |         |  | Polygon: Pre        | eliminary A   | ssessme           | ent (to be o  | completed on-sit | e for <u>each</u> NWI polygon present |
| Is standing water normally present in the polygon? No If standing water is present, is the water greater than 2 meters in depth? Is standing water normally present in an adjacent polygon? Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded Seasonally Flooded Saturated (surface water seldom present) Artificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.) Vamineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Shallow Marsh  2.6 Disturbances of Hydrology (check all that apply): Ditching Ditching Sinding Active Other Human Disturbances to the Hydrology (explain): Bridge abutment Bridge abutment  7.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common): Garlic Mustard Phragmities Purple loosestrife South (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | 2.1 We  | Depressio                              | nal                 | Slope         | Vater Flow<br>_x_ | •             | •                | Lacustrine                            |
| If standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon?  Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded  Saturated (surface water seldom present)  Organic (i.e. peat, etc.)  Organic (i.e. peat, etc.)  Stallow Marsh  2.6 Disturbances of Hydrology (check all that apply):  Ditching  Ditching  Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard  Phragmities  Purple loosestrife  Solther (list)  Descriptor Special Community Types:  Bog  Fen  Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present  RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  | 2.2 Pre | sence of Sta                           | nding Water:        |               |                   |               |                  |                                       |
| Permanently Flooded  Seasonally Flooded Saturated (surface water seldom present)  Organic (i.e. peat, etc.)  Nameral  Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Shallow Marsh  2.6 Disturbances of Hydrology (check all that apply):  Ditching  Tiles  Dams  Bridge abutment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard  Phragmities  Purple loosestrife  SOther (list):  Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present  RTES Present (list)  2.10 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  |         | <ul> <li>If standing \u00ed</li> </ul> | water is present, i | s the water g | reater than       |               | depth?           |                                       |
| X   Seasonally Flooded   Saturated (surface water seldom present)   Artificially Drained   | 2.3 App | oarent Hydro                           | period (check o     | ne):          |                   |               |                  |                                       |
| Saturated (surface water seldom present) Artificially Drained  2.4 Soil Type:     Organic (i.e. peat, etc.) x Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):     Shallow Marsh  2.6 Disturbances of Hydrology (check all that apply):     Ditching Culvert     Tiles Other Human Disturbances to the Hydrology (explain):     Dams Bridge abutment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):     Garlic Mustard Glossy Buckthorn     Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):     Garlic Mustard Glossy Buckthorn     Phragmities Reed canary grass     Purple loosestrife S Other (list): Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types:     Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:     None observed or known to be present     RTES Present (list)  |         | •                                      |                     |               |                   | Artific       | ially Flooded    |                                       |
| Organic (i.e. peat, etc.) x Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Shallow Marsh  2.6 Disturbances of Hydrology (check all that apply):  Ditching Culvert Tiles X Other Human Disturbances to the Hydrology (explain): Dams Bridge abutment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common): Garlic Mustard Glossy Buckthorn Phragmities Reed canary grass Purple loosestrife S Other (list): Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   |         |  |                     | om present)   |                   | Artific       | ially Drained    |                                       |
| 2.6 Disturbances of Hydrology (check all that apply):  Ditching Tiles Dams Bridge abutment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard Phragmities Purple loosestrife SOther (list): Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  | 2.4 Soi |  | e. peat, etc.)      | x             | Mineral           |               | Both I           | Mineral and Organic Present           |
| Bridge abutment  Bridge | Shallo  | ow Marsh<br>turbances of               |                     |               |                   |               | and Communition  | es of Indiana):                       |
| Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard Phragmities Reed canary grass Purple loosestrife SOther (list): Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  |         | Tiles                                  |                     |               | x                 | -<br>Other Hu | man Disturbanc   | es to the Hydrology (explain):        |
| 2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard Phragmities Reed canary grass Purple loosestrife SOther (list): Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   |         |  |                     |               | Bridge            | abutment      |                  |                                       |
| Garlic Mustard Glossy Buckthorn Reed canary grass Multiflora rose Reed canary grass Multiflora rose  |         | Road or Railr                          | oad Embankmen       | t             |                   |               |                  |                                       |
| Phragmities Purple loosestrife S Other (list): Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   |         |  | -                   | core as: S =  | Scattered,        | F = Freque    | ent, or C = Com  | imon):                                |
| Purple loosestrife  S Other (list): Multiflora rose  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  |         |  | <sup>-</sup> d      |               | -                 |               |                  |                                       |
| 2.9 Presence of Special Community Types:  Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   |         | •                                      | strife              |               | <del>-</del>      | _             | rose             |                                       |
| Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  x None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | 2.8 Pre | sence of Sp                            | ecial Hydrologic    | Conditions    | (i.e. seeps,      | wet slope     | s, floating mat) | :                                     |
| x None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | 2.9 Pre | -                                      | ecial Community     |               | _                 | We            | et Sand / Muck F | lats or Mari Seeps                    |
| RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  | 2.10 Pr | esence of K                            | nown Federal or     | Indiana Rar   | e, Threaten       | ed or End     | angered Specie   | es:                                   |
|  | X       |  |                     | ·             |                   |               |                  |                                       |
|  |         |  | on Quality Desc     | -             | Wetland Qเ        | -             | -                | eck one):                             |

| NW    | I Po | olyg  | on   | #     | 69f Data Reference # S5W069   |  |  |  |  |  |
|-------|------|-------|------|-------|---|--|--|--|--|--|
| Tier  | 3a   | Inc   | div  | idua  | al Polygon: Rapid Hydrology Indicators  |  |  |  |  |  |
| 3a.1  | Not  | able  | e Fo | eatui | es that influence water quality and hydrology:  |  |  |  |  |  |
| Estir | mat  | ed h  | erb  | aceo  | ous plant cover (percentage) in the polygon 100-75 75-50 _x 50-25 <25   |  |  |  |  |  |
| Estir | mate | ed v  | voo  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _X <25   |  |  |  |  |  |
| Amo   | unt  | of o  | dea  | d wo  | ody material on the soil surface:  nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers)   |  |  |  |  |  |
| 3a.2  | Wa   | ter ( | Qua  | ality | Protection Questions:   |  |  |  |  |  |
| 1.    | x    | Y     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |  |  |
| 2.    |      | Υ     | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |  |  |
| 3.    |      |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |  |  |  |  |  |
| За.   |      | Υ     |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |  |  |
| 3b.   | Х    | Υ     |      | N     | s the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?   |  |  |  |  |  |
| 4.    | х    | Υ     |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |  |  |
| 5.    |      | Υ     | X    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |  |  |
| 5.    | x    | Y     |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |  |  |
|       |      |       |      |       | Average width of buffer area (in meters) 1-10 Approximate slope (percent) 1-4   |  |  |  |  |  |
| 3a.3  | Flo  | od a  | and  | Sto   | mwater Storage / Attenuation Questions:   |  |  |  |  |  |
| 1.    |      |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |  |  |
| 1a.   |      | Y     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |  |  |
| 1b.   |      | Y     | x    | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |  |  |
| 2.    | х    | Υ     |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |  |  |
| 3.    | х    | Y     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |  |  |  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

impermeable, or is bedrock within two feet of the top of the soil profile?

5.

**x Y** 

| NWI Polygon #                        | 69f                         |  | Data Reference #      | S5W069   | _                    |
|--------------------------------------|-----------------------------|--|-----------------------|--|----------------------|
| Tier 3b Individu                     | ıal Polygon: Rap            | oid Vegetation De                              | scription             |  |                      |
| <b>3b.1 Zonation and</b> 1. How many | -                           | are evident in this wetla                      | and polygon? 1        |  |                      |
| 1b. If only one                      | e vegetation zone is        | evident, which best de                         | scribes the site?     |  |                      |
|                                      |                             | d of a mosaic of small values across the polyg | •                     | hummocks, or tu                                  | ssocks;              |
| x                                    | Polygon composed polygon.   | d of a single vegetation                       | type with more or I   | ess uniform textu                                | re across the        |
| the distribut                        | ion of these zones?         | e is present in the poly                       |                       | _  |                      |
| Туре                                 | One Interspersion           | 1  |                       | Type Two Inters                                  | persion              |
| (                                    |                             |  |                       |  |                      |
| 3b.2 Dominant Pla                    | nt Species: Vegeta          | tion zone A                                    |                       | Observation Po number(s) 15 nark location on the |                      |
| What % of the polyg                  | gon does this vegeta        | • •  | ·                     |  | o ittii poiygoii,    |
| 10 – 25%                             | 25 – 50                     | ) % 50   | ) – 75%               | 75 – 90%   | _x >90%              |
| Is there notable laye                | ering/stratification in     | this vegetation zone?                          | Yes                   |  |                      |
| Dominant Herbace                     | <b>ous</b> Species (i.e. co | overing more than 10%                          | 6 of the area) lister | d in order of relat                              | ive abundance. (Mark |
|                                      |                             | ve monocultural patch                          |                       | a in order or rolar                              | ivo abandanoo. (mark |
| a Leersia oryzoid                    |                             | ·  | d                     |  |                      |
| b Polygonum sag                      | gittatum                    |  | е                     |  |                      |
| С                                    |                             |  | f                     |  |                      |
| D : (0) 10                           |                             |  |                       |  |                      |
| •                                    | becies listed in order      | of relative abundance                          |                       |  |                      |
| a Salix interior b Cephalanthus      | occidentalis                |  |                       |  |                      |
| b <u>Cephalaninas</u>                | occidentalis                |  | u                     |  |                      |
| Dominant <b>Tree</b> Spe             | cies listed in order o      | f relative abundance.                          |                       |  |                      |
| a                                    |                             |  | С                     |  |                      |
| b                                    |                             |  | d                     |  |                      |
| Tree & shrub canop                   | y: nil                      | _ separate, seldom to                          | uching x ofte         | n touching                                       | More or less closed  |
| Mature trees (>12"                   | dbh) present:               | yes>   | c no                  |  |                      |
| Other remarks (inc                   | lude personal comm          | ents about what adds                           | to or detracts from   | the quality of this                              | wetland site).       |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 X water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 X moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 X needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple X rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*3-way sedge (Dulichium arundinaceum) 10 \*black-eyed Susan (Rudbeckia fulgida) 8 \*twig rush (Cladium mariscoides, N) 10 cardinal flower (Lobelia cardinalis) 4 \*umbrella sedge (Fuirena squarrosa, N) 10

wild hyacinth (Camassia scilloides) 5
\*yellow-eyed grass (Xyris torta, N) 9

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|       | cress spp. (Cardamine) 4   | Shrubs - Ivs. alternate  |
|-------|--|--|
|       | dock spp.: swamp-, water-, pale- (Rumex) 4   | *cranberry spp. (Vaccinium, N) 10  |
|       | garlic mustard (Alliaria petio/ata) 0  | *dwarf birch (Betula pumila, N) 10   |
| -     | golden ragwort (Senecio aureus) 4  | *high bush blueberry (V. corymbosum, N) 9  |
| -     | *goldenrod spp. (Solidago ohioensis, S.  | *leatherleaf (Chamaedaphne calycul., N) 10   |
|       | patula, S. riddellil) 9  | meadowsweet & hardhack spp.(Spiraea) 4   |
|       | *grass of Parnassus (Parnassia glauca) 10  | *ninebark (Physocarpus opulifoius) 7   |
|       | *Indian plantain <i>(Cacalia plantaginea) 10</i>   | *shrubby cinquefoil (Potentilla fruticosa) 9   |
|       | ironweed spp. (Vernonia) 4   | spice bush (Lindera benzoin) 5   |
| X     |  | *swamp dewberry (Rubus hispidus) 6   |
|       | lizard's tail (Saururus cernuus) 4   | *swamp holly & winterberry (//ex spp.) 7   |
|       | lobelia spp. <i>(Lobelia) 4</i>  | swamp rose (Rosa palustris) 5  |
| -     | *marsh marigold (Caltha palustris) 7   |  |
| -     | *moonseed (vine) (Menispermum canadense) 6   | Trees - Ivs. needle shaped   |
|       | primrose-willow spp.(Epilobium &Ludwigia) 3  | *tamarack (Larix laricina, N) 10   |
|       | rose mallow spp. (Hibiscus) 4  |  |
| X     |  | Trees - Ivs. compound  |
|       | tearthumb, water-pepper, water-sm.   | *ash, black <i>(Fraxinus nigra)</i> 7  |
|       | (Polygonum) 4 [Except *for P. arifolium 10]  | ash, green (Fraxinus pensylvanica) 3   |
|       | sneezeweed (Helenium autumnale) 3  | *ash, pumpkin (Fraxinus tomentosa, SW) 8   |
|       | stinging nettle (Laportea canadensis) 2  | boxelder <i>(Acer negundo)</i> 1   |
|       | *swamp saxifrage (Saxifraga pa.) 10  | hickory, bitternut (Carya cordiformis) 5   |
|       | *Virginia bluebells (Mertensia virginica) 6  | *hickory, shell bark <i>(Carya laciniosa)</i> 8  |
|       | waterhemp (Amaranthus tuberculatus) 1  | honey locust (Gleditsia triacanthos) 1   |
|       | wingstem (Actinomeris alternifolia) 3  | *poison sumac <i>(Rhus vernix)</i> 10  |
|       | _ wingstern (notinomone alterniola) o  | Tours the South on Language  |
| Herbs | : dicots - lvs. basal or alternate and   | Trees – Ivs. simple and opposite   |
| comp  | ound or deeply lobed   | red maple (Acer rubrum) 5  |
| •     | aven spp.: rough a., white a. (Geum) 2   | X silver maple (A. saccharinum) 1  |
|       | *buttercup spp: e.g. cursed b., hooked b.,   | Trees – Ivs. simple and alternate  |
|       | swamp b. <i>(Ranunculus)</i> 6   | *alder, speckled (Alnus rugosa) 9  |
|       | chervil (Chaerophyllum procumbens) 3   | birch, river (Betula nigra) 2  |
|       | *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 | black gum (Nyssa sylvatica) 5  |
|       | *great angelica (Angelica atropurpurea) 6  | cottonwood, eastern (Populus deltoides) 1  |
|       | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5   | *cottonwood, swamp (P. heterophylla, SW) 8   |
|       | honewort (Cryptotaenia canadensis) 3   | elm, Amer. (Ulmus americana) 3   |
|       | meadow rue spp. (Thalictrum) 5   | hackberry (Celtis occidentalis) 3  |
|       | poison ivy (vine) <i>(Rhus radicans)</i> 1   | ironwood (Carpinus caroliniana) 5  |
|       | *queen-of-the-prairie (Filipendula rubra) 9  | oak, pin or white (Quercus) 4  |
|       | senna spp. <i>(Cassia) 4</i>   | *oak, Shumard's, sw. chestnut, sw. white 7   |
|       | swamp agrimony (Agrimonia parviflora) 4  | *papaw (Asimina triloba) 6   |
|       | *swamp thistle (Cirsium muticum) 8   | *sugarberry <i>(Celtis laevigata,</i> S) 7   |
|       | tall coneflower (Rudbeckia laciniata) 3  | sweet gum (Liquidambar styraciflua) 4  |
|       | *water hemlock spp. (Cicuta) 7   |  |
|       | water parsnips (Sium suave) 5  | <ul> <li>X sycamore, Amer. (Platanus occidentalis) 3</li> <li>X willow spp. (Salix) sp.1=3; *additional=7</li> </ul> |
|       | - , , , ,  | willow spp. (Gallx) sp. 1–3, additional=1  |
| Shrub | s - leaves opposite or whorled   | OTHER Multiflora rose (Rosa multiflora)  |
|       | _ bladdernut (Staphylea trifolia) 5  |  |
|       | _ buckthorn spp. (Rhamnus cathar. & frangula) 0  |  |
|       | _ button bush (Cepha/anthus occidentalis) 5  |  |
|       | _ dogwood, red-osier (Cornus stolonifera) 4  |  |
|       | _ *dogwood, blue-fruited or silky <i>Cornus</i>  |  |
|       | obliqua) 7   |  |
|       | _ dogwood, gray (C. racemosa) 2  | InWrap, Terg revised June 2005   |
| X     | elderberry (Sambucus) 2  | ., . 3   |

|               | Polygon # <u>(</u><br>ble on page one)               | 9g   | _ Data Reference #                    | S5W069                                  | InWRAP, TERG May 2000               |
|---------------|--|--|---------------------------------------|---|-------------------------------------|
|               | 2 Individual F<br>wetland)                           | Polygon: Preliminary A   | <b>ssessment</b> (to be d             | completed on-site                       | for <u>each</u> NWI polygon present |
| 2.1 We        | Depression   | ohic Setting and Surface. Wal Slope thin the river/stream banks)                                   | -                                     | e):<br>oodplain                         | Lacustrine                          |
| 2.2 Pr        | esence of Stan                                       | ding Water:  |                                       |   |                                     |
|               | If standing wa                                       | nally present in the polygon?<br>ter is present, is the water gr<br>nally present in an adjacent p | eater than 2 meters in                | depth? Yes                              |                                     |
| 2.3 Ap        | parent Hydrop  | eriod (check one):   |                                       |   |                                     |
| <u>x</u>      | Permanently Flo<br>Seasonally Flo<br>Saturated (surf |  |                                       | cially Flooded                          |                                     |
| 2.4 So        | il Type: Organic (i.e.                               | peat, etc.)  | Mineral                               | x Both M                                | ineral and Organic Present          |
|               | etland Commur<br>ow Open Water                       | ity Type for this NWI polyg  | on (see Key to Wetla                  | and Communities                         | s of Indiana):                      |
| 2.6 Dis       | sturbances of H                                      | lydrology (check all that ap   | pply):                                |   |                                     |
|               | Ditching   |  | Culvert                               |   |                                     |
|               | Tiles  |  | x Other Hu                            | ıman Disturbance                        | s to the Hydrology (explain):       |
| <u> </u>      | Dams Road or Railroa                                 | ad Embankment  | LIVESTOCK                             |   |                                     |
| 2.7 Pr        | esence of Invas                                      | sive Exotics (Score as: S =  | Scattered. F = Freque                 | ent. or C = Comn                        | non):                               |
| <u> </u>      | Garlic Mustard  Phragmities  Purple loosestr         | 6  | Blossy Buckthorn<br>Reed canary grass | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |                                     |
| 2.8 Pr        | esence of Spec                                       | ial Hydrologic Conditions (  | i.e. seeps, wet slope                 | s, floating mat):                       |                                     |
| 2.9 Pro       | esence of Spec                                       | ial Community Types: Fen   | We                                    | et Sand / Muck Fla                      | ats or Mari Seeps                   |
| 2.10 P        | resence of Kno                                       | wn Federal or Indiana Rare   | e, Threatened or End                  | angered Species                         | :                                   |
| X             | None obsert  | ved or known to be present<br>ent (list)   |                                       |   |                                     |
| <b>2.11 W</b> | /etland Polygoi                                      | n Quality Descriptor (see: Medium  | Wetland Quality Desc                  | -                                       | ck one):                            |

| NWI Polygon # |     | #     | 69g Data Reference # S5W069 |       |  |   |                           |                     |  |
|---------------|-----|-------|-----------------------------|-------|--|---|---------------------------|---------------------|--|
| Tier          | 3a  | In    | div                         | idu   | al Polygon: Rapid Hydrology Indica   | tors  |                           |                     |  |
| 3a.1          | Not | abl   | e Fo                        | eatu  | res that influence water quality and hydrol  | ogy:  |                           |                     |  |
| Estir         | nat | ed h  | erb                         | aceo  | ous plant cover (percentage) in the polygon  | 100-7   | 75-50                     | _50-25 <u>x</u> <25 |  |
| Estir         | nat | ed v  | voo                         | dy pl | ant foliar cover in the polygon  | 100-75  | 75-50                     | _50-25 <u>x</u> <25 |  |
| Amo           | unt | of    | dea                         | d wo  | ody material on the soil surface:  nil (<5% cover) so  | cattered (5-15% c   | cover) Frequ              | ent (>20% covers)   |  |
| 3a.2          | Wa  | ter ( | Qua                         | ality | Protection Questions:  |   |                           |                     |  |
| 1.            |     | Y     | Х                           | N     | Does the wetland have a significant amount density to potentially uptake dissolved nutrie  |   | ecifically perennial ar   | nd woody plant)     |  |
| 2.            | х   | Y     |                             | N     | Managed water (e.g. municipal or road storr or municipal wastewater) is <b>not</b> discharged  |   |                           | outlet, industrial  |  |
| 3.            |     |       |                             |       | If wetland in question is a depressional wetla   | and answer 3a, if   | not, answer 3b            |                     |  |
| За.           |     | Y     |                             | N     | Does the wetland have a shape or flow that before the water reaches the center of the w  |   | ttling out of suspende    | d materials         |  |
| 3b.           | х   | Y     |                             | N     | Is the position of the wetland in the landscap surface body of water down gradient?  | oe such that run-o  | off is held or filtered b | efore entering a    |  |
| 4.            |     | Y     | х                           | N     |  | oes the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) rith row cropping, or areas with severe overgrazing within 100 meters of its border?     |                           |                     |  |
| 5.            |     | Y     | х                           | N     | Are there recreational lakes, navigable water down gradient in the local watershed?  | here recreational lakes, navigable watercourses, or water supply sources located within a mile a gradient in the local watershed?   |                           |                     |  |
| 6.            | х   | Υ     |                             | N     |  | vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow d be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area |                           |                     |  |
|               |     |       |                             |       | Average width of buffer area (in meters)   | 10-20 Approx  | cimate slope (percent     | ) 1-2               |  |
| 3a.3          | Flo | od a  | and                         | Sto   | rmwater Storage / Attenuation Questions:   |   |                           |                     |  |
| 1.            |     |       |                             |       | If wetland in question is a depressional wetla   | and answer 1a, if   | not, answer 1b            |                     |  |
| 1a.           |     | Y     |                             | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland? |   |                           |                     |  |
| 1b.           |     | Y     | х                           | N     | Is there a significant amount of microtopograthe velocity of the water leaving the wetland   |   | e density within the w    | etland to reduce    |  |
| 2.            | x   | Y     |                             | N     | Does the wetland <b>lack</b> man-made structures (tiles, culverts, ditches)?   | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland  |                           |                     |  |
| 3.            | X   | Y     |                             | N     | Is the flood potential high in the sub-watersh damages)?   | s the flood potential high in the sub-watershed in which the wetland is located (history of flood   |                           |                     |  |
| 4.            | х   | Y     |                             | N     | Is the wetland located in a watershed where impermeable, or is bedrock within two feet of  |   |                           | ayey and            |  |
| 5.            |     | v     |                             | N     | Is the wetland located in a local watershed v  | which has highly  | modified runoff condit    | tions due to        |  |

existing development (e.g. >50% area in row crop, commercial, or residential use)?

| NWI Polygon #                       | 69g  | Data Reference # S5W069  |
|-------------------------------------|--|--|
| Tier 3b Individu                    | ıal Polygon: Rapid Veç                                   | getation Description   |
| <b>3b.1 Zonation and</b> 1. How man | Interspersion: y vegetation zones are evide              | ent in this wetland polygon? 1   |
| 1b. If only one                     | e vegetation zone is evident,                            | which best describes the site?   |
|                                     | Polygon composed of a month heterogeneous textures ac    | osaic of small vegetation patches, hummocks, or tussocks; cross the polygon. |
| X                                   | Polygon composed of a sir polygon.                       | ngle vegetation type with more or less uniform texture across the            |
|                                     | one vegetation zone is presion of these zones?           | sent in the polygon, which interspersion diagram most closely represents     |
| Туре                                | e One Interspersion                                      | Type Two Interspersion   |
| (                                   |  |  |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zor                               | Photo number(s)  (Note: V-mark location on the NWI polygon)                  |
| What % of the polyg                 | gon does this vegetative zon                             | ,                                      |
| 10 – 25%                            | _x 25 – 50 %   | 50 - 75% 75 - 90% >90%   |
| Is there notable laye               | ering/stratification in this veg                         | etation zone? No   |
| with an * any specie                | ous Species (i.e. covering res that forms extensive mone |  |
| a <u>Lemna minor</u><br>b           |  | d  |
| С                                   |  | e<br>f   |
|                                     |  |  |
| Dominant Shrub Sp                   | pecies listed in order of relati                         | ive abundance.   |
| a                                   |  | c  |
| b                                   |  | d  |
| Dominant <b>Tree</b> Spe            | cies listed in order of relative                         | e abundance.   |
|                                     |  | •  |
|                                     | w. v nil sonar   | rate, seldom touching often touching More or less closed                     |
| TIEE & SIIIUD CAIIUP                | y. <u>A</u> IIII <u> </u>                                | onen touching onen touching whole of less closed                             |
| Mature trees (>12"                  | dbh) present: y  | yes <u>x</u> no  |
| Other remarks (inc                  | clude personal comments ab                               | out what adds to or detracts from the quality of this wetland site).         |

|               |     | "                | 0.714/0.00 |
|---------------|-----|------------------|------------|
| NWI Polygon # | 59a | Data Reference # | S5W069     |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4  | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5  *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10   |
|--|---|
| *Sphagnum moss spp. (Sphagnum, N) 10  Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1  X duckweed spp. (Lemnaceae) 3  *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus)  *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4  *yellow spatterdock spp. (Nuphar) 6  Herbs: insectivorous plants  | <ul> <li>water plantain (Alisma plantago-aquat.) 2</li> <li>Herbs: dicots - Ivs. opposite/whorled</li></ul>   |
| *pitcher plant (Sarracenia purpurea,N) 10  *sundew spp. (Drosera, N) 10  Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10  blueflag iris (Iris virginica) 5  bulrush spp. (Scirpus / Schoenoplectus) 5  *bur reed spp. (Sparganium) 9  cat-tail spp. (Typha) 1  *cotton grass spp. (Eriophorum, N) 10   | *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 moneywort (Lysimachia nummularia) 0 monkey flower spp. (Mimulus) 4 nettle (Urtica pro cera) 1   |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species  a. *wild rice ( <i>Zizania aquatica</i> , N) 10  b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa] needle sedge spp. (Eleocharis) sp.1 =2 *additional=8 nutsedge spp. (Cyperus) 2 *orchid spp.: species (if known) rush spp. (Juncus) 4 sedge spp. (Carex) sp.1=3 *additional=7 | purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8  swamp milkweed (Asclepias incarnata) 4  toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8  virgin's bower (vine) (Clematis virginiana) 3  water puslane (Ludwigia palustris) 3  winged loosestrife (Lythrum alatum) 5  Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4  *asters: bristly aster (Aster puniceus) 7 |
| *spiderlily (Hymenocallis occidentalis) 9 sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10  wild hyacinth (Camassia scilloides) 5  *vellow-eved grass (Xvris torta, N) 9   | *flat-topped aster (A. umbellatus) 8 other aster spp. (e.g. New Engl, panicled-a) 3 *black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4  InWrap, Terg revised June 2005  |

| NWI Polygon # 69g  | Data Reference # 69  |
|--|--|
| cress spp. (Cardamine) 4   | Shrubs - Ivs. alternate  |
| dock spp.: swamp-, water-, pale- (Rumex) 4   | *cranberry spp. (Vaccinium, N) 10  |
| garlic mustard (Alliaria petio/ata) 0  | *dwarf birch <i>(Betula pumila,</i> N) 10  |
| golden ragwort (Senecio aureus) 4  | *high bush blueberry (V. corymbosum, N) 9  |
| *goldenrod spp. (Solidago ohioensis, S.  | *leatherleaf (Chamaedaphne calycul., N) 10   |
| patula, S. riddellil) 9  | meadowsweet & hardhack spp.(Spiraea) 4   |
| *grass of Parnassus (Parnassia glauca) 10  | *ninebark (Physocarpus opulifoius) 7   |
| *Indian plantain (Cacalia plantaginea) 10  | *shrubby cinquefoil (Potentilla fruticosa) 9   |
| ironweed spp. (Vernonia) 4   | spice bush (Lindera benzoin) 5   |
| jewelweed, touch-me-not spp. (Impatiens) 3   | *swamp dewberry (Rubus hispidus) 6   |
| lizard's tail (Saururus cernuus) 4   | *swamp holly & winterberry (/lex spp.) 7   |
| lobelia spp. (Lobelia) 4   | swamp rose (Rosa palustris) 5  |
| *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4 *marsh marigold (Caltha palustris) 7 |  |
| *moonseed (vine) (Menispermum canadense  | P) 6 Trees - Ivs. needle shaped  |
| primrose-willow spp.(Epilobium &Ludwigia) 3  | *tamarack (Larix laricina, N) 10   |
| rose mallow spp. (Hibiscus) 4  | Trees - Ivs. compound  |
| <b>X</b> smartweed spp.: incl. jumpseed, pinkweed,   | *ash, black (Fraxinus nigra) 7   |
| tearthumb, water-pepper, water-sm.   | ash green (Fravinus pensylvanica) 3  |
| (Polygonum) 4 [Except *for P. arifolium  | *ash, pumpkin (Fraxinus tomentosa, SW) 8   |
| sneezeweed (Helenium autumnale) 3  | boxelder (Acer negundo) 1  |
| stinging nettle (Laportea canadensis) 2  | hickory, bitternut (Carya cordiformis) 5   |
| *swamp saxifrage (Saxifraga pa.) 10  | *hickory, shell bark (Carya laciniosa) 8   |
| *Virginia bluebells (Mertensia virginica) 6  | honey locust (Gleditsia triacanthos) 1   |
| waterhemp (Amaranthus tuberculatus) 1  | *poison sumac (Rhus vernix) 10   |
| wingstem (Actinomeris alternifolia) 3  | poloon camae (rande vormx) To  |
| Herbs: dicots - Ivs. basal or alternate and  | Trees – Ivs. simple and opposite   |
| compound or deeply lobed   | red maple (Acer rubrum) 5  |
| aven spp.: rough a., white a. (Geum) 2   | silver maple (A. saccharinum) 1  |
| *buttercup spp: e.g. cursed b., hooked b.,   | <b>-</b>   |
| swamp b. (Ranunculus) 6  | Trees – Ivs. simple and alternate  |
| chervil (Chaerophyllum procumbens) 3   | *alder, speckled (Alnus rugosa) 9  |
| *cowbane (Oxypolis rigidior) 7   | birch, river (Betula nigra) 2  |
| *great angelica (Angelica atropurpurea) 6  | black gum (Nyssa sylvatica) 5  |
| hog peanut/gd. nut spp. (Amphicarpaea&Apios  | cottonwood, eastern (Populus deltoides) 1  |
| honewort (Cryptotaenia canadensis) 3   | *cottonwood, swamp ( <i>P. heterophylla,</i> SW) 8 elm, Amer. ( <i>Ulmus americana</i> ) 3 |
| meadow rue spp. (Thalictrum) 5   | hackberry (Celtis occidentalis) 3  |
| poison ivy (vine) (Rhus radicans) 1  | ironwood (Carpinus caroliniana) 5  |
| *queen-of-the-prairie (Filipendula rubra) 9  |  |
| senna spp. (Cassia) 4  | oak, pin or white (Quercus) 4  |
| swamp agrimony (Ágrimonia parviflora) 4  | *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6                      |
| *swamp thistle (Cirsium muticum) 8   | *sugarberry <i>(Celtis laevigata,</i> S) 7   |
| tall coneflower (Rudbeckia laciniata) 3  | sweet gum (Liquidambar styraciflua) 4  |
| *water hemlock spp. (Cicuta) 7   | sycamore, Amer. (Platanus occidentalis) 3  |
| water parsnips (Sium suave) 5  | willow spp. (Salix) sp.1=3; *additional=7  |
|  | willow spp. (Galix) sp. 1=3, additional=7  |
| Shrubs - leaves opposite or whorled  | OTHER  |
| bladdernut (Staphylea trifolia) 5  | 10   |
| buckthorn spp. (Rhamnus cathar. & frangula,  | <i>1</i> U   |
| button bush (Cepha/anthus occidentalis) 5  |  |

dogwood, red-osier (Cornus stolonifera) 4
\*dogwood, blue-fruited or silky Cornus

obliqua) 7 dogwood, gray (C. racemosa) 2

elderberry (Sambucus) 2

| NWI Polygo<br>(see table on |                           | 69i                                    |                              | _ Data Ref    | erence #           | S5W069                 | InWRAP, TERG May 2000                   |
|-----------------------------|---------------------------|--|------------------------------|---------------|--------------------|------------------------|---|
| •                           | vidual                    | •                                      | liminary A                   | ssessme       | <b>nt</b> (to be o | completed on-s         | ite for <u>each</u> NWI polygon present |
|                             | <b>Geomo</b><br>epression | rphic Setting an                       | <b>d Surface. W</b><br>Slope | later Flow (  | •                  | <b>e):</b><br>podplain | Lacustrine                              |
|                             | •                         | vithin the river/str                   |                              |               |                    |                        |   |
| 2.2 Presence                | e of Sta                  | nding Water:                           |                              |               |                    |                        |   |
| Is standing                 | water no                  | rmally present in                      | the polygon?                 | Yes           |                    |                        |   |
|                             | •                         | vater is present, is rmally present in | _                            |               | 2 meters in<br>Yes | depth? No              |   |
| 2.3 Apparen                 | t Hydro                   | period (check o                        | ne):                         |               |                    |                        |   |
|                             | anently                   |  |                              |               | Artific            | cially Flooded         |   |
|                             | onally Fl<br>ated (su     | ooded<br>rface water seldo             | m present)                   |               | Artific            | cially Drained         |   |
| 2.4 Soil Type               |                           | e. peat, etc.)                         | x                            | Mineral       |                    | Both                   | Mineral and Organic Present             |
|                             | _                         |  |                              | _             | _                  |                        |   |
|                             |                           | unity Type for th                      | is NWI polyg                 | jon (see Ke   | ey to Wetla        | and Communit           | ies of Indiana):                        |
| Deep mars                   | <u>n</u>                  |  |                              |               |                    |                        |   |
| 2.6 Disturba                | nces of                   | Hydrology (che                         | ck all that ap               | pply):        |                    |                        |   |
| Ditchi                      | ing                       |  |                              |               | Culvert            |                        |   |
| Tiles                       |                           |  |                              |               | _                  | ıman Disturban         | ces to the Hydrology (explain):         |
| x Dams                      | 3                         |  |                              | Livesto       | ock                |                        |   |
| x Road                      | or Railr                  | oad Embankmen                          | t                            |               |                    |                        |   |
| 2.7 Presence                | e of Inv                  | asive Exotics (S                       | core as: S =                 | Scattered,    | F = Frequ          | ent, or C = Co         | mmon):                                  |
| Garlio                      | : Mustar                  | d                                      | C                            | Blossy Buckth | norn               |                        |   |
| Phrag                       | gmities                   |  | C F                          | Reed canary ( | grass              |                        |   |
| Purpl                       | e looses                  | trife                                  | <u> </u>                     | Other (list): | Typha ar           | ngustifolia            |   |
| 2.8 Presence                | e of Spe                  | ecial Hydrologic                       | Conditions (                 | (i.e. seeps,  | wet slope          | s, floating mat        | t):                                     |
| -                           |                           |  |                              |               |                    |                        |   |
| 2.9 Presence                | e of Spe                  | ecial Community                        | Types:                       |               |                    |                        |   |
| Bo                          | g                         |  | Fen                          |               | We                 | et Sand / Muck         | Flats or Mari Seeps                     |
| 2.10 Presen                 | ce of Kr                  | nown Federal or                        | Indiana Rare                 | e, Threaten   | ed or End          | angered Spec           | ies:                                    |
|                             |                           | erved or known to                      |                              | •             |                    |                        |   |
|                             |                           | sent (list)                            |                              |               |                    |                        |   |
| 2.11 Wetland                | d Polyg                   | on Quality Desc                        | riptor (see: l               | Wetland Qu    | ality Desc         | eriptions and c        | heck one):                              |
|                             | ood                       | <u> </u>                               | Medium                       | X             | Po                 | •                      |   |

| NI\A/      | I Da       | slva  | on   | #     | 60i Dota Beforence # EW060  |
|------------|------------|-------|------|-------|---|
| NW<br>Tion |            |       |      |       | Data Reference # 5W069  |
| Her        | <i>3</i> a | Inc   | aiv  | laua  | al Polygon: Rapid Hydrology Indicators  |
| 3a.1       | Not        | abl   | e Fe | eatui | res that influence water quality and hydrology:   |
| Estir      | mate       | ed h  | erb  | aceo  | ous plant cover (percentage) in the polygon 100-75 _X_ 75-50 50-25 <25  |
| Estir      | mate       | ed v  | voo  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _x <25   |
| Amo        | unt        | of    | dea  | d wo  | ody material on the soil surface:  nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers)   |
| 3a.2       | Wat        | ter ( | Qua  | ality | Protection Questions:   |
| 1.         | x          | Y     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.         | х          | Y     |      | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.         |            |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.        |            | Y     | х    | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.        |            | Y     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.         |            | Y     | х    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.         |            | Y     | х    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.         | х          | Υ     |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|            |            |       |      |       | Average width of buffer area (in meters) 30 Approximate slope (percent) 5   |
| 3a.3       | Flo        | od a  | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.         |            |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.        |            | Y     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.        | х          | Y     |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.         |            | Y     | x    | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.         | х          | Υ     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**x Y** 

Is the wetland located in a local watershed which has highly modified runoff conditions due to

| NWI Polygon #                        | 69i  | Data Reference # S5W069  |
|--------------------------------------|--|--|
| Tier 3b Individu                     | ıal Polygon: Rapid Veg                                 | etation Description  |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion: y vegetation zones are evider           | nt in this wetland polygon? 1  |
| 1b. If only one                      | e vegetation zone is evident, v                        | which best describes the site?   |
| X                                    | Polygon composed of a most heterogeneous textures acre | saic of small vegetation patches, hummocks, or tussocks; ross the polygon.   |
|                                      | Polygon composed of a sing polygon.                    | gle vegetation type with more or less uniform texture across the   |
|                                      |  | ent in the polygon, which interspersion diagram most closely represents  |
|                                      | e One Interspersion                                    | Type Two Interspersion   |
| (                                    |  |  |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone                            | Photo number(s)  (Note: V-mark location on the NWI polygon)  |
| What % of the poly                   | gon does this vegetative zone                          | ,  |
|                                      | <del>-</del>   | 50 – 75% 75 – 90% x >90%   |
| Is there notable laye                | ering/stratification in this vege                      | etation zone? No   |
|                                      | es that forms extensive mono<br>des<br>linacea         | nore than 10% of the area) listed in order of relative abundance. (Mark cultural patches).  d Aster atrovirens e f |
| Dominant Chrush Cr                   |  |  |
|                                      | pecies listed in order of relativ                      |  |
|                                      |  |  |
| Dominant <b>Tree</b> Spe             | ecies listed in order of relative                      |  |
| a <i>Fraxinus peni</i>               | nsylvanica   |  |
| b Salix nigra                        |  | d  |
| ree & snrub canop                    | oy: <u>x</u> nil separa                                | ate, seldom touching often touching More or less closed  |
| Mature trees (>12"                   | dbh) present: ye                                       | es <u>x</u> no   |
| Other remarks (inc                   | clude personal comments abo                            | out what adds to or detracts from the quality of this wetland site).   |

NWI Polygon #

69i

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10   | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6  X arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6  Jack-in-the-pulpit (Arisaema triphyllum) 4  pickerel weed (Pontederia cordata, N) 5  *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10  X water plantain (Alisma plantago-aquat.) 2   |
|--|---|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus)  *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10 *sundew spp. (Drosera, N) 10  Herbs: linear-Ivs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10  blueflag iris (Iris virginica) 5 bulrush spp. (Scirpus / Schoenoplectus) 5 *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1 *cotton grass spp. (Eriophorum, N) 10  Grasses (family Gramineae) - indicate types & number of species a. *wild rice (Zizania aquatica, N) 10  X b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  X c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa] needle sedge spp. (Eleocharis) sp.1 = 2 *additional=8 nutsedge spp. (Cyperus) 2 *orchid spp.: species (if known) 1 rush spp. (Juncus) 4 1 sedge spp. (Carex) sp.1=3 *additional=7 *spiderlily (Hymenocallis occidentalis) 9 sweet flag (Acorus calamus) 0 *3-way sedge (Dulichium arundinaceum) 10 *twig rush (Cladium mariscoides, N) 10 wild hyacinth (Camassia scilloides) 5 *yellow-eyed grass (Xyris torta, N) 9 | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6  *bedstraw spp. (Galium) 6  *beggar's tick spp. (Bidens) 3  blue vervain (Verbena hastata) 3  boneset (Eupatorium perfoliatum) 4  bugleweed spp. (Pilea) 3  cup plant (Silphium perfoliatum) 4  false nettle (Boehmeria cylindrica) 3  *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8  giant ragweed (Ambrosia trifida) 0  Indian hemp (Apocynum cannabinum) 2  Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  X mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  X moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp. (Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8  x swamp milkweed (Asclepias incarnata) 4  toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8  virgin's bower (vine) (Clematis virginiana) 3  water puslane (Ludwigia palustris) 3  winged loosestrife (Lythrum alatum) 5  Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4  *asters: bristly aster (Aster puniceus) 7  *flat-topped aster (A. umbellatus) 8  X other aster spp. (e.g. New Engl, panicled-a) 3  *black-eyed Susan (Rudbeckia fulgida) 8  cardinal flower (Lobelia cardinalis) 4  InWrap, Terg revised June 2005 |

|          | garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4  | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7   |
|----------|---|--|
|          | Iobelia spp. (Lobelia) 4 *marsh marigold (Caltha palustris) 7 *moonseed (vine) (Menispermum canadense) 6  | swamp rose (Rosa palustris) 5  Trees - Ivs. needle shaped  |
|          | primrose-willow <i>spp.(Epilobium &amp;Ludwigia)</i> 3 rose mallow spp. <i>(Hibiscus)</i> 4   | *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  |
|          | smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10 *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3  | *ash, black (Fraxinus nigra) 7  X ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10  |
|          | dicots - Ivs. basal or alternate and bund or deeply lobed aven spp.: rough a., white a. (Geum) 2  | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1   |
| X        | *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
|          | bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0   | OTHER  |
| <u>X</u> | button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7   |  |
|          | dogwood, gray (C. <i>racemosa)</i> 2<br>elderberry <i>(Sambucus)</i> 2  | InWrap, Terg revised June 2005   |

# **IN-WRAP Summary Sheet**

| Date Re | eport Generated: 10/15/2011       |  |
|---------|-----------------------------------|--|
| Wetland | site name: S5W070                 |  |
| Data Re | eference #: 70                    |  |
| Date of | Site Visit: 10/13 and 10/14/2     | 011  |
| NWI pol | lygons in Site (quadrangle and N  | NWI id. numbers: Bloomington                           |
|         |                                   |  |
| TIER 1  | SUMMARY:                          |  |
| a.      | Total wetland area (hectares):    | 4.42 hectares (10.92 acres)                            |
| b.      | •                                 | y – contribution to animal habitat:                    |
|         |                                   | ☐ More Favorable ☐ Favorable ☐ Neutral                 |
| C.      | Surrounding land use – nume       |  |
| d.      | Value surrounding area adds       | to animal habitat                                      |
|         |                                   |  |
| TIER 2  | 2 SUMMARY:                        | NWI Polygon Id. W70a                                   |
| a.      | Indiana Wetland community ty      | ype: Shallow Marsh                                     |
| b.      | Standing water – contribution     | to animal habitat:   Valuable   Favorable   Neutral    |
| C.      | Disturbances to site: Road        | d/Railroad Embankment                                  |
| d.      | Exotic species rating:            | Good Medium Poor                                       |
| e.      | Special Hydrologic Conditions     | s Observed: None                                       |
| f.      | · · · · · · -                     | None   |
| g.      | Rare-Threatened-Endangered        | ·  |
| h.      | Polygon Quality Description:      | ☐ Good ☐ Medium ☐ Poor                                 |
|         |                                   |  |
| HER 3   | BA SUMMARY:                       |  |
| a.      | Dead woody material as indic      |  |
| b.      | Water quality protection – nur    | · · · · · · · · · · · · · · · · · · ·                  |
| C.      | Flood and storm water storage     | e – numerical rank (5 max): 5 Rating: Good Medium Poor |
|         |                                   |  |
| TIER 3  | BB SUMMARY:                       |  |
| a.      | Zonation and interspersion as     | s indicator of animal habitat:                         |
| b.      | Stratification as indicator of ar | nimal habitat:   Valuable   Neutral                    |
| C.      | Number of dominant plant tax      | ka observed: _4 Rating: ☐ Good ☐ Medium ☒ Poor         |
| d.      | Average coefficient of conserva   | atism:3.0 Rating: 🗌 Good 🔃 Medium 🔲 Poor               |
| e.      | Tree canopy as indicator of a     | nimal habitat:   Valuable   Neutral                    |
| f.      | Mature trees as indicator of a    | nimal habitat: 🗌 Valuable 🔛 Favorable 🔀 Neutral        |
| g.      | Total hydrophytic taxa observ     | ved: _14 Rating: ☐ Good ☐ Medium ☒ Poor                |
| h.      | Number of indicator taxa 0        | Rating: Good Medium Poor                               |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2   | SUMMARY: NWI Polygon Id. 70b  |
|----------|---|
| a.       | Indiana Wetland community type: Swamp Forest  |
| b.       | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.       | Disturbances to site: None  |
| d.       | Exotic species rating: Good Medium Poor   |
| e.       | Special Hydrologic Conditions Observed: None  |
| f.       | Special Community Type: None  |
| g.       | Rare-Threatened-Endangered Species: None  |
| h.       | Polygon Quality Description: Good Medium Poor   |
|          |   |
| TIER 3   | A SUMMARY:  |
| a.       | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral          |
| b.       | Water quality protection – numerical rank (6 max): 5 Rating: ⊠ Good ☐ Medium ☐ Poor           |
| c.       | Flood and storm water storage – numerical rank (5 max): 5 Rating: S Good Medium Poor          |
|          |   |
| TIER 3   | B SUMMARY:  |
| a.       | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.       | Stratification as indicator of animal habitat:  |
| C.       | Number of dominant plant taxa observed: 6 Rating: ☐ Good ☐ Medium ☒ Poor                      |
| d.       | Average coefficient of conservatism: 3.4 Rating: Good Medium Poor                             |
| e.       | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |
| f.       | Mature trees as indicator of animal habitat:  |
| g.       | Total hydrophytic taxa observed: 16 Rating: Good Medium Poor                                  |
| y.<br>h. |   |
| 11.      | Number of indicator taxa 0 Rating: Good Medium Poor   |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2  | SUMMARY: NWI Polygon Id. 70c  |
|---------|---|
| a.      | Indiana Wetland community type: Shallow marsh   |
| b.      | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.      | Disturbances to site: None  |
| d.      | Exotic species rating:  |
| e.      | Special Hydrologic Conditions Observed: None  |
| f.      | Special Community Type: None  |
| g.      | Rare-Threatened-Endangered Species: None  |
| h.      | Polygon Quality Description:  |
|         |   |
| TIER 3A | A SUMMARY:  |
| a.      | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral            |
| b.      | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.      | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor            |
|         |   |
| TIER 3  | B SUMMARY:  |
| a.      | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.      | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.      | Number of dominant plant taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                      |
| d.      | Average coefficient of conservatism: 3.75 Rating: Good Medium Poor                            |
| e.      | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |
| f.      | Mature trees as indicator of animal habitat:  |
| g.      | Total hydrophytic taxa observed: 7 Rating: ☐ Good ☐ Medium ☒ Poor                             |
| h.      | Number of indicator taxa 0 Rating: ☐ Good ☐ Medium ☒ Poor                                     |
| •••     |   |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W070

TERG May 2000

### **Tier 1: Assessment Overview**

|     |      |     | Ξ.  |      | _  |      |  |
|-----|------|-----|-----|------|----|------|--|
| 1.1 | Site | Ide | nti | ific | at | ion: |  |

| Wetland site name: S5W0                                      | 70                   |                       |                        |                     |          |
|--|----------------------|-----------------------|------------------------|---------------------|----------|
| Ownership (if known):  |                      |                       |                        |                     |          |
| USGS Topographic Quadrar                                     | ngle(s): Bloomin     | gton                  |                        |                     |          |
| USGS Watershed map 14-D                                      | igit HUC: Bean       | Blossom Creek-Stou    | ut Creek 051202020     | 10080               |          |
| Libertiff and ball Dallers 19                                |                      | '(- (D-1''            | 1-1-1                  |                     |          |
| Identify each NWI Polygon with NWI Polygon ID Number         | thin the Wetland S   | ite (Polygon specific | data)                  |                     |          |
| Cowardin Classification                                      | PEMA                 | PFO1A                 | PEMA                   |                     |          |
| Polygon Size (hectares)                                      | 0.22 (0.54 acre)     | 4.16 (10.29 acres)    | 0.04 (0.09 acre)       |                     |          |
| NWI Polygon ID Number  |                      |                       |                        |                     |          |
| Cowardin Classification                                      |                      |                       |                        |                     |          |
| Polygon Size (hectares)                                      |                      |                       |                        |                     |          |
| 1.2 Site Visit:  |                      |                       |                        |                     |          |
| Team Members: K. Schroe                                      | eder & D. White      |                       |                        |                     |          |
| Agency: INDOT  |                      |                       |                        |                     |          |
| Date assessed: 10/13-10/                                     | /14/2011             | Time ass              | sessed: 5:30 pm (7     | 0b) 9:30am (70a/c   | )        |
| Weather conditions: Ove                                      | rcast                |                       |                        |                     |          |
| Note any visually visather av                                | anta that may bay    | a influenced the cum  | ront conditions within |                     |          |
| Note any unusual weather ev<br>recent heavy rains, an unusua |                      |                       |                        | n this wetland syst | em (e.g. |
|  | , . ,                | , , , .,              | 3, 444 )               |                     |          |
| 1.3 Wetland Size:  |                      |                       |                        |                     |          |
| Size of site under assessme                                  | nt· 0.26 hectare     | e (0.63 acre)-PFM: 4  | .16 hectares (10.29    | acres)-PFO          |          |
| Size of total wetland comple                                 |                      | ,                     | •                      | •                   |          |
| ·  | •                    | , ,,,                 | `                      | ,                   |          |
| <b>1.4 Site Setting:</b> Degree of isolation from other      | wetlands or wetla    | nd complexes:         |                        |                     |          |
| X The site is connected in                                   |                      | •                     | vetlands               |                     |          |
| The site is only connect                                     | cted upstream with   | other wetlands        |                        |                     |          |
| The site is only connect                                     | cted downstream v    | vith other wetlands   |                        |                     |          |
| Other wetlands are ne  | arby (within 0.25 m  | nile) but not connect | ed                     |                     |          |
| The wetland site is iso                                      | lated                |                       |                        |                     |          |
| (General assessment of adjac                                 | rent land use / land | d cover in the area v | vithin 50 meters of th | ne perimeter of the | wetland  |
| site (indicate the % abundanc                                |                      |                       |                        |                     | Totalia  |
| 50 Native Vegetation - wo                                    | oodland              | 50                    | Road / highway / rail  | road bed / parking  | lot      |
| Native Vegetation - old                                      | field / scrub        |                       | Industrial             |                     |          |
| Agricultural- tilled   |                      |                       | Residential – single t | family              |          |
| Agricultural - pasture                                       |                      |                       | Commercial or multif   | family residential  |          |
| Recreation - green spa                                       | ace, mowed           |                       |                        |                     |          |
|  |                      |                       |                        |                     |          |

| NWI Po<br>(see table | lygon # <u>70a</u><br>on page one)  | 1  | Data Reference #       | S5W070                  | InWRAP, TERG May 2000                  |
|----------------------|-------------------------------------|--|------------------------|-------------------------|--|
| Tier 2 In the we     |                                     | lygon: Preliminary A   | ssessment (to be       | completed on-si         | te for <u>each</u> NWI polygon present |
| 2.1 Wetla            | Depressional                        | ic Setting and Surface. W Slope on the river/stream banks)                                   |                        | <b>ne):</b><br>oodplain | Lacustrine                             |
| 2.2 Prese            | ence of Standir                     | ng Water:  |                        |                         |  |
| •                    | f standing water                    | Ily present in the polygon?<br>r is present, is the water gr<br>Ily present in an adjacent p | eater than 2 meters in | n depth? <u>No</u>      |  |
| 2.3 Appa             | rent Hydroperi                      | od (check one):  |                        |                         |  |
|                      | ermanently Floo                     |  | Artifi                 | cially Flooded          |  |
|                      | easonally Flood<br>aturated (surfac | ed<br>e water seldom present)  | Artifi                 | cially Drained          |  |
| 2.4 Soil 7           | <b>Type:</b><br>Organic (i.e. po    | eat, etc.)   | Mineral                | X Both                  | Mineral and Organic Present            |
| 0.5.Wadla            |                                     | Turne for this NIM walk walk   |                        |                         | ing of Indiana).                       |
| Shallow              | _                                   | y Type for this NWI polyg  | on (see Key to Weti    | ana Communit            | ies of Indiana):                       |
|                      |                                     |  |                        |                         |  |
|                      | -                                   | drology (check all that ap   | ply):<br>Culvert       |                         |  |
|                      | tching                              |  | <del></del>            | uman Diaturban          | age to the Undralage (avalain).        |
|                      | les<br>ams                          |  | Other H                | uman Disturbani         | ces to the Hydrology (explain):        |
| X R                  | oad or Railroad                     | Embankment   |                        |                         |  |
| 2.7 Prese            | ence of Invasiv                     | e Exotics (Score as: S = S   | Scattered, F = Frequ   | ent, or C = Cor         | nmon):                                 |
| G                    | arlic Mustard                       | G  | lossy Buckthorn        |                         |  |
|                      | hragmities                          |  | eed canary grass       |                         |  |
| Pı                   | urple loosestrife                   | 0  | ther (list):           |                         |  |
| 2.8 Prese            | ence of Special                     | Hydrologic Conditions (  | i.e. seeps, wet slope  | es, floating mat        | ):                                     |
| -                    |                                     |  |                        |                         | -                                      |
| 2.9 Prese            | ence of Special<br>Bog              | Community Types: Fen   | W                      | et Sand / Muck          | Flats or Mari Seeps                    |
|                      | Dog                                 |  | vv                     | ot Garia / Muck         | i iato di man occpo                    |
| 2.10 Pres            | sence of Know                       | n Federal or Indiana Rare  | , Threatened or End    | langered Speci          | es:                                    |
| Χ                    |                                     | d or known to be present   |                        |                         |  |
|                      | RTES Present                        | (list)   |                        |                         |  |
| 2.11 Wet             | land Polygon (                      | Quality Descriptor (see: V   | Vetland Quality Des    | <i>criptions</i> and cl | neck one):                             |
| Χ                    | Good                                | Medium   | Po                     | oor                     |  |

| NWI    | l Po | olyg  | on   | #     | 70a  | Data Refere   | nce #    | S5W0        | 70             |                |            |
|--------|------|-------|------|-------|--|---------------|----------|-------------|----------------|----------------|------------|
| Tier   | 3a   | In    | div  | idua  | al Polygon: Rapid Hydrology Ind  | icators       |          |             |                |                |            |
| 3a.1 I | Not  | abl   | e Fo | eatui | res that influence water quality and hyc   | lrology:      |          |             |                |                |            |
| Estin  | nate | ed h  | erb  | acec  | ous plant cover (percentage) in the polygo   | n <u>X</u>    | 100-     | 75 <u> </u> | 75-50          | 50-25          | <25        |
| Estin  | nate | ed v  | voo  | dy pl | lant foliar cover in the polygon   |               | 100-7    | 75          | 75-50          | 50-25          | X <25      |
| Amo    | unt  | of o  | dea  | d wo  | ody material on the soil surface:  X nil (<5% cover)   | _scattered (  | -        |             | _              | requent (>2    |            |
| 3a.2 \ | Wat  | ter ( | Qua  | ality | Protection Questions:  |               |          |             |                |                |            |
| 1.     | X    | Υ     |      | N     | Does the wetland have a significant amodensity to potentially uptake dissolved no                  |               | itive (s | pecifical   | ly perenni     | al and wood    | y plant)   |
| 2.     |      | Υ     | X    | N     | Managed water (e.g. municipal or road s or municipal wastewater) is <b>not</b> discharge           |               |          |             |                | age outlet, i  | ndustrial  |
| 3.     |      |       |      |       | If wetland in question is a depressional v   | vetland answ  | er 3a,   | if not, ar  | swer 3b        |                |            |
| 3a.    |      | Y     |      | N     | Does the wetland have a shape or flow t before the water reaches the center of the                 |               | the s    | ettling ou  | ıt of suspe    | nded materi    | als        |
| 3b.    | Χ    | Υ     |      | N     | Is the position of the wetland in the lands surface body of water down gradient?                   | scape such th | at run   | -off is he  | eld or filtere | ed before en   | tering a   |
| 4.     |      | Y     | X    | N     | Does the wetland <b>lack</b> steep slopes (>12 with row cropping, or areas with severe or          |               |          |             |                |                | 12%)       |
| 5.     | Χ    | Y     |      | N     | Are there recreational lakes, navigable w down gradient in the local watershed?                    | atercourses,  | or wa    | ter supp    | ly sources     | located with   | nin a mile |
| 6.     | Х    | Y     |      | N     | Is a vegetative buffer area (>15 m wide) could be filtered) located upland and adjusted and slope. |               |          |             |                |                |            |
|        |      |       |      |       | Average width of buffer area (in meters)   | 2-25          | Appro    | oximate s   | slope (perd    | cent) 2        |            |
| 3a.3 I | Floo | od a  | and  | Sto   | rmwater Storage / Attenuation Question   | ns:           |          |             |                |                |            |
| 1.     |      |       |      |       | If wetland in question is a depressional v   | vetland answ  | er 1a,   | if not, ar  | swer 1b        |                |            |
| 1a.    |      | Y     |      | N     | Around the wetland is there a buffer strip slow overland flow into the wetland?                    | of natural ve | getati   | on (fores   | sted, old fie  | eld, scrub) th | nat will   |
| 1b.    | Χ    | Y     |      | N     | Is there a significant amount of microtope<br>the velocity of the water leaving the wetla          |               | egetati  | ve densi    | ty within th   | ne wetland to  | o reduce   |
| 2.     | Χ    | Y     |      | N     | Does the wetland <b>lack</b> man-made struction (tiles, culverts, ditches)?                        | ures that wou | ıld spe  | ed the fl   | ow of wate     | er from the v  | vetland    |
| 3.     | X    | Υ     |      | N     | Is the flood potential high in the sub-wated damages)?   | ershed in whi | ch the   | wetland     | is located     | (history of f  | lood       |
| 4.     | Χ    | Υ     |      | N     | Is the wetland located in a watershed wh impermeable, or is bedrock within two fe                  |               |          |             |                | e clayey and   | t          |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

X

Ν

| NWI Polygon #  | 70a                              | Data Reference # S5W070   |
|--|----------------------------------|---|
| Tier 3b Individu   | ıal Polygon: Rapid Ve            | egetation Description   |
| <b>3b.1 Zonation and</b> 1. How many                         | -                                | dent in this wetland polygon? 1   |
| 1b. If only one  | e vegetation zone is eviden      | t, which best describes the site?   |
| X  | Polygon composed of a n          | nosaic of small vegetation patches, hummocks, or tussocks; across the polygon.  |
|  | Polygon composed of a s polygon. | single vegetation type with more or less uniform texture across the             |
|  |                                  | esent in the polygon, which interspersion diagram most closely represent        |
|  | e One Interspersion              | Type Two Interspersion  |
| (  |                                  |   |
| 3b.2 Dominant Pla  | nt Species: Vegetation zo        | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon) |
| What % of the polyg  | gon does this vegetative zo      | ,   |
| 10 – 25%   | 25 – 50 %                        | 50 - 75% 75 - 90% _X >90%   |
| Is there notable laye  | ering/stratification in this ve  |   |
| with an * any specie<br>a <i>Typha latifolia</i>             | es that forms extensive mor      | d   |
| b Juncus effussu   |                                  | e   |
| C Carex lupulina  Dominant <b>Shrub</b> Sp  a Liquidambar st | pecies listed in order of rela   | •   |
|  | <i>,</i>                         |   |
|  | cies listed in order of relati   |   |
| a  |                                  | c   |
|  |                                  |   |
| Tree & shrub canop   | y: X nil sep                     | arate, seldom touching often touching More or less close                        |
| Mature trees (>12"   | dbh) present:                    | yes X no  |
| Other remarks (inc   | lude personal comments a         | bout what adds to or detracts from the quality of this wetland site).           |

|  | NWI Polygon # | 70a | Data Reference # | S5W070 |  |  |
|--|---------------|-----|------------------|--------|--|--|
|--|---------------|-----|------------------|--------|--|--|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. ( $N = northern\ Indiana$   $SW = southwestern\ Indiana$  numbers = C-coefficients \* = species with high conservationism

|   | ,  |
|---|--|
| Herbs: non-seed plants  | Herbs: wide-leafed monocots  |
| horsetail, scouring rush spp. (Equisetum) 2                             | *arrow arum (Peltandra virginica, N) 6   |
| *ferns: marsh shield fern spp. (Dryopteris) 7                           | arrow-head spp. (Sagittaria) 4   |
| *cinnamon fern (Osmunda cinnamomea) 9                                   | *green dragon (Arisaema dracontium) 6  |
| *royal fern (Osmunda regalis) 8   | Jack-in-the-pulpit (Arisaema triphyllum) 4   |
| X sensitive fern (Onoclea sensibilis) 4                                 | pickerel weed (Pontederia cordata, N) 5  |
| *other: species (if known)  | *skunk cabbage (Symplocarpus foetidus) 8   |
| marsh club moss (Selaginella apoda) 4                                   | *water arum (Calla palustris, N) 10  |
| *Sphagnum moss spp. (Sphagnum, N) 10                                    | water plantain (Alisma plantago-aquat.) 2  |
| Herbs: Ivs. floating or submergent                                      | Herbs: dicots - Ivs. opposite/whorled  |
| *bladderwort spp. (Utricularia, N) 10                                   | *bedstraw spp. (Galium) 6  |
| coontail (Ceratophyllum demersum, N) 1                                  | beggar's tick spp. (Bidens) 3  |
| duckweed spp. (Lemnaceae) 3   | blue vervain (Verbena hastata) 3   |
| *pondweed spp. (Potamogeton) 8 (except 0 for                            | boneset (Eupatorium perfoliatum) 4   |
| introduced <i>P. crispus</i> )  | bugleweed spp. (Lycopus) 5   |
| *water lily (Nymphaea tuberosa, N) 6                                    | clearweed spp. (Pilea) 3   |
| water shield (Brasenia schreberi, N) 4                                  | cup plant (Silphium perfoliatum) 4   |
| *yellow spatterdock spp. (Nuphar) 6                                     |  |
|   | *fon botony (Padicularis Innocolata) 6   |
| Herbs: insectivorous plants   | false nettle (Boehmeria cylindrica) 3  *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8 |
| *pitcher plant (Sarracenia purpurea,N) 10                               | giant ragweed (Ambrosia trifida) 0   |
| *sundew spp. (Drosera, N) 10  | Indian hemp (Apocynum cannabinum) 2  |
|   | Joe-pye weed spp. (Eupatorium) 5   |
| Herbs: linear-lvs. or leafless ± monocots                               | *loosestrife spp. (Lysimachia) 6   |
| *beak rush spp. (Rhynchospora, N) 10                                    |  |
| blueflag iris (Iris virginica) 5  | meadow beauty (Rhexia virginica) 5   |
| 1 bulrush spp. (Scirpus / Schoenoplectus) 5                             | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  |
| *bur reed spp. (Sparganium) 9   | moneywort (Lysimachia nummularia) 0  |
| cat-tail spp. (Typha) 1   | monkey flower spp. (Mimulus) 4   |
| *cotton grass spp. (Eriophorum, N) 10                                   | nettle (Urtica pro cera) 1   |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species | purple loosestrife (Lythrum salicaria) 0   |
| a. *wild rice (Zizania aquatica, N) 10                                  | *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4         |
| b. most native perennial grass spp. 4: e.g.                             | St. John's wort spp.(Hypericum/Triandeum)8   |
| cut-grass, manna-g, Canada bluejoint, foxtail                           | sunflower spp. (Helianthus) 4  |
| [Alopecurus]; other   | *swamp loosestrife (Decodon verticillatus, N) 8  |
| c. introduced grass spp. 0: reed canary                                 | X swamp milkweed (Asclepias incarnata) 4   |
| grass [Phalaris], reed [Phragmites], annual                             | toothcup spp. (Ammania & Rotala) 2   |
| grasses such as annual foxtail [Setaria] &                              | *turtlehead spp. (Chelone) 8   |
| barnyard grass Echinochloa]   | virgin's bower (vine) (Clematis virginiana) 3  |
| 1 needle sedge spp. (Eleocharis) sp.1 =2                                | water puslane (Ludwigia palustris) 3   |
| *additional=8   | winged loosestrife (Lythrum alatum) 5  |
| nutsedge spp. (Cyperus) 2   | Harbar (vinas), diaata lug alternata ar basal  |
| *orchid spp.: species (if known)  | Herbs: (vines): dicots - lvs. alternate or basal and simple  |
| rush spp. (Juncus) 4  | Amer. bellflower (Campanula americana) 4   |
| sedge spp. (Carex) sp.1=3 *additional=7                                 | · · · · · · · · · · · · · · · · · · ·  |
| *spiderlily (Hymenocallis occidentalis) 9                               | *asters: bristly aster (Aster puniceus) 7  |
| sweet flag (Acorus calamus) 0   | *flat-topped aster (A. umbellatus) 8   |
| *3-way sedge (Dulichium arundinaceum) 10                                | other aster spp. (e.g. New Engl, panicled-a) 3   |
| *twig rush (Cladium mariscoides, N) 10                                  | *black-eyed Susan (Rudbeckia fulgida) 8  |
| *umbrella sedge (Fuirena squarrosa, N) 10                               | cardinal flower (Lobelia cardinalis) 4   |
| wild hyacinth (Camassia scilloides) 5                                   | InWrap, Terg revised June 2005   |

\*yellow-eyed grass (Xyris torta, N) 9

dogwood, red-osier (Cornus stolonifera) 4 \*dogwood, blue-fruited or silky Cornus

obliqua) 7

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

| Tier 2 Individual Polygon: Preliminary Assessment (to be completed on-site for <u>each</u> NWI polygon in the wetland)  2.1 Wetland Geomorphic Setting and Surface. Water Flow (check one):  Depressional SlopeX Floodplain Lacustrine Riverine (within the river/stream banks)  2.2 Presence of Standing Water:   | present |
|--|---------|
| Depressional Slope X Floodplain Lacustrine Riverine (within the river/stream banks)  |         |
| 2.2 Presence of Standing Water:  |         |
|  |         |
| Is standing water normally present in the polygon? No  • If standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon?  Yes   |         |
| 2.3 Apparent Hydroperiod (check one):  |         |
| Permanently Flooded X Seasonally Flooded Saturated (surface water seldom present) Artificially Flooded Artificially Drained  |         |
| 2.4 Soil Type:  Organic (i.e. peat, etc.)  X Mineral Both Mineral and Organic Pressure Control of the Control o | esent   |
| 2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):  Swamp Forest  2.6 Disturbances of Hydrology (check all that apply):  |         |
| Ditching Culvert   |         |
| Tiles Other Human Disturbances to the Hydrology (expose Dams Other Human Disturbances Dams   | olain): |
| Road or Railroad Embankment  |         |
| 2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):   |         |
| Garlic Mustard Glossy Buckthorn  |         |
| Phragmities Reed canary grass  |         |
| Purple loosestrife Other (list):   |         |
| 2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  |         |
| 2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps   |         |
| 2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  |         |
| X None observed or known to be present  RTES Present (list)  |         |
| 2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  X Good Medium Poor   |         |

| NWI Polygon # |   | #    | 70b Data Reference # S5W070 |       |   |  |  |  |  |
|---------------|---|------|-----------------------------|-------|---|--|--|--|--|
| Tier 3        | Ba  | In   | div                         | idua  | al Polygon: Rapid Hydrology Indicators  |  |  |  |  |
| 3a.1 N        | ota   | abl  | e Fe                        | eatur | es that influence water quality and hydrology:  |  |  |  |  |
| Estim         | ate   | ed h | nerb                        | acec  | ous plant cover (percentage) in the polygon 100-75 75-50 50-25 _X <25   |  |  |  |  |
| Estim         | ate   | ed v | voo                         | dy pl | ant foliar cover in the polygon 100-75 _X _75-50 50-25 <25  |  |  |  |  |
| Amou          | nt  | of ( | dea                         | ow b  | ody material on the soil surface: nil (<5% cover) Scattered (5-15% cover) Frequent (>20% cover)   |  |  |  |  |
| 3a.2 W        | /at   | er   | Qua                         | lity  | Protection Questions:   |  |  |  |  |
| 1.            | Χ   | Y    |                             | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |  |
| 2.            |   | Y    | Χ                           | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |  |
| 3.            | If wetland in question is a depressional wetland answer 3a, if not, answer 3b |      |                             |       |   |  |  |  |  |
| 3a.           |   | Y    |                             | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |  |
| 3b.           | Χ   | Y    |                             | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |  |  |
| 4.            | Χ   | Y    |                             | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |  |
| 5.            | Χ   | Y    |                             | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |  |
| 6.            | X   | Y    |                             | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |  |
|               |   |      |                             |       | Average width of buffer area (in meters) 2-10 Approximate slope (percent) 2   |  |  |  |  |
| 3a.3 F        | loc   | od a | and                         | Sto   | mwater Storage / Attenuation Questions:   |  |  |  |  |
| 1.            |   |      |                             |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |  |
| 1a.           |   | Y    |                             | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |  |
| 1b.           | Χ   | Y    |                             | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |  |
| 2.            | X   | Υ    |                             | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |  |

Is the flood potential high in the sub-watershed in which the wetland is located (history of flood

Is the wetland located in a watershed where the majority of the upland soils are clayey and

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

impermeable, or is bedrock within two feet of the top of the soil profile?

3.

5.

X Y

XY

X Y

damages)?

| NWI Polygon #                        | 70b   | Data Reference # S5W070  |                  |
|--------------------------------------|---|--|------------------|
| Tier 3b Individu                     | al Polygon: Rapid Vegetation De   | scription  |                  |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion: y vegetation zones are evident in this wetla                   | and polygon? 1   |                  |
| 1b. If only one                      | e vegetation zone is evident, which best de                                   | scribes the site?  |                  |
| X                                    | Polygon composed of a mosaic of small heterogeneous textures across the polyg | vegetation patches, hummocks, or tussocks; on.                         |                  |
|                                      | Polygon composed of a single vegetation                                       | type with more or less uniform texture acros                           | ss the           |
|                                      | polygon.  |  |                  |
| the distribut                        | ion of these zones?   | gon, which interspersion diagram most clos                             | ely represents   |
| Туре                                 | e One Interspersion   | Type Two Interspersion   | n                |
| (                                    |   |  |                  |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone A   | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI | <br>polygon)     |
| What % of the polyg                  | gon does this vegetative zone occupy?   |  |                  |
| 10 – 25%                             | 55 - 50 %   | 0 – 75% 75 – 90% <u>&gt;</u>   | >90%             |
| Is there notable layer               | ering/stratification in this vegetation zone?                                 | Yes  |                  |
|                                      | es that forms extensive monocultural patch                                    | % of the area) listed in order of relative abues).                     |                  |
| b                                    |   | e  | _                |
| С                                    |   | f  |                  |
| Dominant <b>Shrub</b> Sp             | pecies listed in order of relative abundance                                  |  |                  |
| a Liquidambar st                     | yraciflua   | С  |                  |
| b <u>Lindera benzoi</u>              | in  | d  |                  |
| Dominant <b>Tree</b> Spe             | cies listed in order of relative abundance.                                   |  |                  |
| a Acer rubrum                        | ·   | c <u>Carya glabra</u>  |                  |
| b Quercus palus                      |   | d  |                  |
| Tree & shrub canop                   | y: nil separate, seldom to  | uching often touching X More   | e or less closed |
| Mature trees (>12"                   | dbh) present: X yes   | no   |                  |
| Other remarks (inc                   | lude personal comments about what adds  | to or detracts from the quality of this wetland                        | d site).         |
| Few mature trees                     |   |  |                  |

|  | NWI Polygon # | 70b | Data Reference # S5W070 |  |
|--|---------------|-----|-------------------------|--|
|--|---------------|-----|-------------------------|--|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10   | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2  |
|--|---|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus) *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6   | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3  *fon betony (Padicularis langealata) 6   |
| Herbs: insectivorous plants *pitcher plant (Sarracenia purpurea,N) 10  *sundew spp. (Drosera, N) 10  Herbs: linear-lvs. or leafless ± monocots *beak rush spp. (Rhynchospora, N) 10  blueflag iris (Iris virginica) 5  bulrush spp. (Scirpus / Schoenoplectus) 5  *bur reed spp. (Sparganium) 9  cat-tail spp. (Typha) 1  *cotton grass spp. (Eriophorum, N) 10  | *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8  giant ragweed (Ambrosia trifida) 0  Indian hemp (Apocynum cannabinum) 2  Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1                      |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species  a. *wild rice ( <i>Zizania aquatica</i> , N) 10  b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa]  needle sedge spp. (Eleocharis) sp.1 =2  *additional=8 | purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8 swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5 |
| nutsedge spp. (Cyperus) 2  *orchid spp.: species (if known)  1 rush spp. (Juncus) 4  1 sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9  sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10  wild hyacinth (Camassia scilloides) 5  *yellow-eyed grass (Xyris torta, N) 9  | Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4 *asters: bristly aster (Aster puniceus) 7 *flat-topped aster (A. umbellatus) 8 other aster spp. (e.g. New Engl, panicled-a) 3 *black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4  InWrap, Terg revised June 2005  |

\*dogwood, blue-fruited or silky Cornus

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

obliqua) 7

| NWI Polygon # (see table on page of | 70c   | Data Reference #           | S5W070                 | InWRAP, TERG May 2000               |
|-------------------------------------|---|----------------------------|------------------------|-------------------------------------|
|                                     |   | / Assessment (to be        | completed on-site      | for <u>each</u> NWI polygon present |
| Depressi                            | orphic Setting and Surface<br>onal Slop<br>(within the river/stream bank                        | pe <u>X</u> Flo            | <b>e):</b><br>podplain | Lacustrine                          |
| 2.2 Presence of St                  | anding Water:   |                            |                        |                                     |
| If standing                         | normally present in the polyg<br>water is present, is the wate<br>normally present in an adjace | r greater than 2 meters ir | n depth? No            |                                     |
| 2.3 Apparent Hydr                   | operiod (check one):  |                            |                        |                                     |
| Permanently                         |   | Artific                    | cially Flooded         |                                     |
| X Seasonally Saturated (s           | Flooded<br>surface water seldom presen  | t) Artific                 | cially Drained         |                                     |
| 2.4 Soil Type: Organic              | (i.e. peat, etc.)   | Mineral                    | X Both Mi              | ineral and Organic Present          |
| 2.5 Wetland Comm                    | nunity Type for this NWI po   | olygon (see Key to Wetl    | and Communities        | of Indiana):                        |
| 2.6 Disturbances of Ditching        | of Hydrology (check all tha   | t apply): Culvert          |                        |                                     |
| Tiles Dams                          |   | Other Hu                   | uman Disturbances      | s to the Hydrology (explain):       |
|                                     | ilroad Embankment   |                            |                        |                                     |
| 2.7 Presence of In                  | vasive Exotics (Score as: \$  | S = Scattered, F = Frequ   | ent, or C = Comm       | non):                               |
| Garlic Musta                        | ard   | Glossy Buckthorn           |                        |                                     |
| Phragmities                         |   | Reed canary grass          |                        |                                     |
| Purple loose                        | estrife   | Other (list):              |                        |                                     |
| 2.8 Presence of Sp                  | oecial Hydrologic Condition   | ns (i.e. seeps, wet slope  | es, floating mat):     |                                     |
| 2.9 Presence of Sp                  | pecial Community Types: Fen   | W                          | et Sand / Muck Fla     | its or Mari Seeps                   |
| 2.10 Presence of h                  | Known Federal or Indiana F  | Rare, Threatened or End    | langered Species       | :                                   |
|                                     | served or known to be prese esent (list)  | nt                         | •                      |                                     |
| 2.11 Wetland Poly                   | gon Quality Descriptor (se  | e: Wetland Quality Desc    | criptions and che      | ck one):                            |
| X Good                              | Medium  | Po                         | oor                    |                                     |

| NWI    | Po   | olyg  | on   | #     | 70c Data Reference # S5W070   |  |  |  |  |  |
|--------|------|-------|------|-------|---|--|--|--|--|--|
| Tier   | 3a   | Inc   | vik  | idua  | al Polygon: Rapid Hydrology Indicators  |  |  |  |  |  |
| 3a.1 I | Not  | able  | e Fe | eatui | es that influence water quality and hydrology:  |  |  |  |  |  |
| Estin  | nate | ed h  | erb  | acec  | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |  |  |  |  |  |
| Estin  | nate | ed v  | /00  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _X <25   |  |  |  |  |  |
| Amo    | unt  | of c  | dea  | d wo  | ody material on the soil surface:  nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |  |  |  |  |  |
| 3a.2 \ | Wat  | ter ( | Qua  | ality | Protection Questions:   |  |  |  |  |  |
| 1.     | Χ    | Y     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |  |  |
| 2.     |      | Υ     | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |  |  |
| 3.     |      |       |      |       | wetland in question is a depressional wetland answer 3a, if not, answer 3b  |  |  |  |  |  |
| 3a.    |      | Y     |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |  |  |
| 3b.    | Χ    | Y     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |  |  |  |
| 4.     |      | Y     | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |  |  |
| 5.     | X    | Y     |      | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |  |  |
| 6.     | X    | Y     |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |  |  |
|        |      |       |      |       | Average width of buffer area (in meters) 2-15 Approximate slope (percent) 2   |  |  |  |  |  |
| 3a.3 I | Floo | od a  | nd   | Sto   | mwater Storage / Attenuation Questions:   |  |  |  |  |  |
| 1.     |      |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |  |  |
| 1a.    |      | Υ     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |  |  |
| 1b.    | Χ    | Y     |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |  |  |
| 2.     | Χ    | Υ     |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |  |  |
| 3.     | X    | Y     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |  |  |  |
| 4.     | Χ    | Υ     |      | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |  |  |  |  |  |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

Ν

| NWI Polygon #                        | 70c                         | Data R   | eference # S5W070                      |                                   |
|--------------------------------------|-----------------------------|--|--|-----------------------------------|
| Tier 3b Individu                     | ıal Polygon: Rapi           | id Vegetation Descrip                                | ion                                    |                                   |
| <b>3b.1 Zonation and</b> 1. How many | -                           | e evident in this wetland pol                        | ygon? 1                                |                                   |
| 1b. If only one                      | e vegetation zone is e      | vident, which best describes                         | the site?                              |                                   |
| X                                    |                             | of a mosaic of small vegetatures across the polygon. | ion patches, hummocks                  | s, or tussocks;                   |
|                                      | •                           | of a single vegetation type v                        | rith more or less uniform              | n texture across the              |
|                                      |                             | is present in the polygon, w                         | hich interspersion diagr               | am most closely represents        |
|                                      | e One Interspersion         |  | Type Two                               | Interspersion                     |
| (                                    |                             |  |  |                                   |
| 3b.2 Dominant Pla                    | nt Species: Vegetati        | on zone A  | Photo number(s)                        | ion Point #1  on the NWI polygon) |
| What % of the polyg                  | gon does this vegetati      | ve zone occupy?                                      | (, , , , , , , , , , , , , , , , , , , | · o a.e · · · · · polygo,         |
|                                      | 25 – 50                     |  | 75 – 90                                | % X >90%                          |
| Is there notable laye                | ering/stratification in the | nis vegetation zone? No                              |  |                                   |
|                                      |                             | vering more than 10% of the emonocultural patches).  | e area) listed in order o              | of relative abundance. (Mark      |
| a Leersia oryzoid                    |                             | d  |  |                                   |
| b Juncus effussu                     | ıs                          | e  |  |                                   |
| c Carex lupulina                     |                             | f  |  |                                   |
| Dominant <b>Shrub</b> Sp             | pecies listed in order o    | of relative abundance.                               |  |                                   |
| a <u>Liquidambar st</u>              | yraciflua                   |  |  |                                   |
| b                                    |                             | d  |  |                                   |
| Dominant <b>Tree</b> Spe             | cies listed in order of     | relative abundance.                                  |  |                                   |
| a                                    |                             |  |  |                                   |
| b                                    |                             |  |  |                                   |
| Tree & shrub canop                   | y: <u>X</u> nil             | separate, seldom touching                            | often touching                         | More or less closed               |
| Mature trees (>12"                   | dbh) present:               | yesX n   | )                                      |                                   |
| Other remarks (inc                   | lude personal comme         | ents about what adds to or d                         | etracts from the quality               | of this wetland site).            |

|  | IWI Polygon # 70c | Data Reference # S5W070 |  |
|--|-------------------|-------------------------|--|
|--|-------------------|-------------------------|--|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. ( $N = northern\ Indiana$   $SW = southwestern\ Indiana$  numbers = C-coefficients \* = species with high conservationism

| Herbs:                 | non-seed plants   |   |
|------------------------|---|---|
|                        | horsetail, scouring rush spp. (Equisetum) 2               | Herbs: wide-leafed monocots                       |
|                        | *ferns: marsh shield fern spp. (Dryopteris) 7             | *arrow arum (Peltandra virginica, N) 6            |
|                        | *cinnamon fern (Osmunda cinnamomea) 9                     | arrow-head spp. (Sagittaria) 4                    |
|                        | *royal fern (Osmunda regalis) 8                           | *green dragon (Arisaema dracontium) 6             |
|                        | sensitive fern (Onoclea sensibilis) 4                     | Jack-in-the-pulpit (Arisaema triphyllum) 4        |
|                        | *other: species (if known)                                | pickerel weed (Pontederia cordata, N) 5           |
|                        | marsh club moss (Selaginella apoda) 4                     | *skunk cabbage (Symplocarpus foetidus) 8          |
|                        | *Sphagnum moss spp. (Sphagnum, N) 10                      | *water arum (Calla palustris, N) 10               |
|                        |   | water plantain (Alisma plantago-aquat.) 2         |
| Herbs:                 | lvs. floating or submergent                               |   |
|                        | *bladderwort spp. (Utricularia, N) 10                     | Herbs: dicots - Ivs. opposite/whorled             |
|                        | coontail (Ceratophyllum demersum, N) 1                    | *bedstraw spp. (Galium) 6                         |
|                        | duckweed spp. (Lemnaceae) 3                               | beggar's tick spp. (Bidens) 3                     |
|                        | *pondweed spp. (Potamogeton) 8 (except 0 for              | blue vervain (Verbena hastata) 3                  |
|                        | introduced <i>P. crispus)</i>                             | boneset (Eupatorium perfoliatum) 4                |
|                        | *water lily (Nymphaea tuberosa, N) 6                      | bugleweed spp. (Lycopus) 5                        |
|                        | water shield (Brasenia schreberi, N) 4                    | clearweed spp. (Pilea) 3                          |
|                        | *yellow spatterdock spp. (Nuphar) 6                       | cup plant (Silphium perfoliatum) 4                |
|                        |   | false nettle (Boehmeria cylindrica) 3             |
| Herbs:                 | insectivorous plants                                      | *fen betony (Pedicularis lanceolata) 6            |
|                        | *pitcher plant (Sarracenia purpurea,N) 10                 | *gentian spp. (Gentiana & Gentianopsis) 8         |
|                        | *sundew spp. (Drosera, N) 10                              | giant ragweed (Ambrosia trifida) 0                |
| Horbs:                 | linear-lvs. or leafless ± monocots                        | Indian hemp (Apocynum cannabinum) 2               |
| i i <del>c</del> i ba. | *beak rush spp. <i>(Rhynchospora,</i> N) 10               | Joe-pye weed spp. (Eupatorium) 5                  |
|                        | blueflag iris (Iris virginica) 5                          | *loosestrife spp. (Lysimachia) 6                  |
|                        |   | meadow beauty (Rhexia virginica) 5                |
|                        | bulrush spp. (Scirpus / Schoenoplectus) 5                 | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 |
|                        | *bur reed spp. (Sparganium) 9                             | X moneywort (Lysimachia nummularia) 0             |
| 1                      | cat-tail spp. (Typha) 1                                   | monkey flower spp. (Mimulus) 4                    |
| -                      | *cotton grass spp. (Eriophorum, N) 10                     | nettle (Urtica pro cera) 1                        |
| Grasse                 | s (family Gramineae) - indicate types & number of species | purple loosestrife (Lythrum salicaria) 0          |
|                        | a. *wild rice (Zizania aquatica, N) 10                    | *richweed (Collinsonia canadensis) 8              |
| 1                      | b. most native perennial grass spp. 4: e.g.               | *St. John's wort spp.(Hypericum/Triandeum)8       |
|                        | cut-grass, manna-g, Canada bluejoint, foxtail             | sunflower spp. (Helianthus) 4                     |
|                        | [Alopecurus]; other                                       | *swamp loosestrife (Decodon verticillatus, N) 8   |
|                        | c. introduced grass spp. 0: reed canary                   | swamp milkweed (Asclepias incarnata) 4            |
|                        | grass [Phalaris], reed [Phragmites], annual               | toothcup spp. (Ammania & Rotala) 2                |
|                        | grasses such as annual foxtail [Setaria] &                | *turtlehead spp. (Chelone) 8                      |
|                        | barnyard grass Echinochloa]                               | virgin's bower (vine) (Clematis virginiana) 3     |
|                        | needle sedge spp. (Eleocharis) sp.1 =2                    | water puslane (Ludwigia palustris) 3              |
|                        | *additional=8   | winged loosestrife (Lythrum alatum) 5             |
|                        | nutsedge spp. (Cyperus) 2                                 | *********************************                 |
|                        | *orchid spp.: species (if known)                          | Herbs: (vines): dicots - lvs. alternate or basal  |
| 1                      | rush spp. (Juncus) 4                                      | and simple  |
| 1                      | sedge spp. (Carex) sp.1=3 *additional=7                   | . Amer. bellflower (Campanula americana) 4        |
|                        | *spiderlily (Hymenocallis occidentalis) 9                 | *asters: bristly aster (Aster puniceus) 7         |
|                        | sweet flag (Acorus calamus) 0                             | *flat-topped aster (A. umbellatus) 8              |
|                        | *3-way sedge (Dulichium arundinaceum) 10                  | other aster spp. (e.g. New Engl, panicled-a) 3    |
|                        | *twig rush <i>(Cladium mariscoides,</i> N) 10             | *black-eyed Susan (Rudbeckia fulgida) 8           |
| -                      | *umbrella sedge (Fuirena squarrosa, N) 10                 | cardinal flower (Lobelia cardinalis) 4            |
| -                      | wild hyacinth (Camassia scilloides) 5                     |   |
|                        | *yellow-eyed grass (Xyris torta, N) 9                     | InWrap, Terg revised June 2005                    |

Data Reference # S5W070

**NWI Polygon #** 

70c

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

# **IN-WRAP Summary Sheet**

| Date Re | eport Generated: 4/28/2012  |  |  |  |  |  |
|---------|---|--|--|--|--|--|
| Wetland | site name: S5W071   |  |  |  |  |  |
| Data Re | eference #: 71  |  |  |  |  |  |
| Date of | Site Visit: 4/26/2012   |  |  |  |  |  |
| NWI pol | ygons in Site (quadrangle and NWI id. numbers: Bloomington                                    |  |  |  |  |  |
|         |   |  |  |  |  |  |
| TIER 1  | SUMMARY:  |  |  |  |  |  |
| a.      | Total wetland area (hectares): 12.85 (31.75 acre)   |  |  |  |  |  |
| b.      | Wetland size and connectivity – contribution to animal habitat:                               |  |  |  |  |  |
|         |   |  |  |  |  |  |
| C.      | Surrounding land use – numerical rank (max. = 1): 0.67  |  |  |  |  |  |
| d.      | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                    |  |  |  |  |  |
|         |   |  |  |  |  |  |
| TIER 2  | SUMMARY: NWI Polygon Id. 71   |  |  |  |  |  |
| a.      | Indiana Wetland community type: Floodplain Forest   |  |  |  |  |  |
| b.      | Standing water – contribution to animal habitat:   Valuable  Favorable  Neutral               |  |  |  |  |  |
| C.      | Disturbances to site: None  |  |  |  |  |  |
| d.      | Exotic species rating:   Good  Medium  Poor   |  |  |  |  |  |
| e.      | Special Hydrologic Conditions Observed: None  |  |  |  |  |  |
| f.      | Special Community Type: None  |  |  |  |  |  |
| g.      | Rare-Threatened-Endangered Species: None  |  |  |  |  |  |
| h.      | Polygon Quality Description: 🖂 Good 🔲 Medium 🔲 Poor   |  |  |  |  |  |
|         |   |  |  |  |  |  |
| TIER 3  | BA SUMMARY:   |  |  |  |  |  |
| a.      | Dead woody material as indicator of animal habitat: $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$   |  |  |  |  |  |
| b.      | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☑ Medium ☐ Poor           |  |  |  |  |  |
| C.      | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor            |  |  |  |  |  |
|         |   |  |  |  |  |  |
| TIER 3  | BB SUMMARY:   |  |  |  |  |  |
| a.      | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |  |  |  |  |  |
| b.      | Stratification as indicator of animal habitat:   Valuable   Neutral                           |  |  |  |  |  |
| C.      | Number of dominant plant taxa observed: 8 Rating: 🛛 Good 🔲 Medium 🔲 Poor                      |  |  |  |  |  |
| d.      | Average coefficient of conservatism: 2.75 Rating: Good Medium Poor                            |  |  |  |  |  |
| e.      | Tree canopy as indicator of animal habitat:   |  |  |  |  |  |
| f.      | Mature trees as indicator of animal habitat: 🛛 Valuable 🔲 Favorable 🔲 Neutral                 |  |  |  |  |  |
| g.      | Total hydrophytic taxa observed: 28 Rating: ⊠ Good □ Medium □ Poor                            |  |  |  |  |  |
| h.      | Number of indicator taxa 2 Rating: Good Medium Poor   |  |  |  |  |  |
|         |   |  |  |  |  |  |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W071

TERG May 2000

## **Tier 1: Assessment Overview**

| 1.1 | Site | Identification: |  |
|-----|------|-----------------|--|
|     |      |                 |  |

| Wetland site name: S5W07                                       | 1                     |                    |                        |                        |               |  |  |  |
|--|-----------------------|--------------------|------------------------|------------------------|---------------|--|--|--|
| Ownership (if known):  |                       |                    |                        |                        |               |  |  |  |
| USGS Topographic Quadrangle(s): Bloomington                    |                       |                    |                        |                        |               |  |  |  |
| USGS Watershed map 14-Dig                                      | git HUC: Bean E       | Blossom Creek-S    | tout Creek 0512        | 20202010080            |               |  |  |  |
| Identify each NWI Polygon with                                 | nin the Wetland Si    | te (Polygon spec   | ific data)             |                        |               |  |  |  |
| NWI Polygon ID Number  | 71                    |                    |                        |                        |               |  |  |  |
| Cowardin Classification  | PFO                   |                    |                        |                        |               |  |  |  |
| Polygon Size (hectares)  | 12.85 (31.75<br>acre) |                    |                        |                        |               |  |  |  |
| NWI Polygon ID Number  |                       |                    |                        |                        |               |  |  |  |
| Cowardin Classification  |                       |                    |                        |                        |               |  |  |  |
| Polygon Size (hectares)  |                       |                    |                        |                        |               |  |  |  |
| 1.2 Site Visit:  |                       |                    |                        |                        |               |  |  |  |
| Team Members: K. Schroed                                       | der & D. White        |                    |                        |                        |               |  |  |  |
| Agency: INDOT  |                       |                    |                        |                        |               |  |  |  |
| Date assessed: <u>4/26/2012</u>                                |                       | Time a             | assessed: 3:30         | pm                     |               |  |  |  |
| Weather conditions: 55°F                                       |                       |                    |                        |                        |               |  |  |  |
|  |                       |                    |                        |                        | . ,           |  |  |  |
| Note any unusual weather eve recent heavy rains, an unusual    |                       |                    |                        | within this wetland    | system (e.g.  |  |  |  |
| Todone Hodavy Tamo, arr arradaan                               | ly dry bodoon, dri    | copositiny carry c | ,pmg, 0.0.).           |                        |               |  |  |  |
| 4.0 Weller 1.0'  |                       |                    |                        |                        |               |  |  |  |
| 1.3 Wetland Size:  | tı 12.05 haatar       | o (24.75 poro)     |                        |                        |               |  |  |  |
| Size of site under assessmen                                   | •                     | ,                  | 40.05                  | (04.75)                |               |  |  |  |
| Size of total wetland complex                                  | (all continuous we    | etiana polygons):  | 12.85 nectare          | e (31.75 acres)        |               |  |  |  |
| 1.4 Site Setting:  |                       |                    |                        |                        |               |  |  |  |
| Degree of isolation from other v                               |                       | •                  | r wotlands             |                        |               |  |  |  |
| X The site is connected up                                     |                       |                    | r wellands             |                        |               |  |  |  |
| The site is only connected upstream with other wetlands        |                       |                    |                        |                        |               |  |  |  |
| The site is only connected downstream with other wetlands      |                       |                    |                        |                        |               |  |  |  |
| Other wetlands are nearby (within 0.25 mile) but not connected |                       |                    |                        |                        |               |  |  |  |
| The wetland site is isola                                      | ited                  |                    |                        |                        |               |  |  |  |
| (General assessment of adjace site (indicate the % abundance   |                       | d cover in the are | a within 50 meter      | s of the perimeter o   | f the wetland |  |  |  |
| 20 Native Vegetation - woo                                     | odland                | _5                 | _ Road / highwa        | y / railroad bed / pai | king lot      |  |  |  |
| 50 Native Vegetation - old                                     | field / scrub         |                    | _ Industrial           |                        |               |  |  |  |
| 25 Agricultural- tilled  |                       |                    | _<br>_ Residential – s | ingle family           |               |  |  |  |
| Agricultural - pasture   |                       |                    | Commercial or          | multifamily residen    | tial          |  |  |  |
| Recreation - green space                                       | ce, mowed             |                    | _                      | <del>-</del>           |               |  |  |  |

| NWI Pol              | lygon #                   | 71<br>)   |                      | _ Data Refe   | erence #           | S5W071                 |                        | InWRAP, TERG May 2000         |
|----------------------|---------------------------|---|----------------------|---------------|--------------------|------------------------|------------------------|-------------------------------|
| Tier 2 Ir in the wet |                           | Polygon: Prel   | iminary A            | ssessme       | <b>nt</b> (to be o | completed o            | on-site for <u>eac</u> | <u>:h</u> NWI polygon present |
| 2.1 Wetla            | Depression                | phic Setting and all thin the river/stre                        | Slope                | ater Flow (   | •                  | <b>e):</b><br>oodplain |                        | Lacustrine                    |
| 2.2 Prese            | ence of Stan              | ding Water:   |                      |               |                    |                        |                        |                               |
| • 1                  | f standing wa             | mally present in a<br>ater is present, is<br>mally present in a | the water gr         | eater than 2  | 2 meters in<br>Yes | _<br>depth?            | No                     |                               |
| 2.3 Appa             | rent Hydrop               | eriod (check on   | e):                  |               |                    |                        |                        |                               |
|                      | ermanently Feasonally Flo |   |                      |               | Artific            | cially Floode          | ed                     |                               |
|                      | ,                         | ace water seldor  | m present)           |               | Artific            | cially Draine          | ed                     |                               |
| 2.4 Soil T           |                           | . peat, etc.)   | X                    | Mineral       | _                  | E                      | Both Mineral a         | and Organic Present           |
|                      | ain Forest                | nity Type for thi   | s NWI polyg          | jon (see Ke   | ey to Wetla        | and Commi              | unities of Inc         | diana):                       |
| 2.6 Distu            | rbances of I              | Hydrology (ched   | k all that ap        | pply):        |                    |                        |                        |                               |
| Di                   | tching                    |   |                      |               | Culvert            |                        |                        |                               |
|                      | les                       |   |                      |               | Other Hu           | ıman Distur            | bances to the          | e Hydrology (explain):        |
|                      | ams<br>oad or Railro      | ad Embankment   |                      |               |                    |                        |                        |                               |
|                      |                           | sive Exotics (So  |                      | Scattered.    | F = Freque         | ent. or C =            | Common):               |                               |
|                      | arlic Mustard             | <u>_</u> (0.  |                      | Blossy Buckth | -                  | ····, ··· ·            |                        |                               |
|                      | hragmities                |   |                      | eed canary (  |                    |                        |                        |                               |
| Pu                   | urple loosestr            | rife  | <u> </u>             | Other (list): | Multiflora         | rose                   |                        |                               |
| 2.8 Prese            | ence of Spec              | ial Hydrologic (  | Conditions (         | -             | -                  | s, floating            | mat):                  |                               |
| 0.0 0                |                           |   |                      |               |                    |                        |                        |                               |
| 2.9 Prese            | Bog                       | ial Community<br>F  | i <b>ypes:</b><br>en |               | We                 | et Sand / Mu           | uck Flats or M         | lari Seeps                    |
| 2 10 Pros            | conco of Kar              | wn Foderal er l   | ndiana Bara          |               |                    | angorod Cr             | ancine:                |                               |
| X                    |                           | own Federal or I<br>wed or known to                             |                      | , imeaten     | eu oi Ella         | angereu Sp             | JEC169.                |                               |
|                      | RTES Prese                |   | ·                    |               |                    |                        |                        |                               |
| 2.11 Wetl            | land Polygo               | n Quality Descr   | iptor (see: k        | Vetland Qu    | ality Desc         | <i>riptions</i> an     | d check one            |                               |
| Χ                    | Good                      |   | Medium               | X             | Po                 | or                     |                        |                               |

| NWI    | Po   | olyg  | on   | #     | 71 Data Reference # S5W071  |  |  |  |
|--------|------|-------|------|-------|---|--|--|--|
| Tier   | 3а   | In    | div  | idua  | al Polygon: Rapid Hydrology Indicators  |  |  |  |
| 3a.1 N | lot  | abl   | e Fe | atur  | es that influence water quality and hydrology:  |  |  |  |
| Estim  | nate | ed h  | erb  | acec  | ous plant cover (percentage) in the polygon 100-75 75-50 _X 50-25 <25   |  |  |  |
| Estim  | nate | ed v  | voo  | dy pl | ant foliar cover in the polygon 100-75 _X_ 75-50 50-25 <25  |  |  |  |
| Amou   | unt  | of o  | dea  | d wo  | ody material on the soil surface: nil (<5% cover) Scattered (5-15% cover) Frequent (>20% cover)   |  |  |  |
| 3a.2 V | Vat  | ter ( | Qua  | lity  | Protection Questions:   |  |  |  |
| 1.     | Χ    | Y     |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |
| 2.     | X    | Y     |      | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |
| 3.     |      |       |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |  |  |  |
| 3a.    |      | Y     |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |
| 3b.    | X    | Y     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |  |
| 4.     |      | Y     | Χ    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |
| 5.     |      | Y     | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |
| 6.     | X    | Y     |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |
|        |      |       |      |       | Average width of buffer area (in meters) 10 Approximate slope (percent) 1 -2  |  |  |  |
| 3a 3 F | :Io  | nd :  | and  | Stor  | mwater Storage / Attenuation Questions:   |  |  |  |
|        |      |       |      |       |   |  |  |  |
| 1.     |      |       |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |
| 1a.    |      | Y     |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |
| 1b.    |      | Y     | Χ    | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |
| 2.     | X    | Y     |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |
| 3.     | X    | Y     |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |  |
| 4.     |      | Y     | Χ    | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |  |  |  |
| 5.     | X    | Y     |      | N     | Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?                                   |  |  |  |

| NWI Polygon #   | 71  | Data Reference # S5W071   |  |  |  |  |  |
|---|---|---|--|--|--|--|--|
| Tier 3b Individu  | al Polygon: Rapid Vegetation  | Description   |  |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How many  | Interspersion:  vegetation zones are evident in this v                  | wetland polygon?1   |  |  |  |  |  |
| 1b. If only one   | e vegetation zone is evident, which bes                                 | st describes the site?  |  |  |  |  |  |
| X   | Polygon composed of a mosaic of sm heterogeneous textures across the po | nall vegetation patches, hummocks, or tussocks; oolygon.                        |  |  |  |  |  |
|   | Polygon composed of a single vegeta polygon.                            | ation type with more or less uniform texture across the                         |  |  |  |  |  |
|   | one vegetation zone is present in the on of these zones?                | polygon, which interspersion diagram most closely represents                    |  |  |  |  |  |
|   | One Interspersion   | Type Two Interspersion  |  |  |  |  |  |
|   |   |   |  |  |  |  |  |
| 3b.2 Dominant Plan  | nt Species: Vegetation zone A   | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon) |  |  |  |  |  |
| What % of the polyg   | on does this vegetative zone occupy?                                    |   |  |  |  |  |  |
| 10 – 25%  | 25 – 50 %   | 50 – 75% 75 – 90% X _ >90%  |  |  |  |  |  |
| Is there notable layer  | ering/stratification in this vegetation zor                             | ne? no  |  |  |  |  |  |
|   |   | 10% of the area) listed in order of relative abundance. (Mark                   |  |  |  |  |  |
| a <i>Lysimachia nur</i>   | s that forms extensive monocultural pa                                  | ,<br>,  |  |  |  |  |  |
| b Solidago sp.  | Illinularia   | e   |  |  |  |  |  |
| c Sanicula trifolia   | ta  | f   |  |  |  |  |  |
|   |   | -   |  |  |  |  |  |
| Dominant Shrub Sp   | ecies listed in order of relative abunda                                | ance.   |  |  |  |  |  |
| a Acer negundo  |   | c   |  |  |  |  |  |
| b Lindera benzoii   | <u>n</u>  | d   |  |  |  |  |  |
| Dominant <b>Tree</b> Spec   | cies listed in order of relative abundand                               | nce.  |  |  |  |  |  |
| a Fraxinus penns  |   | c Acer saccharinum  |  |  |  |  |  |
| b Platanus occide   | entalis   | d   |  |  |  |  |  |
| Tree & shrub canop  | y: nil separate, seldon   | m touching often touching _X More or less closed                                |  |  |  |  |  |
| Mature trees (>12" dbh) present: X yes no   |   |   |  |  |  |  |  |
| Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site). |   |   |  |  |  |  |  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8  X sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10  | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4 *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8 *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2  |
|--|---|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus) *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6   | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5  X clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3  |
| Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10  *sundew spp. (Drosera, N) 10   | *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8  giant ragweed (Ambrosia trifida) 0  Indian hemp (Apocynum cannabinum) 2  |
| Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5 bulrush spp. (Scirpus / Schoenoplectus) 5 *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1 *cotton grass spp. (Eriophorum, N) 10   | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  X moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species  a. *wild rice ( <i>Zizania aquatica</i> , N) 10  b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa]  needle sedge spp. (Eleocharis) sp.1 =2  *additional=8 | purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8 swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2  X *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5 |
| nutsedge spp. (Cyperus) 2  *orchid spp.: species (if known)  rush spp. (Juncus) 4  5 sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9  sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10   | Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4  *asters: bristly aster (Aster puniceus) 7  *flat-topped aster (A. umbellatus) 8  other aster spp. (e.g. New Engl, panicled-a) 3  *black-eyed Susan (Rudbeckia fulgida) 8   |
| *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10  wild hyacinth (Camassia scilloides) 5  *yellow-eyed grass (Xyris torta, N) 9  | cardinal flower (Lobelia cardinalis) 4 InWrap, Terg revised June 2005   |

willow spp. (Salix) sp.1=3; \*additional=7

Sanicula trifoliate, Solidago sp.

**OTHER** 

| NVVIF | olygon # <u>/1</u>  |
|-------|---|
|       |   |
|       | cress spp. (Cardamine) 4  |
|       | dock spp.: swamp-, water-, pale- (Rumex) 4                                    |
|       | martia recent (Alliania matia (ata) O   |
|       | golden ragwort (Senecio aureus) 4   |
|       | *goldenrod spp. (Solidago ohioensis, S.                                       |
|       | patula, S. riddellil) 9   |
|       | *grass of Parnassus (Parnassia glauca) 10                                     |
|       | *Indian plantain (Cacalia plantaginea) 10                                     |
|       | ironweed spp. (Vernonia) 4  |
| 1     | jewelweed, touch-me-not spp. (Impatiens) 3                                    |
|       | lizard's tail (Saururus cernuus) 4  |
|       | lobelia spp. (Lobelia) 4  |
|       | *marsh marigold (Caltha palustris) 7  |
|       | *moonseed (vine) (Menispermum canadense) 6                                    |
|       | primrose-willow spp.(Epilobium &Ludwigia) 3                                   |
|       | rose mallow spp. (Hibiscus) 4   |
| 1     | smartweed spp.: incl. jumpseed, pinkweed,                                     |
|       | tearthumb, water-pepper, water-sm.  |
|       | (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 |
|       | stinging nettle (Laportea canadensis) 2                                       |
|       | *swamp saxifrage (Saxifraga pa.) 10   |
|       | *Virginia bluebells (Mertensia virginica) 6                                   |
|       | waterhemp (Amaranthus tuberculatus) 1   |
|       | wingstem (Actinomeris alternifolia) 3   |
| -     | wingstern (Notinomene alterniona) e   |
|       | dicots - Ivs. basal or alternate and  |
| compo | und or deeply lobed   |
|       | aven spp.: rough a., white a. (Geum) 2  |
|       | *buttercup spp: e.g. cursed b., hooked b.,                                    |
|       | swamp b. (Ranunculus) 6   |
|       | chervil (Chaerophyllum procumbens) 3  |
|       | *cowbane (Oxypolis rigidior) 7  |
|       | *great angelica (Angelica atropurpurea) 6                                     |
|       | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5                                |
|       | honewort (Cryptotaenia canadensis) 3  |
|       | meadow rue spp. (Thalictrum) 5  |
|       | poison ivy (vine) (Rhus radicans) 1   |
|       | *queen-of-the-prairie (Filipendula rubra) 9<br>senna spp. (Cassia) 4          |
|       | swamp agrimony (Agrimonia parviflora) 4                                       |
|       | *swamp thistle <i>(Cirsium muticum)</i> 8                                     |
|       | tall coneflower (Rudbeckia laciniata) 3                                       |
|       | *water hemlock spp. (Cicuta) 7  |
|       | water parsnips (Sium suave) 5   |
|       | parompo (oram odavo) o  |

bladdernut (Staphylea trifolia) 5
buckthorn spp. (Rhamnus cathar. & frangula) 0

X button bush (Cepha/anthus occidentalis) 5
dogwood, red-osier (Cornus stolonifera) 4
\*dogwood, blue-fruited or silky Cornus
obliqua) 7
dogwood, gray (C. racemosa) 2

Shrubs - leaves opposite or whorled

elderberry (Sambucus) 2

# **IN-WRAP Summary Sheet**

| Date Re   | port Generated: 4/28/2012   |  |  |  |  |  |
|-----------|---|--|--|--|--|--|
| Wetland   | site name: S5W080   |  |  |  |  |  |
| Data Re   | ference #: 80   |  |  |  |  |  |
| Date of S | Site Visit: 4/26/2012   |  |  |  |  |  |
| NWI poly  | ygons in Site (quadrangle and NWI id. numbers: Bloomington                                    |  |  |  |  |  |
|           |   |  |  |  |  |  |
| TIER 1    | SUMMARY:  |  |  |  |  |  |
| a.        | Total wetland area (hectares): 0.22 (0.56 acre)   |  |  |  |  |  |
| b.        | Wetland size and connectivity – contribution to animal habitat:                               |  |  |  |  |  |
|           |   |  |  |  |  |  |
| C.        | Surrounding land use – numerical rank (max. = 1):   |  |  |  |  |  |
| d.        | Value surrounding area adds to animal habitat   |  |  |  |  |  |
|           |   |  |  |  |  |  |
| TIER 2    | SUMMARY: NWI Polygon Id. 80   |  |  |  |  |  |
| a.        | Indiana Wetland community type: Floodplain Forest   |  |  |  |  |  |
| b.        | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |  |  |  |  |  |
| C.        | Disturbances to site: None  |  |  |  |  |  |
| d.        | Exotic species rating:   Good  Medium  Poor   |  |  |  |  |  |
| e.        | Special Hydrologic Conditions Observed: None  |  |  |  |  |  |
| f.        | Special Community Type: None  |  |  |  |  |  |
| g.        | Rare-Threatened-Endangered Species: None  |  |  |  |  |  |
| h.        | . Polygon Quality Description: 🖂 Good 🔲 Medium 🔲 Poor   |  |  |  |  |  |
|           |   |  |  |  |  |  |
| HER 3     | A SUMMARY:  |  |  |  |  |  |
| a.        | Dead woody material as indicator of animal habitat:   Valuable  Favorable  Neutral            |  |  |  |  |  |
| b.        | Water quality protection – numerical rank (6 max): 4 Rating: Good Medium Poor                 |  |  |  |  |  |
| C.        | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor            |  |  |  |  |  |
|           |   |  |  |  |  |  |
| TIER 3    | B SUMMARY:  |  |  |  |  |  |
| a.        | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |  |  |  |  |  |
| b.        | Stratification as indicator of animal habitat:   Valuable   Neutral                           |  |  |  |  |  |
| C.        | Number of dominant plant taxa observed: 6 Rating: Good Medium Poor                            |  |  |  |  |  |
| d.        | I. Average coefficient of conservatism: 2.17 Rating: ☐ Good ☐ Medium ☒ Poor                   |  |  |  |  |  |
| e.        | . Tree canopy as indicator of animal habitat: 🛛 Valuable 🔲 Neutral                            |  |  |  |  |  |
| f.        | Mature trees as indicator of animal habitat:   ☐ Valuable ☐ Favorable ☐ Neutral               |  |  |  |  |  |
| g.        | Total hydrophytic taxa observed:18 Rating: ☐ Good   ☑ Medium ☐ Poor                           |  |  |  |  |  |
| h.        | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                     |  |  |  |  |  |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W080

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: <u>S5W08</u>  | 30                  |                       |              |                      |                   |  |
|--|---------------------|-----------------------|--------------|----------------------|-------------------|--|
| Ownership (if known):  |                     |                       |              |                      |                   |  |
| USGS Topographic Quadran   | gle(s): Blooming    | ton                   |              |                      |                   |  |
| USGS Watershed map 14-Di   | git HUC: Bean B     | lossom Creek-St       | out Creek 0  | 5120202010080        |                   |  |
| Identify and NIMI Delygon with   | ein the Motlend Cit | - (Dalvese en sei     | iio doto)    |                      |                   |  |
| Identify each NWI Polygon with NWI Polygon ID Number                         | 80                  | e (Polygon specii<br> | ic data)     |                      |                   |  |
| Cowardin Classification  | PFO                 |                       |              |                      |                   |  |
| Polygon Size (hectares)  | 0.22 (0.56 acre)    |                       |              |                      |                   |  |
| NWI Polygon ID Number  |                     |                       |              |                      |                   |  |
| Cowardin Classification  |                     |                       |              |                      |                   |  |
| Polygon Size (hectares)  |                     |                       |              |                      |                   |  |
| 1.2 Site Visit:  Team Members: K. Schroe  Agency: INDOT                      | der & D. White      |                       |              |                      |                   |  |
| Date assessed: 4/26/2012   |                     | Time a                | ssessed: 5:  | 30 pm                |                   |  |
| Weather conditions: 55°F   |                     |                       |              | •                    |                   |  |
| 1.3 Wetland Size: Size of site under assessmen                               | it: 0.22 hectare    | (0.56 acre)           |              |                      |                   |  |
| Size of total wetland complex  | (all continuous we  | tland polygons):      | 0.22 hecta   | re (0.56 acres)      |                   |  |
| 1.4 Site Setting: Degree of isolation from other                             |                     | •                     |              |                      |                   |  |
| X The site is connected u  | pstream and down    | stream with other     | wetlands     |                      |                   |  |
| The site is only connec  | ted upstream with o | other wetlands        |              |                      |                   |  |
| The site is only connect   | ted downstream wi   | th other wetlands     |              |                      |                   |  |
| Other wetlands are nea   | rby (within 0.25 mi | le) but not conne     | cted         |                      |                   |  |
| The wetland site is isola  | ated                |                       |              |                      |                   |  |
| (General assessment of adjace site (indicate the % abundance                 |                     | cover in the area     | within 50 me | ters of the perimete | er of the wetland |  |
| 100 Native Vegetation - woodland Road / highway / railroad bed / parking lot |                     |                       |              |                      |                   |  |
| Native Vegetation - old  | field / scrub       |                       | Industrial   |                      |                   |  |
| Agricultural- tilled   |                     |                       | Residential  | – single family      |                   |  |
| Agricultural - pasture   |                     |                       | Commercial   | or multifamily resid | lential           |  |
| Recreation - green spa   | ce, mowed           |                       |              |                      |                   |  |

|          | Polygon #<br>ble on page o | 80<br>one)                                 |                              | _ Data Reference #                   | S5W080                  | InWRAP, TERG May 2000                  |
|----------|----------------------------|--|------------------------------|--------------------------------------|-------------------------|--|
| Tier 2   |                            | •  | iminary A                    | <b>ssessment</b> (to be              | completed on-sit        | te for <u>each</u> NWI polygon present |
| 2.1 We   | etland Geon<br>Depress     |  | <b>I Surface. W</b><br>Slope | /ater Flow (check or<br>X FI         | <b>ne):</b><br>oodplain | Lacustrine                             |
|          |                            | (within the river/stre                     |                              |                                      |                         |  |
| 2.2 Pre  | esence of S                | tanding Water:                             |                              |                                      |                         |  |
| Is star  | nding water                | normally present in t                      | he polygon?                  | No                                   |                         |  |
| ls star  | -                          | water is present, is normally present in a | _                            | reater than 2 meters in bolygon? Yes | n depth? <u>No</u>      | 0                                      |
| 2.3 Ap   | parent Hyd                 | roperiod (check on                         | e):                          |                                      |                         |  |
|          | Permanentl                 | -  |                              | Artifi                               | cially Flooded          |  |
| <u>X</u> | Seasonally<br>Saturated (  | Flooded<br>surface water seldor            | n present)                   | Artifi                               | cially Drained          |  |
| 2.4 So   | il Type:<br>Organic        | (i.e. peat, etc.)                          | Х                            | Mineral                              | Both                    | Mineral and Organic Present            |
|          | <u> </u>                   |  |                              |                                      |                         | -                                      |
|          |                            |  | s NWI polyg                  | on (see Key to Wetl                  | and Communiti           | ies of Indiana):                       |
| Flood    | lplain Forest              |  |                              |                                      |                         |  |
| 2.6 Dis  | sturbances                 | of Hydrology (ched                         | k all that ap                | pply):                               |                         |  |
|          | Ditching                   |  |                              | Culvert                              |                         |  |
|          | Tiles                      |  |                              | Other H                              | uman Disturband         | ces to the Hydrology (explain):        |
|          | Dams                       |  |                              |                                      |                         |  |
|          | Road or Ra                 | ilroad Embankment                          |                              |                                      |                         |  |
| 2.7 Pre  | esence of Ir               | vasive Exotics (Sc                         | ore as: S =                  | Scattered, F = Frequ                 | ent, or C = Con         | nmon):                                 |
|          | Garlic Must                | ard  |                              | Blossy Buckthorn                     |                         |  |
|          | Phragmities                |  | F                            | Reed canary grass                    |                         |  |
|          | Purple loos                | estrife                                    | c                            | Other (list):                        |                         |  |
| 2.8 Pre  | esence of S                | pecial Hydrologic (                        | Conditions (                 | i.e. seeps, wet slope                | es, floating mat)       | <b>)</b> :                             |
| None     |                            |  |                              |                                      |                         |  |
| 2 0 D    |                            | nacial Community                           | Tumaa                        |                                      |                         |  |
| 2.9 Pre  | Bog                        | pecial Community                           | en                           | W                                    | et Sand / Muck F        | Flats or Mari Seeps                    |
|          | 509                        | '  | OI I                         |                                      | ot Garia / Much I       | iato di Mari Ocopo                     |
| 2.10 P   | resence of                 | Known Federal or I                         | ndiana Rare                  | e, Threatened or End                 | dangered Specie         | es:                                    |
| Χ        | None ob                    | served or known to                         | be present                   |                                      |                         |  |
|          | RTES P                     | resent (list)                              |                              |                                      |                         |  |
| 2.11 W   | etland Poly                | gon Quality Descr                          | iptor (see: l                | Wetland Quality Des                  | <i>criptions</i> and ch | neck one):                             |
| Χ        | Good                       |  | Medium                       | _X Po                                | oor                     |  |

| NWI    | Ро   | lyg  | on   | #     | 80 Data Reference # S5W080  |  |  |  |
|--------|------|------|------|-------|---|--|--|--|
| Tier   | 3а   | Ind  | div  | idua  | al Polygon: Rapid Hydrology Indicators  |  |  |  |
| 3a.1 N | Not  | able | e Fe | eatui | es that influence water quality and hydrology:  |  |  |  |
| Estin  | nate | ed h | erb  | aced  | ous plant cover (percentage) in the polygon 100-75 _X_ 75-50 50-25 <25  |  |  |  |
| Estin  | nate | ed v | voo  | dy pl | ant foliar cover in the polygon 100-75 75-50 <u>X</u> 50-25 <25   |  |  |  |
| Amo    | unt  | of o | dead | ow b  | ody material on the soil surface: nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)   |  |  |  |
| 3a.2 V | Vat  | er ( | Qua  | lity  | Protection Questions:   |  |  |  |
| 1.     | Χ    | Y    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |
| 2.     | Χ    | Y    |      | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |  |  |  |
| 3a.    |      | Υ    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |
| 3b.    | Χ    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |  |
| 4.     |      | Y    | Χ    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |
| 5.     |      | Y    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |
| 6.     | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |
|        |      |      |      |       | Average width of buffer area (in meters) 10 Approximate slope (percent) 1 -2  |  |  |  |
| 3a.3 F | Floo | od a | and  | Sto   | mwater Storage / Attenuation Questions:   |  |  |  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |
| 1b.    |      | Y    | X    | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |
| 2.     | X    | Υ    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |
| 3.     | Х    | Υ    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

Is the wetland located in a local watershed which has highly modified runoff conditions due to

| NWI Polygon #                       | 80  | Data Reference # S5W080  |
|-------------------------------------|---|--|
| Tier 3b Individu                    | ıal Polygon: Rapid Veg                      | getation Description   |
| <b>3b.1 Zonation and</b> 1. How man | Interspersion: y vegetation zones are evide | nt in this wetland polygon? 1  |
|                                     | _   | which best describes the site?   |
| X                                   | _   | saic of small vegetation patches, hummocks, or tussocks;   |
|                                     | Polygon composed of a sing polygon.         | gle vegetation type with more or less uniform texture across the                                   |
|                                     |   | ent in the polygon, which interspersion diagram most closely represents                            |
|                                     | e One Interspersion                         | Type Two Interspersion   |
| (                                   |   |  |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zon                  | Photo number(s)  (Note: V-mark location on the NWI polygon)  |
| What % of the polyc                 | gon does this vegetative zone               | ,  |
|                                     |   | 50 – 75% 75 – 90% X >90%   |
| Is there notable lave               | ering/stratification in this vege           | etation zone? no   |
|                                     | es that forms extensive mono                | nore than 10% of the area) listed in order of relative abundance. (Mark ocultural patches).  d e f |
| Dominant <b>Shrub</b> Sr            | pecies listed in order of relative          | ve abundance   |
| a Acer negundo                      |   |  |
| b Lindera benzoi                    |   | d  |
| Dominant <b>Tree</b> Spe            | cies listed in order of relative            | abundance.   |
| a <i>Fraxinus penns</i>             |   | c _Acer saccharinum  |
| b Platanus occid                    | entalis                                     | d  |
| Tree & shrub canop                  | y: nil separa                               | ate, seldom touching often touchingX More or less closed   |
| Mature trees (>12"                  | dbh) present: X y                           | es no  |
| Other remarks (inc                  | lude personal comments abo                  | out what adds to or detracts from the quality of this wetland site).                               |

\*yellow-eyed grass (Xyris torta, N) 9

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2   | Herbs: wide-leafed monocots *arrow arum (Peltandra virginica, N) 6  |
|--|---|
| *ferns: marsh shield fern spp. ( <i>Dryopteris</i> ) 7  *cinnamon fern ( <i>Osmunda cinnamomea</i> ) 9  *royal fern ( <i>Osmunda regalis</i> ) 8   | arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6   |
| sensitive fern (Onoclea sensibilis) 4  *other: species (if known)  marsh club moss (Selaginella apoda) 4  *Sphagnum moss spp. (Sphagnum, N) 10   | Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8 *water arum (Calla palustris, N) 10   |
|  | water plantain (Alisma plantago-aquat.) 2   |
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus)  *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6  beggar's tick spp. (Bidens) 3  blue vervain (Verbena hastata) 3  boneset (Eupatorium perfoliatum) 4  bugleweed spp. (Lycopus) 5  clearweed spp. (Pilea) 3  cup plant (Silphium perfoliatum) 4  false nettle (Boehmeria cylindrica) 3  |
| Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10  *sundew spp. (Drosera, N) 10   | *fen betony (Pedicularis lanceolata) 6  *gentian spp. (Gentiana & Gentianopsis) 8  giant ragweed (Ambrosia trifida) 0  Indian hemp (Apocynum cannabinum) 2  |
| Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5 bulrush spp. (Scirpus / Schoenoplectus) 5 *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1 *cotton grass spp. (Eriophorum, N) 10   | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  X moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species  a. *wild rice ( <i>Zizania aquatica</i> , N) 10  b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa]  needle sedge spp. (Eleocharis) sp.1 =2  *additional=8 | purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8 swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5 |
| nutsedge spp. (Cyperus) 2  *orchid spp.: species (if known)  rush spp. (Juncus) 4  | Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4   |
| sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9  sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10   | *asters: bristly aster (Aster puniceus) 7  *flat-topped aster (A. umbellatus) 8  other aster spp. (e.g. New Engl, panicled-a) 3  *black-eyed Susan (Rudbeckia fulgida) 8  cardinal flower (Lobelia cardinalis) 4  |
| wild hyacinth (Camassia scilloides) 5  | InWran Torg revised June 2005   |

| cress spp. (Cardamine) 4  dock spp.: swamp-, water-, pale- (Rumex) 4  garlic mustard (Alliaria petio/ata) 0  golden ragwort (Senecio aureus) 4  *goldenrod spp. (Solidago ohioensis, S.  patula, S. riddellil) 9  *grass of Parnassus (Parnassia glauca) 10  *Indian plantain (Cacalia plantaginea) 10  ironweed spp. (Vernonia) 4  jewelweed, touch-me-not spp. (Impatiens) 3  lizard's tail (Saururus cernuus) 4  lobelia spp. (Lobelia) 4      | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  X spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  x swamp rose (Rosa palustris) 5 |
|---|---|
| *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4  1 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10 *Virginia bluebells (Mertensia virginica) 6 | Trees - Ivs. needle shaped  *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7  X ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  X boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  |
| waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3  Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6   | honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10  Trees – Ivs. simple and opposite  red maple (Acer rubrum) 5  X silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate *alder, speckled (Alnus rugosa) 9   |
| chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9   | birch, river (Betula nigra) 2  black gum (Nyssa sylvatica) 5  cottonwood, eastern (Populus deltoides) 1  *cottonwood, swamp (P. heterophylla, SW) 8  elm, Amer. (Ulmus americana) 3  hackberry (Celtis occidentalis) 3  ironwood (Carpinus caroliniana) 5   |
| senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5   | <ul> <li>x oak, pin or white (Quercus) 4</li> <li>*oak, Shumard's, sw. chestnut, sw. white 7</li> <li>*papaw (Asimina triloba) 6</li> <li>*sugarberry (Celtis laevigata, S) 7</li> <li>sweet gum (Liquidambar styraciflua) 4</li> <li>x sycamore, Amer. (Platanus occidentalis) 3</li> <li>willow spp. (Salix) sp.1=3; *additional=7</li> </ul>   |
| Shrubs - leaves opposite or whorled  bladdernut (Staphylea trifolia) 5  buckthorn spp. (Rhamnus cathar. & frangula) 0  button bush (Cepha/anthus occidentalis) 5  dogwood, red-osier (Cornus stolonifera) 4  *dogwood, blue-fruited or silky Cornus  obliqua) 7  dogwood, gray (C. racemosa) 2  elderberry (Sambucus) 2   | OTHER InWrap, Terg revised June 200   |

# **IN-WRAP Summary Sheet**

| Date Re   | port Generated: 10/16/2011   |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|
| Wetland   | site name: S5W091  |  |  |  |  |  |  |  |
| Data Re   | ference #: 91  |  |  |  |  |  |  |  |
| Date of   | Site Visit: 10/15/2011   |  |  |  |  |  |  |  |
| NWI pol   | ygons in Site (quadrangle and NWI id. numbers: Modesto                                   |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |
| TIER 1  | SUMMARY:   |  |  |  |  |  |  |  |
| a.  | Total wetland area (hectares): 0.36 (0.88 acre)  |  |  |  |  |  |  |  |
| b.  | b. Wetland size and connectivity – contribution to animal habitat:                       |  |  |  |  |  |  |  |
|   | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral  |  |  |  |  |  |  |  |
| C.  | Surrounding land use – numerical rank (max. = 1): 0.25                                   |  |  |  |  |  |  |  |
| d.  | d. Value surrounding area adds to animal habitat 🔲 Valuable 🔛 Favorable 🔀 Low            |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |
| TIER 2 SUMMARY: NWI Polygon Id. 91  |  |  |  |  |  |  |  |  |
| a.  | Indiana Wetland community type: Seasonally Flooded Basin                                 |  |  |  |  |  |  |  |
| b.  | . Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral      |  |  |  |  |  |  |  |
| C.  | Disturbances to site: Road/Railroad Embankment   |  |  |  |  |  |  |  |
| d.  | Exotic species rating: Good Medium Poor  |  |  |  |  |  |  |  |
| e.  | Special Hydrologic Conditions Observed: None   |  |  |  |  |  |  |  |
| f.  | f. Special Community Type: None  |  |  |  |  |  |  |  |
| g.  | Rare-Threatened-Endangered Species: None   |  |  |  |  |  |  |  |
| h.  | Polygon Quality Description: Good Medium Poor  |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |
| TIER 3  | A SUMMARY:   |  |  |  |  |  |  |  |
| a. Dead woody material as indicator of animal habitat: 🔲 Valuable 🔲 Favorable 🔀 Neutral |  |  |  |  |  |  |  |  |
| b.  | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☐ Medium ☐ Poor      |  |  |  |  |  |  |  |
| C.  | Flood and storm water storage – numerical rank (5 max): 4 Rating: 🖂 Good 🔲 Medium 🔲 Poor |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |
| TIER 3  | B SUMMARY:   |  |  |  |  |  |  |  |
| a.  |  |  |  |  |  |  |  |  |
| b.  | Stratification as indicator of animal habitat: 🛛 Valuable 🔲 Neutral                      |  |  |  |  |  |  |  |
| C.  | Number of dominant plant taxa observed: 7 Rating: Sood Medium Poor                       |  |  |  |  |  |  |  |
| d.  | Average coefficient of conservatism: 2.14 Rating: Good Medium Poor                       |  |  |  |  |  |  |  |
| e.  | Tree canopy as indicator of animal habitat:   Valuable   Neutral                         |  |  |  |  |  |  |  |
| f.  | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☐ Neutral            |  |  |  |  |  |  |  |
| g.  | Total hydrophytic taxa observed: 20 Rating: ☐ Good ☐ Medium ☐ Poor                       |  |  |  |  |  |  |  |
| h.  | Number of indicator taxa 2 Rating: ☐ Good ☐ Medium ☒ Poor                                |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |  |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W091

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Ownership (if known):  USGS Topographic Quadran  |   |                   |                     |                      |               |  |  |  |  |
|--|---|-------------------|---------------------|----------------------|---------------|--|--|--|--|
| USGS Topographic Quadran   |   |                   |                     |                      |               |  |  |  |  |
|  | USGS Topographic Quadrangle(s): Modesto |                   |                     |                      |               |  |  |  |  |
| USGS Watershed map 14-Digit HUC: Bryant Creek (Morgan) 05120201180040  |   |                   |                     |                      |               |  |  |  |  |
| CCCC Waterened map 11 Di   | git 1100. <u>Diyant</u>                 | order (mergan)    | 00120201100010      | ,                    |               |  |  |  |  |
| Identify each NWI Polygon with   |   | e (Polygon speci  | fic data)           |                      |               |  |  |  |  |
| NWI Polygon ID Number Cowardin Classification  | 91<br>PSS1A                             |                   |                     |                      |               |  |  |  |  |
| Polygon Size (hectares)  | 0.36 (0.88 acre)                        |                   |                     |                      |               |  |  |  |  |
| , ,  | 0.00 (0.00 40.0)                        |                   |                     |                      |               |  |  |  |  |
| NWI Polygon ID Number  |   |                   |                     |                      |               |  |  |  |  |
| Cowardin Classification  |   |                   |                     |                      |               |  |  |  |  |
| Polygon Size (hectares)  |   |                   |                     |                      |               |  |  |  |  |
| 1.2 Site Visit:  |   |                   |                     |                      |               |  |  |  |  |
| Team Members: K. Schroe  | der & D. White                          |                   |                     |                      |               |  |  |  |  |
| Agency: INDOT  |   |                   |                     |                      |               |  |  |  |  |
| Date assessed: 10/15/201   | 1                                       | Time a            | ssessed: 12:05p     | om                   |               |  |  |  |  |
| Weather conditions: Overcast   |   |                   |                     |                      |               |  |  |  |  |
|  |   |                   |                     |                      |               |  |  |  |  |
| Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g.                 |   |                   |                     |                      |               |  |  |  |  |
| recent heavy rains, an unusually dry season, an especially early spring, etc.):  |   |                   |                     |                      |               |  |  |  |  |
|  |   |                   |                     |                      |               |  |  |  |  |
| 1.3 Wetland Size:  |   |                   |                     |                      |               |  |  |  |  |
| Size of site under assessmen   | t: 0.36 hectare                         | (0.88 acre)       |                     |                      |               |  |  |  |  |
| Size of total wetland complex (all continuous wetland polygons): 0.36 hectare (0.88 acre)  |   |                   |                     |                      |               |  |  |  |  |
| 4 4 Cita Cattinan  |   |                   |                     |                      |               |  |  |  |  |
| <b>1.4 Site Setting:</b> Degree of isolation from other  | wetlands or wetland                     | d complexes:      |                     |                      |               |  |  |  |  |
| Degree of isolation from other wetlands or wetland complexes:  The site is connected upstream and downstream with other wetlands |   |                   |                     |                      |               |  |  |  |  |
| The site is only connected upstream with other wetlands  |   |                   |                     |                      |               |  |  |  |  |
| The site is only connect   | ·                                       |                   |                     |                      |               |  |  |  |  |
| <del></del>  |   |                   |                     |                      |               |  |  |  |  |
|  |   |                   |                     |                      |               |  |  |  |  |
| The wetland site is isola  | aleu                                    |                   |                     |                      |               |  |  |  |  |
| (General assessment of adjace site (indicate the % abundance   |   | cover in the area | a within 50 meters  | of the perimeter of  | f the wetland |  |  |  |  |
| 25 Native Vegetation - woo   | odland                                  | 75                | Road / highway      | / railroad bed / par | king lot      |  |  |  |  |
| Native Vegetation - old  | field / scrub                           |                   | _ Industrial        |                      |               |  |  |  |  |
| Agricultural- tilled   |   |                   | _ Residential – sir | ngle family          |               |  |  |  |  |
| Agricultural - pasture   |   |                   | Commercial or r     | nultifamily resident | ial           |  |  |  |  |
| <del></del>  |   |                   | =                   |                      |               |  |  |  |  |
| <del></del>  |   |                   | _                   |                      | ial           |  |  |  |  |

|        | I Polygon #<br>able on page o   | 91<br>ne)                               |                        | _ Data Ref    | erence #       | S5W091                 | InWRAP, TERG May 2000                   |
|--------|---------------------------------|---|------------------------|---------------|----------------|------------------------|---|
|        | 2 Individua<br>wetland)         | ıl Polygon: Pr                          | eliminary <i>I</i>     | Assessme      | ent (to be o   | completed on-s         | ite for <u>each</u> NWI polygon present |
| 2.1 W  | <b>/etland Geom</b><br>Depressi | orphic Setting a                        | nd Surface. \<br>Slope |               |                | <b>e):</b><br>oodplain | Lacustrine                              |
|        | Riverine                        | (within the river/st                    |                        |               |                |                        |   |
| 2.2 P  | resence of St                   | anding Water:                           |                        |               |                |                        |   |
| ls sta | anding water r                  | normally present in                     | n the polygon          | ? Yes         |                |                        |   |
| ls sta | _                               | water is present,<br>ormally present in | -                      |               | 2 meters in No | n depth? No            |   |
| 2.3 A  | pparent Hydr                    | operiod (check o                        | one):                  |               |                |                        |   |
|        | Permanently                     |   |                        |               | Artific        | cially Flooded         |   |
| X      | Seasonally Saturated (s         | Flooded<br>ourface water seld           | om present)            |               | Artific        | cially Drained         |   |
| 2.4 S  | <b>oil Type:</b><br>Organic (   | i.e. peat, etc.)                        | Х                      | Mineral       |                | Both                   | Mineral and Organic Present             |
|        |                                 |   |                        | _             | _              |                        |   |
|        |                                 | nunity Type for t                       | his NWI poly           | gon (see K    | ey to Wetla    | and Communit           | ties of Indiana):                       |
| Sea    | sonally Floode                  | ed Basin                                |                        |               |                |                        |   |
| 2.6 D  | isturbances o                   | of Hydrology (ch                        | eck all that a         | pply):        |                |                        |   |
|        | Ditching                        |   |                        |               | Culvert        |                        |   |
|        | Tiles                           |   |                        |               | Other Hu       | ıman Disturban         | ces to the Hydrology (explain):         |
|        | Dams                            |   |                        |               | _              |                        |   |
| Χ      | _ Road or Rai                   | Iroad Embankmei                         | nt                     |               |                |                        |   |
| 2.7 P  | resence of In                   | vasive Exotics (S                       | Score as: S =          | : Scattered,  | F = Frequ      | ent, or C = Co         | mmon):                                  |
|        | Garlic Musta                    | ard                                     |                        | Glossy Buckt  | horn           |                        |   |
|        | –<br>_ Phragmities              |   |                        | Reed canary   |                |                        |   |
|        | Purple loose                    | estrife                                 | С                      | Other (list): | Multiflora     | a rose                 |   |
| 2.8 P  | resence of Sp                   | ecial Hydrologic                        | Conditions             | (i.e. seeps,  | wet slope      | s, floating ma         | t):                                     |
|        |                                 |   |                        |               |                |                        |   |
| 2.9 P  | -                               | ecial Communit                          | y Types:               |               |                |                        |   |
|        | Bog                             |   | Fen                    | _             | We             | et Sand / Muck         | Flats or Mari Seeps                     |
| 2.10   | Presence of k                   | (nown Federal o                         | r Indiana Rai          | re, Threater  | ed or End      | angered Spec           | ies:                                    |
| Χ      | None obs                        | served or known t                       | o be present           |               |                |                        |   |
|        | <del></del>                     | esent (list)                            | ,                      |               |                |                        |   |
| 2.11   | Wetland Polv                    | gon Quality Des                         | criptor (see:          | Wetland Qu    | uality Desc    | criptions and c        | heck one):                              |
|        | Good                            | X                                       | Medium                 |               | Po             | •                      | ,                                       |

| NWI    | l Po | olva  | on  | #     | 91  | Data Refere        | ence #                                 | : S5W0       | <b>)</b> 91     |              |            |
|--------|------|-------|-----|-------|---|--------------------|--|--------------|-----------------|--------------|------------|
|        |      |       |     |       | al Polygon: Rapid Hydrology   |                    | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |              |                 |              |            |
|        |      |       |     |       | res that influence water quality an   |                    |  |              |                 |              |            |
|        |      |       |     |       | ous plant cover (percentage) in the p   |                    | 100-                                   | ·75          | 75-50           | 50-25        | <25        |
|        |      |       |     |       | lant foliar cover in the polygon  |                    |  |              | 75-50 <u> </u>  |              |            |
|        |      |       |     | ٠.    | oody material on the soil surface:  |                    | _ 100-                                 | .75          | _ 75-50         | 50-25        |            |
| AIIIO  | unt  | OI (  | Joa | u wo  | X nil (<5% cover)   | scattered          | (5-15%                                 | 6 cover)     | Free            | quent (>20   | % covers)  |
| 3a.2 \ | Wat  | ter ( | Qua | ality | Protection Questions:   |                    |  |              |                 |              |            |
| 1.     | X    | Υ     |     | N     | Does the wetland have a significar density to potentially uptake dissol   |                    | ative (                                | specifical   | ly perennial    | and wood     | y plant)   |
| 2.     |      | Y     | X   | N     | Managed water (e.g. municipal or or municipal wastewater) is <b>not</b> dis   |                    | _                                      |              | ,               | ge outlet, i | ndustrial  |
| 3.     |      |       |     |       | If wetland in question is a depressi  | onal wetland ansv  | ver 3a                                 | , if not, ar | swer 3b         |              |            |
| 3a.    |      | Y     |     | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |                    |  |              |                 |              |            |
| 3b.    | Χ    | Y     |     | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |                    |  |              |                 |              |            |
| 4.     |      | Y     | X   | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |                    |  |              |                 |              |            |
| 5.     | Χ    | Y     |     | N     | Are there recreational lakes, navig down gradient in the local watership  |                    | , or wa                                | ater supp    | ly sources lo   | ocated with  | nin a mile |
| 6.     |      | Υ     | X   | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |                    |  |              |                 |              |            |
|        |      |       |     |       | Average width of buffer area (in me   | eters)             | Appr                                   | oximate s    | slope (perce    | nt)          |            |
| 3a.3 I | Flo  | od a  | and | Sto   | rmwater Storage / Attenuation Qu  | estions:           |  |              |                 |              |            |
| 1.     |      |       |     |       | If wetland in question is a depressi  | onal wetland ansv  | ver 1a                                 | , if not, ar | swer 1b         |              |            |
| 1a.    |      | Υ     |     | N     | Around the wetland is there a buffer slow overland flow into the wetland  |                    | egetat                                 | tion (fores  | sted, old field | d, scrub) th | nat will   |
| 1b.    | Χ    | Y     |     | N     | Is there a significant amount of mid<br>the velocity of the water leaving the   |                    | egeta                                  | tive densi   | ty within the   | wetland to   | o reduce   |
| 2.     | Χ    | Υ     |     | N     | Does the wetland <b>lack</b> man-made (tiles, culverts, ditches)?   | structures that wo | uld sp                                 | eed the fl   | ow of water     | from the w   | vetland    |
| 3.     | Χ    | Υ     |     | N     | Is the flood potential high in the su damages)?   | b-watershed in wh  | ich the                                | e wetland    | is located (l   | history of f | lood       |
| 4.     |      | Υ     | X   | N     | Is the wetland located in a watershimpermeable, or is bedrock within  |                    |  |              |                 | clayey and   | d          |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

| NWI Polygon #   | 91 Data Reference # S5W091                        |   |                                 |                          |  |  |  |
|---|---|---|---------------------------------|--------------------------|--|--|--|
| Tier 3b Individu  | ual Polygon: Rapid Vegetation Description         |   |                                 |                          |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man                         | -   | ent in this wetland polygon? 1                          |                                 |                          |  |  |  |
| 1b. If only one   | e vegetation zone is evident                      | , which best describes the site?                        |                                 |                          |  |  |  |
| X   | Polygon composed of a m heterogeneous textures ac | osaic of small vegetation patches<br>cross the polygon. | s, hummocks, or tusso           | cks;                     |  |  |  |
|   | Polygon composed of a sin polygon.                | ngle vegetation type with more or                       | r less uniform texture a        | across the               |  |  |  |
| the distribut   | ion of these zones?                               | sent in the polygon, which intersp                      | -<br>-                          |                          |  |  |  |
| Туре  | e One Interspersion                               |   | Type Two Intersper              | sion                     |  |  |  |
| (   |   |   |                                 | x                        |  |  |  |
| 3b.2 Dominant Pla   | nt Species: Vegetation zo                         | Phot  | Observation Point and number(s) |                          |  |  |  |
| What % of the poly  | gon does this vegetative zor                      |   | mark location on the N          | ivvi polygori)           |  |  |  |
| 10 – 25%  | •   | 50 – 75%  | 75 – 90%                        | >90%                     |  |  |  |
| <del></del>   | ering/stratification in this veg                  |   | 70                              |                          |  |  |  |
|   | es that forms extensive mon                       | more than 10% of the area) liston ocultural patches).   |                                 | abundance. <b>(Mar</b> l |  |  |  |
| Solidago canad  | densis  | ee  |                                 |                          |  |  |  |
| C Carex sp.   |   | f   |                                 |                          |  |  |  |
| Dominant <b>Shrub</b> Sp                                    | pecies listed in order of relat                   | ive abundance.  |                                 |                          |  |  |  |
| a Salix nigra   |   | C   |                                 |                          |  |  |  |
| ·   |   | d   |                                 |                          |  |  |  |
| - · · ·   |   |   |                                 |                          |  |  |  |
| •   | cies listed in order of relativ                   |   |                                 |                          |  |  |  |
| <ul> <li>Populus deltoid</li> <li>Platanus occid</li> </ul> |   |   |                                 |                          |  |  |  |
| o <i>Platanus occid</i><br>Tree & shrub canop               |   | d<br>rate, seldom touching of                           | ten touching N                  | Acro or loss classes     |  |  |  |
| Mature trees (>12" (  | dbh) present: X                                   | <del></del>   | _                               |                          |  |  |  |

**NWI Polygon #** Data Reference # \$5W091 3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana)SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 Herbs: wide-leafed monocots \*ferns: marsh shield fern spp. (Dryopteris) 7 \*arrow arum (Peltandra virginica, N) 6 \*cinnamon fern (Osmunda cinnamomea) 9 arrow-head spp. (Sagittaria) 4 \*royal fern (Osmunda regalis) 8 \*green dragon (Arisaema dracontium) 6 sensitive fern (Onoclea sensibilis) 4 Jack-in-the-pulpit (Arisaema triphyllum) 4 \*other: species (if known) pickerel weed (Pontederia cordata, N) 5 marsh club moss (Selaginella apoda) 4 \*skunk cabbage (Symplocarpus foetidus) 8 \*Sphagnum moss spp. (Sphagnum, N) 10 \*water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aguat.) 2 Herbs: Ivs. floating or submergent \*bladderwort spp. (Utricularia, N) 10 Herbs: dicots - Ivs. opposite/whorled \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for introduced *P. crispus*) boneset (Eupatorium perfoliatum) 4 \*water lily (Nymphaea tuberosa, N) 6 bugleweed spp. (Lycopus) 5 water shield (Brasenia schreberi, N) 4 clearweed spp. (Pilea) 3 \*yellow spatterdock spp. (Nuphar) 6 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3 Herbs: insectivorous plants \*fen betony (Pedicularis lanceolata) 6 \*pitcher plant (Sarracenia purpurea,N) 10 \*gentian spp. (Gentiana & Gentianopsis) 8 H G

| *sundew spp. (Drosera, N) 10  erbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10  blueflag iris (Iris virginica) 5  bulrush spp. (Scirpus / Schoenoplectus) 5  *bur reed spp. (Sparganium) 9  cat-tail spp. (Typha) 1  *cotton grass spp. (Eriophorum, N) 10  rasses (family Gramineae) - indicate types & number of species  a. *wild rice (Zizania aquatica, N) 10  b. most native perennial grass spp. 4: e.g.  cut-grass, manna-g, Canada bluejoint, foxtail  [Alopecurus]; other  c. introduced grass spp. 0: reed canary  grass [Phalaris], reed [Phragmites], annual  grasses such as annual foxtail [Setaria] &  barnyard grass Echinochloa]  needle sedge spp. (Eleocharis) sp.1 =2  *additional=8 | giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 moneywort (Lysimachia nummularia) 0 monkey flower spp. (Mimulus) 4 nettle (Urtica pro cera) 1 purple loosestrife (Lythrum salicaria) 0 *richweed (Collinsonia canadensis) 8 *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4 *swamp loosestrife (Decodon verticillatus, N) 8  X swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2 *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 winged loosestrife (Lythrum alatum) 5 |
|---|--|
| nutsedge spp. (Cyperus) 2   | Harbar (vines), disease, has alternate and basel   |
| *orchid spp.: species (if known) rush spp. (Juncus) 4   | Herbs: (vines): dicots - lvs. alternate or basal   |
| sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9  sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10  wild hyacinth (Camassia scilloides) 5  *yellow-eyed grass (Xyris torta, N) 9  | and simple Amer. bellflower (Campanula americana) 4 *asters: bristly aster (Aster puniceus) 7 *flat-topped aster (A. umbellatus) 8 other aster spp. (e.g. New Engl, panicled-a) 3 *black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4  InWrap, Terg revised June 2005   |

| X | cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4   | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5  |
|---|---|--|
|   | *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp.(Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4 smartweed spp.: incl. jumpseed, pinkweed,  | Trees - Ivs. needle shaped *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ach block (Fravinus pigra) 7  |
|   | tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10 *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3  | *ash, black (Fraxinus nigra) 7 ash, green (Fraxinus pensylvanica) 3 *ash, pumpkin (Fraxinus tomentosa, SW) 8 boxelder (Acer negundo) 1 hickory, bitternut (Carya cordiformis) 5 *hickory, shell bark (Carya laciniosa) 8 honey locust (Gleditsia triacanthos) 1 *poison sumac (Rhus vernix) 10   |
|   | dicots - Ivs. basal or alternate and und or deeply lobed aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | Trees – Ivs. simple and opposite  red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5  X cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6  *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 X sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7  OTHER Multiflora rose (Rosa multiflora) |
|   | bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2   | InWrap, Terg revised June 2005   |

| Date Re | port Generated: 4/28/2012   |  |  |  |  |
|---------|---|--|--|--|--|
| Wetland | site name: S5W095   |  |  |  |  |
| Data Re | eference #: 95  |  |  |  |  |
| Date of | Site Visit: 4/26/2012   |  |  |  |  |
| NWI pol | ygons in Site (quadrangle and NWI id. numbers: Modesto  |  |  |  |  |
|         |   |  |  |  |  |
| TIER 1  | SUMMARY:  |  |  |  |  |
| a.      | Total wetland area (hectares): 0.08 (0.19 acre)   |  |  |  |  |
| b.      | Wetland size and connectivity – contribution to animal habitat:                               |  |  |  |  |
|         | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |  |  |  |  |
| C.      | Surrounding land use – numerical rank (max. = 1): 0.9   |  |  |  |  |
| d.      | Value surrounding area adds to animal habitat   |  |  |  |  |
|         |   |  |  |  |  |
| TIER 2  | P. SUMMARY: NWI Polygon Id. 95  |  |  |  |  |
| a.      | Indiana Wetland community type: Floodplain forest   |  |  |  |  |
| b.      | Standing water – contribution to animal habitat:   Valuable Favorable   Neutral               |  |  |  |  |
| C.      | Disturbances to site: None  |  |  |  |  |
| d.      | Exotic species rating:   Good  Medium  Poor   |  |  |  |  |
| e.      | Special Hydrologic Conditions Observed: None  |  |  |  |  |
| f.      | Special Community Type: None  |  |  |  |  |
| g.      | Rare-Threatened-Endangered Species: None  |  |  |  |  |
| h.      | Polygon Quality Description: 🖂 Good 🔲 Medium 🔲 Poor   |  |  |  |  |
|         |   |  |  |  |  |
| TIER 3  | BA SUMMARY:   |  |  |  |  |
| a.      | Dead woody material as indicator of animal habitat: $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$   |  |  |  |  |
| b.      | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☑ Medium ☐ Poor           |  |  |  |  |
| C.      | Flood and storm water storage – numerical rank (5 max): 4 Rating: 🖂 Good 🔲 Medium 🔲 Poor      |  |  |  |  |
|         |   |  |  |  |  |
| TIER 3  | BB SUMMARY:   |  |  |  |  |
| a.      | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |  |  |  |  |
| b.      |   |  |  |  |  |
| C.      |   |  |  |  |  |
| d.      | Average coefficient of conservatism: 3 Rating: Good Medium Poor                               |  |  |  |  |
| e.      | Tree canopy as indicator of animal habitat:   |  |  |  |  |
| f.      | Mature trees as indicator of animal habitat: 🛛 Valuable 🔲 Favorable 🔲 Neutral                 |  |  |  |  |
| g.      | Total hydrophytic taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                             |  |  |  |  |
| h.      |   |  |  |  |  |
|         |   |  |  |  |  |

Data Reference # S5W095

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W098                                    | 5  |                  |                   |                        |               |  |
|--|--|------------------|-------------------|------------------------|---------------|--|
| Ownership (if known):  |  |                  |                   |                        |               |  |
| USGS Topographic Quadrangle(s): Modesto                      |  |                  |                   |                        |               |  |
| USGS Watershed map 14-Dig                                    |  | Creek (Morgan)   | 0512020118004     | .0                     |               |  |
|  |  |                  |                   |                        |               |  |
| Identify each NWI Polygon with                               |  | e (Polygon spec  | cific data)       |                        |               |  |
| NWI Polygon ID Number Cowardin Classification                | 95<br>PFO1A  |                  |                   |                        |               |  |
| Polygon Size (hectares)                                      | 0.08 (0.19 acre)   |                  |                   |                        |               |  |
|  |  |                  |                   |                        |               |  |
| NWI Polygon ID Number  |  |                  |                   |                        |               |  |
| Cowardin Classification Polygon Size (hectares)              |  |                  |                   |                        |               |  |
| rolygon Size (nectales)                                      |  |                  |                   |                        |               |  |
| 1.2 Site Visit:  |  |                  |                   |                        |               |  |
| Team Members: K. Schroed                                     | ler & D. White   |                  |                   |                        |               |  |
| Agency: INDOT  |  |                  |                   |                        |               |  |
| Date assessed: 4/26/2012                                     |  | Time             | assessed: 2:30    | ) pm                   |               |  |
| Weather conditions: 60 F                                     |  |                  |                   |                        |               |  |
|  |  |                  |                   |                        |               |  |
| Note any unusual weather ever                                |  |                  |                   | s within this wetland  | system (e.g.  |  |
| recent heavy rains, an unusually                             | y dry season, an e   | specially early  | spring, etc.):    |                        |               |  |
|  |  |                  |                   |                        |               |  |
| 1.3 Wetland Size:  |  |                  |                   |                        |               |  |
| Size of site under assessment                                | 0.08 hectare (0  | .19 acre)        |                   |                        |               |  |
| Size of total wetland complex                                | (all continuous we   | tland polygons)  | : 0.08 hectare (  | (0.19 acre)            |               |  |
| 1.4 Site Setting:  |  |                  |                   |                        |               |  |
| Degree of isolation from other w                             | vetlands or wetlan   | d complexes:     |                   |                        |               |  |
| The site is connected up                                     | stream and down  | stream with oth  | er wetlands       |                        |               |  |
| The site is only connected                                   | ed upstream with o   | other wetlands   |                   |                        |               |  |
| The site is only connected                                   | ed downstream wi   | th other wetland | ds                |                        |               |  |
| X Other wetlands are near                                    |  |                  |                   |                        |               |  |
| The wetland site is isolar                                   | • ,  | io, sui noi com  | 00.00             |                        |               |  |
| The welland site is isola                                    | ieu  |                  |                   |                        |               |  |
| (General assessment of adjace site (indicate the % abundance |  | cover in the are | ea within 50 mete | ers of the perimeter o | f the wetland |  |
| 50 Native Vegetation - woo                                   | Native Vegetation - woodland Road / highway / railroad bed / parking lot |                  |                   |                        |               |  |
| 50 Native Vegetation - old f                                 | ield / scrub   |                  | Industrial        |                        |               |  |
| Agricultural- tilled   |  |                  | Residential –     | single family          |               |  |
| Agricultural - pasture                                       |  |                  | <del></del>       | r multifamily resident | tial          |  |
| Recreation - green space, mowed                              |  |                  |                   |                        |               |  |
| Necreation - green space, mowed                              |  |                  |                   |                        |               |  |

| NWI Polygon # (see table on page o | 95  | Data Reference #           | S5W095              | InWRAP, TERG May 2000              |
|------------------------------------|---|----------------------------|---------------------|------------------------------------|
|                                    | •   | <b>Assessment</b> (to be o | completed on-site f | or <u>each</u> NWI polygon present |
|                                    | orphic Setting and Surface.   | •                          | •                   |                                    |
| Depressi                           |   |                            | oodplain            | Lacustrine                         |
| Riverine                           | (within the river/stream banks)   |                            |                     |                                    |
| 2.2 Presence of St                 | anding Water:   |                            |                     |                                    |
| If standing                        | ormally present in the polygor<br>water is present, is the water<br>ormally present in an adjacen | greater than 2 meters ir   | depth? No           |                                    |
| 2.3 Apparent Hydr                  | operiod (check one):  |                            |                     |                                    |
| Permanently                        |   | Artific                    | cially Flooded      |                                    |
| X Seasonally I Saturated (s        | Flooded<br>urface water seldom present)   | Artific                    | cially Drained      |                                    |
| 2.4 Soil Type:                     |   |                            |                     |                                    |
| Organic (                          | i.e. peat, etc.) X  | Mineral                    | Both Mi             | neral and Organic Present          |
| 2.6 Disturbances of Ditching       | of Hydrology (check all that a  | apply): Culvert            |                     |                                    |
| Tiles                              |   | Other Hu                   | ıman Disturbances   | to the Hydrology (explain):        |
| Dams                               |   |                            |                     |                                    |
| Road or Rai                        | road Embankment   |                            |                     |                                    |
| 2.7 Presence of In                 | asive Exotics (Score as: S  | = Scattered, F = Frequ     | ent, or C = Comm    | on):                               |
| Garlic Musta                       |   | Glossy Buckthorn           |                     |                                    |
| Phragmities                        |   | Reed canary grass          |                     |                                    |
| Purple loose                       | strife  | Other (list):              |                     |                                    |
| 2.8 Presence of Sp                 | ecial Hydrologic Conditions   | s (i.e. seeps, wet slope   | s, floating mat):   |                                    |
| 2.9 Presence of Sp                 | ecial Community Types: Fen  | W                          | et Sand / Muck Fla  | ts or Mari Seeps                   |
| 2.10 Presence of K                 | nown Federal or Indiana Ra  | re, Threatened or End      | angered Species:    |                                    |
| X None obs                         | served or known to be present   |                            |                     |                                    |
|                                    | esent (list)  |                            |                     |                                    |
| 2.11 Wetland Poly                  | gon Quality Descriptor (see:  | Wetland Quality Desc       | criptions and chec  | :k one):                           |
| X Good                             | Medium  | Po                         | -                   | •                                  |

| NWI    | D.   | dva  | on   | #     | 95 Data Reference # S5W095  |  |  |
|--------|------|------|------|-------|---|--|--|
|        |      |      |      | •     |   |  |  |
| Her    | зa   | ine  | JIV  | laua  | al Polygon: Rapid Hydrology Indicators  |  |  |
| 3a.1 N | Not  | abl  | e Fe | eatui | es that influence water quality and hydrology:  |  |  |
| Estin  | nate | ed h | erb  | acec  | ous plant cover (percentage) in the polygon 100-75 75-50 50-25 _X <25   |  |  |
| Estin  | nate | ed v | voo  | dy pl | ant foliar cover in the polygon 100-75 _X_ 75-50 50-25 <25  |  |  |
| Amo    | unt  | of o | dead | ow b  | ody material on the soil surface: nil (<5% cover) Scattered (5-15% cover) Frequent (>20% cover)   |  |  |
| 3a.2 \ | Nat  | er ( | Qua  | lity  | Protection Questions:   |  |  |
| 1.     | Χ    | Y    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |  |  |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |
| 3b.    | X    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |
| 4.     | Χ    | Y    |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |
| 5.     |      | Y    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |
| 6.     | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |
|        |      |      |      |       | Average width of buffer area (in meters) 10-15 Approximate slope (percent) 5%   |  |  |
| 3a.3 F | Floo | od a | and  | Sto   | rmwater Storage / Attenuation Questions:  |  |  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |
| 1b.    | Χ    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |
| 2.     | X    | Υ    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |
| 3.     | X    | Υ    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

Is the wetland located in a local watershed which has highly modified runoff conditions due to

| NWI Polygon # _ 95  | Data Reference # S5W095   |  |  |  |  |  |  |
|---|---|--|--|--|--|--|--|
| Tier 3b Individual Polygon: Rapid Vegetation De   | scription   |  |  |  |  |  |  |
| <ul><li>3b.1 Zonation and Interspersion:</li><li>1. How many vegetation zones are evident in this wetland</li></ul>             | · · · · · · · · · · · · · · · · · · ·   |  |  |  |  |  |  |
| 1b. If only one vegetation zone is evident, which best de   | scribes the site?   |  |  |  |  |  |  |
| X Polygon composed of a mosaic of small v   | regetation patches, hummocks, or tussocks;                                      |  |  |  |  |  |  |
| heterogeneous textures across the polyg   | on.   |  |  |  |  |  |  |
| Polygon composed of a single vegetation polygon.  | type with more or less uniform texture across the                               |  |  |  |  |  |  |
| 2. If more than one vegetation zone is present in the poly the distribution of these zones?                                     | gon, which interspersion diagram most closely represents                        |  |  |  |  |  |  |
| Type One Interspersion  | Type Two Interspersion  |  |  |  |  |  |  |
|   |   |  |  |  |  |  |  |
| 3b.2 Dominant Plant Species: Vegetation zone A  | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon) |  |  |  |  |  |  |
| What % of the polygon does this vegetative zone occupy?   | (Note: V mark location on the NVVI polygon)                                     |  |  |  |  |  |  |
|   | ) – 75% 75 – 90% X _ >90%   |  |  |  |  |  |  |
| Is there notable layering/stratification in this vegetation zone?   |   |  |  |  |  |  |  |
| Dominant <b>Herbaceous</b> Species (i.e. covering more than 10% with an * any species that forms extensive monocultural patchea |   |  |  |  |  |  |  |
| Dominant <b>Shrub</b> Species listed in order of relative abundance   |   |  |  |  |  |  |  |
| a Platanus occidentalis   | С   |  |  |  |  |  |  |
| b   | d   |  |  |  |  |  |  |
| Dominant <b>Tree</b> Species listed in order of relative abundance.  a Platanus occidentalis b                                  | c   |  |  |  |  |  |  |
| Tree & shrub canopy: nil separate, seldom too   | ucning <u>X</u> oπen toucning More or less closed                               |  |  |  |  |  |  |
| Mature trees (>12" dbh) present: X yes  | Mature trees (>12" dbh) present: X yes no                                       |  |  |  |  |  |  |
| Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).                 |   |  |  |  |  |  |  |

\*yellow-eyed grass (Xyris torta, N) 9

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10  | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5  *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2  |
|---|--|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus) *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3 *fen betony (Pedicularis lanceolata) 6   |
| Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea, N) 10  *sundew spp. (Drosera, N) 10   | *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2   |
| Herbs: linear-lvs. or leafless ± monocots *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5 bulrush spp. (Scirpus / Schoenoplectus) 5  *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1  *cotton grass spp. (Eriophorum, N) 10  Grasses (family Gramineae) - indicate types & number of species a. *wild rice (Zizania aquatica, N) 10 b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa] needle sedge spp. (Eleocharis) sp.1 =2  *additional=8 | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6  meadow beauty (Rhexia virginica) 5  mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  moneywort (Lysimachia nummularia) 0  monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp. (Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8  swamp milkweed (Asclepias incarnata) 4  toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8  virgin's bower (vine) (Clematis virginiana) 3  water puslane (Ludwigia palustris) 3  winged loosestrife (Lythrum alatum) 5 |
| nutsedge spp. (Cyperus) 2  *orchid spp.: species (if known)  rush spp. (Juncus) 4  sedge spp. (Carex) sp.1=3 *additional=7  *spiderlily (Hymenocallis occidentalis) 9  sweet flag (Acorus calamus) 0  *3-way sedge (Dulichium arundinaceum) 10  *twig rush (Cladium mariscoides, N) 10  *umbrella sedge (Fuirena squarrosa, N) 10   | Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4 *asters: bristly aster (Aster puniceus) 7 *flat-topped aster (A. umbellatus) 8 other aster spp. (e.g. New Engl, panicled-a) 3 *black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4   |
| wild hyacinth (Camassia scilloides) 5   | InWrap, Terg revised June 2005   |

| cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4  | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5   |
|--|---|
| *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10 *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3   | Trees - Ivs. needle shaped *tamarack (Larix laricina, N) 10  Trees - Ivs. compound *ash, black (Fraxinus nigra) 7 ash, green (Fraxinus pensylvanica) 3 *ash, pumpkin (Fraxinus tomentosa, SW) 8 boxelder (Acer negundo) 1 hickory, bitternut (Carya cordiformis) 5 hickory, shell bark (Carya laciniosa) 8 honey locust (Gleditsia triacanthos) 1 *poison sumac (Rhus vernix) 10  Trees - Ivs. simple and opposite  |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrubs - leaves opposite or whorled  bladdernut (Staphylea trifolia) 5  buckthorn spp. (Rhamnus cathar. & frangula) 0  button bush (Cepha/anthus occidentalis) 5  dogwood, red-osier (Cornus stolonifera) 4  *dogwood, blue-fruited or silky Cornus  obliqua) 7  dogwood, gray (C. racemosa) 2  elderberry (Sambucus) 2  | OTHER  InWrap, Terg revised June 200  |

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Data Reference # S5W104

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W10   | 4  |   |   |   |                                  |  |
|--|--|---|---|---|----------------------------------|--|
| Ownership (if known):  |  |   |   |   |                                  |  |
| USGS Topographic Quadrang  |  |   |   |   |                                  |  |
| USGS Watershed map 14-Dig  | git HUC: Little In   | dian Creek-Jord   | an Creek 051202   | 01180010  |                                  |  |
|  |  |   |   |   |                                  |  |
| Identify each NWI Polygon with NWI Polygon ID Number   | nin the Wetland Site   | e (Polygon spec<br>T  | ific data)  | 1   |                                  |  |
| Cowardin Classification  | PEMCh  |   |   |   |                                  |  |
| Polygon Size (hectares)  | 0.16 (0.40 acre)   |   |   |   |                                  |  |
| NWI Polygon ID Number  |  |   | 1   | <u> </u>  |                                  |  |
| Cowardin Classification  |  |   |   |   |                                  |  |
| Polygon Size (hectares)  |  |   |   |   |                                  |  |
| 1.2 Site Visit:  Team Members: K. Schroed  | der & D. White   |   |   |   |                                  |  |
| Agency: INDOT  |  |   |   |   |                                  |  |
| Date assessed: 10/14/201   |  |   | assessed: 2:00p   | m   |                                  |  |
| Weather conditions: Over   | cast, slight precipit  | ation in the after  | noon  |   |                                  |  |
| Note any unusual weather eve   |  |   |   | within this wetl                                  | and system (e.g.                 |  |
| Note any unusual weather everecent heavy rains, an unusual  1.3 Wetland Size:  |  |   |   | within this wetl                                  | and system (e.g.                 |  |
| recent heavy rains, an unusual   | ly dry season, an e  | especially early s  |   | within this wetl                                  | and system (e.g.                 |  |
| 1.3 Wetland Size:  | t: 0.16 hectare  | especially early s  | spring, etc.):  |   | and system (e.g.                 |  |
| 1.3 Wetland Size: Size of site under assessmen   | t: 0.16 hectare (all continuous we wetlands or wetlands patream and downed upstream with deed downstream with deed | (0.40 acre) etland polygons): d complexes: stream with other other wetlands   | o.16 hectare  |   | and system (e.g.                 |  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon the site is only connected.  The site is only connected.   | t: 0.16 hectare ( (all continuous we) wetlands or wetland pstream and down red upstream with of ed downstream wi rby (within 0.25 mi   | (0.40 acre) etland polygons): d complexes: stream with other other wetlands   | o.16 hectare  |   | land system (e.g.                |  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected.  The site is only connected of the site is only connected.  Other wetlands are near  | t: 0.16 hectare (all continuous we wetlands or wetlands pstream and down red upstream with continuous we downstream with the d | (0.40 acre) etland polygons): d complexes: stream with other other wetlands th other wetland                        | 0.16 hectare  one wetlands sected   | (0.40 acre)                                       |                                  |  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon the site is only connected.  The site is only connected with the site is only connected.  The site is only connected with the site is only connected.  The wetlands are neaded.  The wetland site is isolated.                                       | t: 0.16 hectare (all continuous we wetlands or wetlands pstream and down red upstream with or downstream with the downstream with the downstream without (within 0.25 minuted).  | (0.40 acre) etland polygons): d complexes: stream with other other wetlands th other wetland                        | 0.16 hectare  one wetlands sected   | (0.40 acre)                                       | ter of the wetland               |  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected.  The site is only connected.  The site is only connected.  The wetlands are neaded.  The wetland site is isolated.  (General assessment of adjaces site (indicate the % abundance).                                      | t: 0.16 hectare (all continuous we wetlands or wetlands pstream and downed downstream with continuous ted downstream with the  | (0.40 acre) etland polygons): d complexes: stream with other other wetlands th other wetland le) but not connectors | 0.16 hectare  0.16 hectare er wetlands sected a within 50 meter                                 | (0.40 acre)                                       | ter of the wetland               |  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected.  The site is only connected.  The wetlands are nead the wetland site is isolated.  (General assessment of adjaces site (indicate the % abundance).  Native Vegetation - wood.  | t: 0.16 hectare (all continuous we wetlands or wetlands pstream and downed downstream with continuous ted downstream with the  | (0.40 acre) etland polygons): d complexes: stream with other other wetlands th other wetland le) but not connectors | 0.16 hectare  0.16 hectare  er wetlands  sected  a within 50 meters                             | (0.40 acre) s of the perimet                      | ter of the wetland               |  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected.  The site is only connected.  The wetlands are near The wetlands are near The wetland site is isolated (General assessment of adjaces site (indicate the % abundance Native Vegetation - wood 25 Native Vegetation - old | t: 0.16 hectare (all continuous we wetlands or wetlands pstream and downed downstream with continuous ted downstream with the  | (0.40 acre) etland polygons): d complexes: stream with other other wetlands th other wetland le) but not connectors | 0.16 hectare  0.16 hectare  er wetlands  sected  a within 50 meters  Road / highway  Industrial | (0.40 acre)  s of the perimet  / / railroad bed / | ter of the wetland / parking lot |  |

| NWI Polygon # (see table on page or |   | Data Reference #         | S5W104                 | InWRAP, TERG May 2000              |
|-------------------------------------|---|--------------------------|------------------------|------------------------------------|
| Tier 2 Individua in the wetland)    | l Polygon: Preliminary  | Assessment (to be o      | completed on-site f    | or <u>each</u> NWI polygon present |
| X Depression                        | orphic Setting and Surface. onal Slope within the river/stream banks                              | e Flo                    | <b>e):</b><br>podplain | Lacustrine                         |
| 2.2 Presence of Sta                 | anding Water:   |                          |                        |                                    |
| If standing                         | ormally present in the polygor<br>water is present, is the water<br>ormally present in an adjacen | greater than 2 meters in | depth? No              |                                    |
| 2.3 Apparent Hydro                  | operiod (check one):  |                          |                        |                                    |
| Permanently                         |   | Artific                  | cially Flooded         |                                    |
| X Seasonally F Saturated (se        | riooded<br>urface water seldom present)   | Artific                  | cially Drained         |                                    |
| 2.4 Soil Type:<br>Organic (i        | .e. peat, etc.) X   | Mineral                  | Both Mi                | neral and Organic Present          |
| Sedge Meadow                        | unity Type for this NWI poly  |                          | and Communities        | of Indiana):                       |
| Ditching                            |   | Culvert                  |                        |                                    |
| Tiles<br>Dams                       |   | Other Hu                 | ıman Disturbances      | to the Hydrology (explain):        |
| Road or Rail                        | road Embankment   |                          |                        |                                    |
| 2.7 Presence of Inv                 | vasive Exotics (Score as: S   | = Scattered, F = Frequ   | ent, or C = Comm       | on):                               |
| Garlic Musta                        | rd  | Glossy Buckthorn         |                        |                                    |
| Phragmities                         |   | Reed canary grass        |                        |                                    |
| Purple loose                        | strife  | Other (list):            |                        |                                    |
| 2.8 Presence of Sp                  | ecial Hydrologic Conditions   | s (i.e. seeps, wet slope | s, floating mat):      |                                    |
| 2.9 Presence of Sp                  | ecial Community Types: Fen  | We                       | et Sand / Muck Fla     | ts or Mari Seeps                   |
| 2.10 Presence of K                  | nown Federal or Indiana Ra  | are, Threatened or End   | angered Species:       |                                    |
|                                     | erved or known to be presentesent (list)  |                          |                        |                                    |
| 2.11 Wetland Polyg                  | on Quality Descriptor (see:   | Wetland Quality Desc     | criptions and chec     | k one):                            |
| X Good                              | Medium  | Po                       | or                     |                                    |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

Is the wetland located in a local watershed which has highly modified runoff conditions due to

existing development (e.g. >50% area in row crop, commercial, or residential use)?

impermeable, or is bedrock within two feet of the top of the soil profile?

damages)?

Χ

Ν

X Y

4.

5.

| NWI Polygon #                                  | 104   | Data Reference # S5W104  |  |  |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|--|--|--|
| Tier 3b Individu                               | ıal Polygon: Rapid Veç  | getation Description   |  |  |  |  |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man            | Interspersion: y vegetation zones are evide                       | ent in this wetland polygon? _ 1   |  |  |  |  |  |  |  |  |
| 1b. If only one                                | ly one vegetation zone is evident, which best describes the site? |  |  |  |  |  |  |  |  |  |
| X  |   |  |  |  |  |  |  |  |  |  |
|  | Polygon composed of a sin polygon.                                | gle vegetation type with more or less uniform texture across the                               |  |  |  |  |  |  |  |  |
|  |   | ent in the polygon, which interspersion diagram most closely represents                        |  |  |  |  |  |  |  |  |
|  | e One Interspersion   | Type Two Interspersion   |  |  |  |  |  |  |  |  |
| (  |   |  |  |  |  |  |  |  |  |  |
| 3b.2 Dominant Pla                              | nt Species: Vegetation zor  | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)                |  |  |  |  |  |  |  |  |
| What % of the poly                             | gon does this vegetative zone                                     |  |  |  |  |  |  |  |  |  |
| X 10 – 25%                                     | •   | 50 - 75% 75 - 90% >90%   |  |  |  |  |  |  |  |  |
| Is there notable lave                          | ering/stratification in this veg                                  |  |  |  |  |  |  |  |  |  |
| with an * any specie<br>a <i>Polygonum hyd</i> | es that forms extensive mond<br>dropiper                          | more than 10% of the area) listed in order of relative abundance. (Mark ocultural patches).  d |  |  |  |  |  |  |  |  |
| b Phalaris arund                               |   | e  |  |  |  |  |  |  |  |  |
| c Scirpus cyperii                              | านร   | f  |  |  |  |  |  |  |  |  |
| •  | pecies listed in order of relati                                  |  |  |  |  |  |  |  |  |  |
|  |   |  |  |  |  |  |  |  |  |  |
|  |   | d  |  |  |  |  |  |  |  |  |
| Dominant <b>Tree</b> Spe                       | cies listed in order of relative                                  | e abundance.   |  |  |  |  |  |  |  |  |
| ·  |   |  |  |  |  |  |  |  |  |  |
| L.   |   |  |  |  |  |  |  |  |  |  |
| Tree & shrub canop                             | y: X nil separ  | rate, seldom touching often touching More or less closed                                       |  |  |  |  |  |  |  |  |
| Mature trees (>12"                             | dbh) present: y   | res X no   |  |  |  |  |  |  |  |  |
| Other remarks (inc                             | lude personal comments abo  | out what adds to or detracts from the quality of this wetland site).                           |  |  |  |  |  |  |  |  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8  X sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10   | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5  *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2  |
|---|--|
| Herbs: Ivs. floating or submergent  *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus)  *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10 *sundew spp. (Drosera, N) 10  Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5 bulrush spp. (Scirpus / Schoenoplectus) 5  *bur reed spp. (Sparganium) 9 | Herbs: dicots - Ivs. opposite/whorled  *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3 *fen betony (Pedicularis lanceolata) 6 *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 moneywort (Lysimachia nummularia) 0 |
| *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1 *cotton grass spp. (Eriophorum, N) 10  Grasses (family Gramineae) - indicate types & number of species  a. *wild rice (Zizania aquatica, N) 10  b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa]   | monkey flower spp. (Mimulus) 4  nettle (Urtica pro cera) 1  purple loosestrife (Lythrum salicaria) 0  *richweed (Collinsonia canadensis) 8  *St. John's wort spp.(Hypericum/Triandeum)8  sunflower spp. (Helianthus) 4  *swamp loosestrife (Decodon verticillatus, N) 8  swamp milkweed (Asclepias incarnata) 4  toothcup spp. (Ammania & Rotala) 2  *turtlehead spp. (Chelone) 8  virgin's bower (vine) (Clematis virginiana) 3  water puslane (Ludwigia palustris) 3   |
| needle sedge spp. (Eleocharis) sp.1 =2     *additional=8     nutsedge spp. (Cyperus) 2     *orchid spp.: species (if known)     rush spp. (Juncus) 4     sedge spp. (Carex) sp.1=3 *additional=7     *spiderlily (Hymenocallis occidentalis) 9     sweet flag (Acorus calamus) 0     *3-way sedge (Dulichium arundinaceum) 10     *twig rush (Cladium mariscoides, N) 10     *umbrella sedge (Fuirena squarrosa, N) 10     wild hyacinth (Camassia scilloides) 5     *yellow-eyed grass (Xyris torta, N) 9  | winged loosestrife (Ludwigha palustris) 3 winged loosestrife (Lythrum alatum) 5  Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4 *asters: bristly aster (Aster puniceus) 7 *flat-topped aster (A. umbellatus) 8 other aster spp. (e.g. New Engl, panicled-a) 3 *black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4  InWrap, Terg revised June 2005  |

| cress spp. (Cardamine) 4  dock spp.: swamp-, water-, pale- (Rumex) 4  garlic mustard (Alliaria petio/ata) 0  golden ragwort (Senecio aureus) 4  *goldenrod spp. (Solidago ohioensis, S.  patula, S. riddellil) 9  *grass of Parnassus (Parnassia glauca) 10  *Indian plantain (Cacalia plantaginea) 10  ironweed spp. (Vernonia) 4  X jewelweed, touch-me-not spp. (Impatiens) 3  lizard's tail (Saururus cernuus) 4  lobelia spp. (Lobelia) 4  | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5 |
|---|---|
| *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4  1 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2  *swamp saxifrage (Saxifraga pa.) 10  *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3   | Trees - Ivs. needle shaped  *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7  X ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10  Trees - Ivs. simple and opposite        |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5 | red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  |
| Shrubs - leaves opposite or whorled bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2   | OTHERInWrap. Terg revised June 200  |

| Date Re    | port Generated: 10/15/2011  |
|------------|---|
| Wetland    | site name: S5W109   |
| Data Re    | ference #: 109  |
| Date of \$ | Site Visit: 10/14/2011  |
| NWI pol    | ygons in Site (quadrangle and NWI id. numbers: Martinsville                                   |
|            |   |
| TIER 1     | SUMMARY:  |
| a.         | Total wetland area (hectares): 0.41 (1.01 acres)  |
| b.         | Wetland size and connectivity – contribution to animal habitat:                               |
|            | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |
| C.         | Surrounding land use – numerical rank (max. = 1): 0.35  |
| d.         | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                    |
| TIFR 2     | SUMMARY: NWI Polygon Id. 109  |
| a.         | Indiana Wetland community type: Shrub-carr  |
| b.         | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.         | Disturbances to site: None  |
| d.         | Exotic species rating: Good Medium Poor   |
| e.         | Special Hydrologic Conditions Observed: None  |
| f.         | Special Community Type: None  |
| g.         | Rare-Threatened-Endangered Species: None  |
| h.         | Polygon Quality Description: Good Medium Poor   |
|            |   |
| TIER 3     | A SUMMARY:  |
| a.         | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral            |
| b.         | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.         | Flood and storm water storage – numerical rank (5 max): 4 Rating: Sood Medium Poor            |
|            |   |
| TIER 3     | B SUMMARY:  |
| a.         | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.         | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.         | Number of dominant plant taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                      |
| d.         | Average coefficient of conservatism: 2.5 Rating: Good Medium Poor                             |
| e.         | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |
| f.         | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral                 |
| g.         | Total hydrophytic taxa observed: 12 Rating: ☐ Good ☐ Medium ☒ Poor                            |
| h.         | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                     |

Data Reference # S5W109

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W109                                    | 9                   |             |          |                   |                       |              |
|--|---------------------|-------------|----------|-------------------|-----------------------|--------------|
| Ownership (if known):  |                     |             |          |                   |                       |              |
| USGS Topographic Quadrang                                    | le(s): Martinsvil   | le          |          |                   |                       |              |
| USGS Watershed map 14-Dig                                    |                     |             | d Creel  | < 0512020117007   | 70                    |              |
|  |                     |             |          |                   | . •                   |              |
| Identify each NWI Polygon within                             |                     | e (Polygon  | specifi  | c data)           | <u> </u>              |              |
| NWI Polygon ID Number Cowardin Classification                | 109<br>PSS1A        |             |          |                   |                       |              |
| Polygon Size (hectares)                                      | 0.41 (1.01 acres)   |             |          |                   |                       |              |
|  |                     | 1           |          | 1                 | 1                     |              |
| NWI Polygon ID Number  |                     |             |          |                   |                       |              |
| Cowardin Classification Polygon Size (hectares)              |                     |             |          |                   |                       |              |
| 1 diygon dize (nectares)                                     |                     |             |          |                   |                       |              |
| 1.2 Site Visit:  |                     |             |          |                   |                       |              |
| Team Members: K. Schroed                                     | er & D. White       |             |          |                   |                       |              |
| Agency: INDOT  |                     |             |          |                   |                       |              |
| Date assessed:10/14/2011                                     |                     | ٦           | Γime as  | ssessed: _1:30p.r | m.                    |              |
| Weather conditions: Sunny                                    | /                   |             |          |                   |                       |              |
|  |                     |             |          |                   |                       |              |
| Note any unusual weather ever                                |                     |             |          |                   | vithin this wetland   | system (e.g. |
| recent heavy rains, an unusually                             | y dry season, an e  | specially e | earry sp | oring, etc.):     |                       |              |
|  |                     |             |          |                   |                       |              |
| 1.3 Wetland Size:  |                     |             |          |                   |                       |              |
| Size of site under assessment                                | : 0.41 hectare (    | (1.01 acres | s)       |                   |                       |              |
| Size of total wetland complex                                | (all continuous we  | tland polyg | gons):   | 0.41 hectare (1   | .01 acres)            |              |
| 4 4 Cita Cattings  |                     |             |          |                   |                       |              |
| <b>1.4 Site Setting:</b> Degree of isolation from other w    | vetlands or wetland | d complexe  | es:      |                   |                       |              |
| The site is connected up                                     |                     | •           |          | wetlands          |                       |              |
| The site is only connected                                   | ed upstream with o  | other wetla | nds      |                   |                       |              |
| The site is only connected                                   | '                   |             |          |                   |                       |              |
| X Other wetlands are near                                    |                     |             |          | rted.             |                       |              |
|  | • (                 | e) but not  | COIIIIEC | , lea             |                       |              |
| The wetland site is isolated                                 | tea                 |             |          |                   |                       |              |
| (General assessment of adjace site (indicate the % abundance |                     | cover in th | e area   | within 50 meters  | of the perimeter of   | the wetland  |
| 25 Native Vegetation - woo                                   | dland               |             | 50       | Road / highway    | / railroad bed / parl | king lot     |
| Native Vegetation - old f                                    | ield / scrub        | _           |          | Industrial        |                       |              |
| Agricultural- tilled   |                     | •           | 25       | Residential – sin | gle family            |              |
| Agricultural - pasture                                       |                     | •           |          |                   | nultifamily resident  | ial          |
| Recreation - green space                                     | e. mowed            | •           |          |                   | ,                     |              |
| Noorealion - green spac                                      | o, moweu            |             |          |                   |                       |              |

| NWI Poly (see table o  |                               | 109<br>e)                            |                        | Data Reference #                      | S5W109                 | InWRAP, TERG May 2000         |
|------------------------|-------------------------------|--------------------------------------|------------------------|---------------------------------------|------------------------|-------------------------------|
| Tier 2 Indin the wetla |                               | Polygon: Pre                         | eliminary A            | ssessment (to be                      | completed on-site      | for each NWI polygon present  |
|                        | <b>d Geomor</b><br>Depression |                                      | nd Surface. W<br>Slope | ater Flow (check on                   | <b>e):</b><br>podplain | Lacustrine                    |
| F                      | Riverine (w                   | ithin the river/st                   |                        |                                       | ·                      |                               |
| 2.2 Presen             | ce of Star                    | nding Water:                         |                        |                                       |                        |                               |
| Is standing            | g water nor                   | mally present ir                     | the polygon?           | No                                    |                        |                               |
|                        | _                             | ater is present,<br>mally present ir | _                      | eater than 2 meters ir<br>oolygon? No | depth?                 |                               |
| 2 3 Annare             | ent Hydror                    | period (check o                      | ne).                   |                                       |                        |                               |
|                        | manently F                    | •                                    |                        | Artific                               | cially Flooded         |                               |
|                        | sonally Flourated (sur        | ooded<br>face water seld             | om present)            | Artific                               | cially Drained         |                               |
| 2.4 Soil Ty            | -                             |                                      |                        |                                       |                        |                               |
| (                      | Organic (i.e                  | e. peat, etc.)                       | X                      | Mineral<br>                           | Both M                 | lineral and Organic Present   |
| Shrub-car              | r<br>pances of                | Hydrology (che                       |                        |                                       | and Communic           | s of indiana).                |
| Ditc                   | hing                          |                                      |                        | Culvert                               |                        |                               |
| Tile<br>Dar            |                               |                                      |                        | Other Hu                              | uman Disturbance       | s to the Hydrology (explain): |
| Roa                    | d or Railro                   | ad Embankmer                         | nt                     |                                       |                        |                               |
| 2.7 Presen             | ce of Inva                    | sive Exotics (S                      | Score as: S =          | Scattered, F = Frequ                  | ent, or C = Comr       | non):                         |
| Gar                    | lic Mustard                   | ł                                    | G                      | lossy Buckthorn                       |                        |                               |
| Phr                    | agmities                      |                                      | C R                    | eed canary grass                      |                        |                               |
| Pur                    | ole loosest                   | rife                                 | C                      | other (list):                         |                        |                               |
| 2.8 Presen             | ce of Spe                     | cial Hydrologic                      | : Conditions (         | i.e. seeps, wet slope                 | es, floating mat):     |                               |
| 2.9 Presen             | ce of Spe                     | cial Communit                        | y Types:               |                                       |                        |                               |
| E                      | Зog                           |                                      | Fen                    | W                                     | et Sand / Muck Fl      | ats or Mari Seeps             |
| 2.10 Prese             | nce of Kn                     | own Federal o                        | · Indiana Rare         | e, Threatened or End                  | langered Species       | <b>3:</b>                     |
| X1                     | None obse                     | rved or known to                     | be present             |                                       |                        |                               |
| F                      | RTES Pres                     | ent (list)                           |                        |                                       |                        |                               |
| 2.11 Wetla             | nd Polygo                     | on Quality Desc                      | criptor (see: V        | Vetland Quality Desc                  | criptions and che      | ck one):                      |
| (                      | Good                          | X                                    | Medium                 | Po                                    | oor                    |                               |

| NWI    | Po   | olyg | jon  | #     | 109 Data Reference # S5W109   |
|--------|------|------|------|-------|---|
| Tier   | 3а   | ln   | div  | idu   | al Polygon: Rapid Hydrology Indicators  |
| 3a.1 I | Not  | abl  | e F  | eatu  | res that influence water quality and hydrology:   |
| Estin  | nate | ed I | nerb | ace   | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |
| Estin  | nate | ed v | woo  | dy p  | lant foliar cover in the polygon 100-75 75-50 _X _50-25 <25   |
| Amo    | unt  | of   | dea  | d wo  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |
| 3a.2 \ | Nat  | ter  | Qua  | ality | Protection Questions:   |
| 1.     | Χ    | Y    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.    | Χ    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.     |      | Y    | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.     |      | Y    | X    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.     | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|        |      |      |      |       | Average width of buffer area (in meters) 1-20 Approximate slope (percent) 2-2.5   |
| 3a.3 I | Floo | od : | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.    | X    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.     | X    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.     | Χ    | Y    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

5.

**X Y** 

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

| NWI Polygon #                              | 109   | Data Reference # S5W109   |  |  |  |  |  |  |  |
|--|---|---|--|--|--|--|--|--|--|
| Tier 3b Individu                           | ıal Polygon: Rapid \  | egetation Description   |  |  |  |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man        | -   | vident in this wetland polygon? _ 1   |  |  |  |  |  |  |  |
| 1b. If only one                            | ne vegetation zone is evident, which best describes the site? |   |  |  |  |  |  |  |  |
| X  |   |   |  |  |  |  |  |  |  |
|  | Polygon composed of a polygon.                                | single vegetation type with more or less uniform texture across the         |  |  |  |  |  |  |  |
|  | one vegetation zone is pion of these zones?                   | present in the polygon, which interspersion diagram most closely represents |  |  |  |  |  |  |  |
| Туре                                       | e One Interspersion   | Type Two Interspersion  |  |  |  |  |  |  |  |
| (  |   |   |  |  |  |  |  |  |  |
| 3b.2 Dominant Pla                          | nt Species: Vegetation  | Photo number(s)  (Note: V-mark location on the NWI polygon)                 |  |  |  |  |  |  |  |
| What % of the polyg                        | gon does this vegetative z                                    |   |  |  |  |  |  |  |  |
| 10 – 25%                                   | 25 – 50 %   | 50 – 75%  |  |  |  |  |  |  |  |
| Is there notable laye                      | ering/stratification in this v                                |   |  |  |  |  |  |  |  |
| with an * any specie                       | es that forms extensive m                                     |   |  |  |  |  |  |  |  |
| a <u>Phalaris arund</u><br>b Polygonum hyd |   | d<br>e  |  |  |  |  |  |  |  |
| C rolygoriam riye                          | агорірсі  | f   |  |  |  |  |  |  |  |
| Dominant <b>Shrub</b> St                   | pecies listed in order of re                                  | elative abundance.  |  |  |  |  |  |  |  |
| 0-11                                       |   | _   |  |  |  |  |  |  |  |
|  | entalis   |   |  |  |  |  |  |  |  |
| Dominant <b>Tree</b> Spe                   | cies listed in order of rela                                  | tive abundance.   |  |  |  |  |  |  |  |
| a  |   | c   |  |  |  |  |  |  |  |
| b  |   | d   |  |  |  |  |  |  |  |
| Tree & shrub canop                         | y: <u>X</u> nil se  | parate, seldom touching often touching More or less closed                  |  |  |  |  |  |  |  |
| Mature trees (>12"                         | dbh) present:   | _ yesX _ no   |  |  |  |  |  |  |  |
| Other remarks (inc                         | lude personal comments  | about what adds to or detracts from the quality of this wetland site).      |  |  |  |  |  |  |  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| $\dot{N} = north$ | nern Indiana    | SW = southwestern Indiana                       | numbers = C-coeffici | ients       | * = species with high conservationism      |
|-------------------|-----------------|---|----------------------|-------------|--|
| Herbs:            | non-seed pla    | ints  |                      |             |  |
|                   | horsetail, sco  | ouring rush spp. (Equisetum) 2                  | Herbs:               | wide-leaf   | ed monocots                                |
|                   | *ferns: marsh   | shield fern spp. (Dryopteris) 7                 |                      | *arrow ar   | um (Peltandra virginica, N) 6              |
|                   | *cinnamon fe    | rn (Osmunda cinnamomea) 9                       |                      | arrow-hea   | ad spp. <i>(Sagittaria) 4</i>              |
|                   | *royal fern (C  | smunda regalis) 8                               |                      | *green dr   | agon (Arisaema dracontium) 6               |
|                   |                 | (Onoclea sensibilis) 4                          |                      | Jack-in-th  | ne-pulpit (Arisaema triphyllum) 4          |
|                   | *other: specie  |   |                      |             | veed (Pontederia cordata, N) 5             |
|                   |                 | noss (Selaginella apoda) 4                      | _                    |             | abbage (Symplocarpus foetidus) 8           |
|                   |                 | noss spp. <i>(Sphagnum,</i> N) 10               |                      |             | um <i>(Calla palustris,</i> N) 10          |
|                   | Opriagriani     | 11033 3pp. (Opriagram, 14) 10                   |                      |             | ntain <i>(Alisma plantago-aquat.)</i> 2    |
| Herbs:            | lvs. floating   | or submergent                                   |                      | water plan  | main (7 morna plamago aquat.) 2            |
|                   |                 | spp. (Utricularia, N) 10                        | Herbs:               | dicots - Iv | /s. opposite/whorled                       |
|                   |                 | atophyllum demersum, N) 1                       |                      |             | v spp. <i>(Galium)</i> 6                   |
|                   |                 | p. (Lemnaceae) 3                                |                      |             | tick spp. (Bidens) 3                       |
|                   |                 | spp. <i>(Potamogeton)</i> 8 (except 0 fe        |                      |             | ain (Verbena hastata) 3                    |
|                   | introduced P    |   |                      |             | (Eupatorium perfoliatum) 4                 |
|                   |                 | ymphaea tuberosa, N) 6                          |                      |             | ed spp. (Lycopus) 5                        |
|                   |                 | (Brasenia schreberi, N) 4                       |                      |             | d spp. ( <i>Pilea</i> ) 3                  |
|                   |                 |   |                      |             |  |
|                   | yellow spatt    | erdock spp. <i>(Nuphar)</i> 6                   |                      |             | (Silphium perfoliatum) 4                   |
| Harhe:            | insectivorou    | e nlante  |                      |             | le (Boehmeria cylindrica) 3                |
| 110103.           |                 | : (Sarracenia purpurea,N) 10                    |                      |             | ny (Pedicularis lanceolata) 6              |
|                   |                 | . (Drosera, N) 10                               |                      |             | spp. (Gentiana & Gentianopsis) 8           |
|                   | suridew spp     | . (Dioseia, N) 10                               |                      |             | weed (Ambrosia trifida) 0                  |
| Herbs:            | linear-lys or   | leafless ± monocots                             |                      |             | mp <i>(Apocynum cannabinum)</i> 2          |
|                   |                 | op. (Rhynchospora, N) 10                        |                      |             | veed spp. <i>(Eupatorium) 5</i>            |
|                   |                 | Iris virginica) 5                               |                      | *loosestri  | fe spp. <i>(Lysimachia)</i> 6              |
|                   |                 | (Scirpus / Schoenoplectus) 5                    |                      | meadow l    | beauty <i>(Rhexia virginica) 5</i>         |
|                   |                 | o. (Sparganium) 9                               |                      | mint spp.:  | : e.g. hedge nettle, mtn. m., skullcap 5   |
|                   | cat-tail spp. ( |   | X                    | moneywo     | ort (Lysimachia nummularia) 0              |
|                   |                 |   |                      | monkey fl   | lower spp. (Mimulus) 4                     |
|                   | collon grass    | spp. <i>(Eriophorum,</i> N) 10                  |                      | nettle (Ur  | tica pro cera) 1                           |
| Grasses           | (family Gram    | ineae) - indicate types & number of species     |                      |             | osestrife ( <i>Lythrum salicaria</i> ) 0   |
|                   |                 | (Zizania aquatica, N) 10                        |                      |             | d (Collinsonia canadensis) 8               |
|                   | b. most nati    | ve perennial grass spp. 4: e.g.                 |                      |             | 's wort spp.(Hypericum/Triandeum)8         |
|                   |                 | , manna-g, Canada bluejoint, foxta              | ail                  |             | spp. (Helianthus) 4                        |
|                   |                 | rus]; other                                     |                      |             | oosestrife (Decodon verticillatus, N) 8    |
| 1                 |                 | d grass spp. 0: reed canary                     |                      |             | nilkweed (Asclepias incarnata) 4           |
|                   |                 | <i>halaris],</i> reed <i>[Phragmites],</i> annu | al                   |             | spp. (Ammania & Rotala) 2                  |
|                   |                 | such as annual foxtail [Setaria]                |                      |             | ad spp. <i>(Chelone)</i> 8                 |
|                   |                 | grass Echinochloa]                              |                      |             | ower (vine) <i>(Clematis virginiana)</i> 3 |
|                   |                 | spp. <i>(Eleocharis)</i> sp.1 =2                |                      |             | ` ', ` '                                   |
|                   | *addition       |   |                      |             | slane (Ludwigia palustris) 3               |
|                   |                 | o. (Cyperus) 2                                  |                      | winged io   | osestrife (Lythrum alatum) 5               |
|                   |                 | species (if known)                              | Horbe:               | (vines): d  | icots - Ivs. alternate or basal            |
|                   | rush spp. (Ju   |   | and sin              |             | icots - ivs. aiternate or basar            |
|                   |                 | Carex) sp.1=3 *additional=7                     | and sin              |             | Ilflower <i>(Campanula americana) 4</i>    |
|                   |                 | ymenocallis occidentalis) 9                     |                      |             | ` '  |
|                   |                 | corus calamus) 0                                |                      |             | ristly aster (Aster puniceus) 7            |
|                   |                 |   |                      |             | ed aster (A. umbellatus) 8                 |
|                   |                 | e (Dulichium arundinaceum) 10                   |                      |             | er spp. (e.g. New Engl, panicled-a) 3      |
|                   |                 | ladium mariscoides, N) 10                       |                      |             | ed Susan (Rudbeckia fulgida) 8             |
|                   |                 | dge (Fuirena squarrosa, N) 10                   |                      | cardinal fl | lower <i>(Lobelia cardinalis) 4</i>        |
|                   |                 | (Camassia scilloides) 5                         | In\Alran             | Tora rovio  | ed June 2005                               |
|                   | ^yellow-eyed    | grass (Xyris torta, N) 9                        | mvviap,              | , reigievis | eu Julie 2003                              |

Herbs: dicots - Ivs. basal or alternate and omnound or deeply lobed

**NWI Polygon #** 

109

garlic mustard (Alliaria petio/ata) 0

\_ golden ragwort (Senecio aureus) 4

patula, S. riddellil) 9

lizard's tail (Saururus cernuus) 4

rose mallow spp. (Hibiscus) 4

\*marsh marigold (Caltha palustris) 7

sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 \*swamp saxifrage (Saxifraga pa.) 10 \*Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3

ironweed spp. (Vernonia) 4

lobelia spp. (Lobelia) 4

\_\_ \*goldenrod spp. (Solidago ohioensis, S.

dock spp.: swamp-, water-, pale- (Rumex) 4

\*grass of Parnassus (Parnassia glauca) 10 \*Indian plantain (Cacalia plantaginea) 10

jewelweed, touch-me-not spp. (Impatiens) 3

primrose-willow spp.(Epilobium &Ludwigia) 3

tearthumb, water-pepper, water-sm.

cress spp. (Cardamine) 4

| ound or deepty tobed                           |
|--|
| aven spp.: rough a., white a. (Geum) 2         |
| *buttercup spp: e.g. cursed b., hooked b.,     |
| swamp b. (Ranunculus) 6                        |
| chervil (Chaerophyllum procumbens) 3           |
| *cowbane (Oxypolis rigidior) 7                 |
| *great angelica (Angelica atropurpurea) 6      |
| hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 |
| honewort (Cryptotaenia canadensis) 3           |
| meadow rue spp. (Thalictrum) 5                 |
| poison ivy (vine) (Rhus radicans) 1            |
| *queen-of-the-prairie (Filipendula rubra) 9    |
| senna spp. (Cassia) 4                          |
| swamp agrimony (Ágrimonia parviflora) 4        |
| *swamp thistle (Cirsium muticum) 8             |
| tall coneflower (Rudbeckia laciniata) 3        |
| *water hemlock spp. (Cicuta) 7                 |
|  |

| Shrubs | - | le | a١ | ves | ор | pos | ite | or | wł | 10 | rle | ed | ı |
|--------|---|----|----|-----|----|-----|-----|----|----|----|-----|----|---|
|        |   |    |    |     |    |     |     |    |    |    |     |    |   |

water parsnips (Sium suave) 5

| 450 | iouvoo oppoono oi milonou                     |
|-----|---|
|     | bladdernut (Staphylea trifolia) 5             |
|     | buckthorn spp. (Rhamnus cathar. & frangula) 0 |
|     | button bush (Cepha/anthus occidentalis) 5     |
|     | dogwood, red-osier (Cornus stolonifera) 4     |
|     | *dogwood, blue-fruited or silky Cornus        |
|     | obliqua) 7                                    |
|     | dogwood, gray (C. racemosa) 2                 |
|     | elderherry (Sambucus) 2                       |

| , | 11662    | *ach block (Fravinus piero) 7                 |
|---|----------|---|
|   | X        | *ash, black (Fraxinus nigra) 7                |
|   |          | ash, green (Fraxinus pensylvanica) 3          |
|   |          | *ash, pumpkin (Fraxinus tomentosa, SW) 8      |
|   | <u> </u> | boxelder (Acer negundo) 1                     |
|   |          | hickory, bitternut (Carya cordiformis) 5      |
|   |          | *hickory, shell bark (Carya laciniosa) 8      |
|   |          | honey locust (Gleditsia triacanthos) 1        |
|   |          | *poison sumac <i>(Rhus vernix)</i> 10         |
| 7 | rees ·   | – lvs. simple and opposite                    |
|   |          | red maple (Acer rubrum) 5                     |
|   |          | silver maple (A. saccharinum) 1               |
|   |          |   |
| ٦ | Trees •  | <ul> <li>lvs. simple and alternate</li> </ul> |
|   |          | *alder, speckled (Alnus rugosa) 9             |
|   |          | birch, river (Betula nigra) 2                 |
|   |          | black gum (Nyssa sylvatica) 5                 |
|   |          | cottonwood, eastern (Populus deltoides) 1     |
|   |          | *cottonwood, swamp (P. heterophylla, SW) 8    |
|   |          | elm, Amer. (Ulmus americana) 3                |
|   |          | hackberry (Celtis occidentalis) 3             |
|   |          | ironwood (Carpinus caroliniana) 5             |
|   |          | oak, pin or white (Quercus) 4                 |
|   |          | *oak, Shumard's, sw. chestnut, sw. white 7    |
|   |          | *papaw (Asimina triloba) 6                    |
|   |          | sugarberry <i>(Celtis laevigata,</i> S) 7     |
|   |          |   |
|   | <u>X</u> | sweet gum (Liquidambar styraciflua) 4         |
|   | <u>X</u> | sycamore, Amer. (Platanus occidentalis) 3     |
|   | 1_       | willow spp. (Salix) sp.1=3; *additional=7     |

OTHER

| Date                                 | e Rep  | port Generated: 10/16/2011  |
|--------------------------------------|--------|---|
| Wetland site name: Data Reference #: |        | site name: S5W119   |
|                                      |        | erence #: 119   |
| Date                                 | e of S | Site Visit: 10/15/2011  |
| NW                                   | l poly | gons in Site (quadrangle and NWI id. numbers: Modesto                                     |
|                                      |        |   |
| TIEF                                 | R 1 S  | SUMMARY:  |
|                                      | a.     | Total wetland area (hectares): 0.02 (0.05 acres)  |
|                                      | b.     | Wetland size and connectivity – contribution to animal habitat:                           |
|                                      |        | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |
|                                      | C.     | Surrounding land use – numerical rank (max. = 1): 0.42                                    |
|                                      | d.     | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                |
| TIF                                  | R 2    | SUMMARY: NWI Polygon Id. 119  |
|                                      | a.     | Indiana Wetland community type: Seasonally flooded basin                                  |
|                                      | b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral         |
|                                      | C.     | Disturbances to site: Concrete gutter   |
|                                      | d.     | Exotic species rating:  |
|                                      | e.     | Special Hydrologic Conditions Observed: Concrete gutter routing water into site           |
|                                      | f.     | Special Community Type: None  |
|                                      | g.     | Rare-Threatened-Endangered Species: None  |
|                                      | h.     | Polygon Quality Description: Good Poor  |
|                                      |        |   |
| TIE                                  | R 3/   | A SUMMARY:  |
|                                      | a.     | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral      |
|                                      | b.     | Water quality protection – numerical rank (6 max): 1 Rating: ☐ Good ☐ Medium ☒ Poor       |
|                                      | C.     | Flood and storm water storage – numerical rank (5 max): 1 Rating: Good Medium Poor        |
|                                      |        |   |
| TIE                                  | R 31   | B SUMMARY:  |
|                                      | a.     | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral |
|                                      | b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                       |
|                                      | C.     | Number of dominant plant taxa observed: 4 Rating: Good Medium Poor                        |
|                                      | d.     | Average coefficient of conservatism: 4.25 Rating: Good Medium Poor                        |
|                                      | e.     | Tree canopy as indicator of animal habitat:   Valuable   Neutral                          |
|                                      | f.     | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral             |
|                                      | g.     | Total hydrophytic taxa observed: 6 Rating: ☐ Good ☐ Medium ☒ Poor                         |
|                                      | h.     | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☐ Poor                                 |

Data Reference # S5W119

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W119  |                                  |                        |                   |                       |              |  |  |
|--|----------------------------------|------------------------|-------------------|-----------------------|--------------|--|--|
| Ownership (if known):  |                                  |                        |                   |                       |              |  |  |
| USGS Topographic Quadrangle(s): Modesto                          |                                  |                        |                   |                       |              |  |  |
| USGS Watershed map 14-Dig  | it HUC: Bryant                   | Creek (Morgan)         | 05120201180040    | )                     |              |  |  |
| _  |                                  |                        |                   | -                     |              |  |  |
| Identify each NWI Polygon with NWI Polygon ID Number             | <u>in the Wetland Sit</u><br>119 | e (Polygon specit<br>T | ic data)          | 1                     |              |  |  |
| Cowardin Classification  | PEMC                             |                        |                   |                       | _            |  |  |
| Polygon Size (hectares)  | 0.02 (0.05 acre)                 |                        |                   |                       |              |  |  |
| ADAL D   | I                                | 1                      | 1                 | 1                     |              |  |  |
| NWI Polygon ID Number Cowardin Classification                    |                                  |                        |                   |                       |              |  |  |
| Polygon Size (hectares)  |                                  |                        |                   |                       | _            |  |  |
| r olygon oleo (nootaroo)   | l                                | <u>l</u>               |                   |                       |              |  |  |
| 1.2 Site Visit:  |                                  |                        |                   |                       |              |  |  |
| Team Members: K. Schroed   | der & D. White                   |                        |                   |                       |              |  |  |
| Agency: INDOT  |                                  |                        |                   |                       |              |  |  |
| Date assessed: 10/15/2012  | 1                                | Time a                 | ssessed: 10:00 a  | am                    |              |  |  |
| Weather conditions: 60°F   |                                  |                        |                   |                       |              |  |  |
| Niste and a self-self-self-self-self-self-self-self-             | ata that are the a               | 2-0                    |                   | 20.25 0.25            |              |  |  |
| Note any unusual weather ever<br>recent heavy rains, an unusuall |                                  |                        |                   | vitnin this wetiand   | system (e.g. |  |  |
| room moary rame, an anaoaan                                      | y ary coacon, are                | oppositing saling of   | og, 0.0./.        |                       |              |  |  |
| 4.0.10-1-1-1-1-1   |                                  |                        |                   |                       |              |  |  |
| 1.3 Wetland Size:  |                                  |                        |                   |                       |              |  |  |
| Size of site under assessment                                    |                                  | ,                      |                   |                       |              |  |  |
| Size of total wetland complex                                    | (all continuous we               | tland polygons):       | 0.02 hectare (0.0 | 05 acre)              | _            |  |  |
| 1.4 Site Setting:  |                                  |                        |                   |                       |              |  |  |
| Degree of isolation from other v                                 | vetlands or wetlan               | d complexes:           |                   |                       |              |  |  |
| The site is connected up   | stream and down                  | stream with othe       | wetlands          |                       |              |  |  |
| The site is only connected                                       | ed upstream with o               | other wetlands         |                   |                       |              |  |  |
| The site is only connect   | ed downstream wi                 | th other wetlands      | <b>i</b>          |                       |              |  |  |
| X Other wetlands are near  | by (within 0.25 mi               | le) but not conne      | cted              |                       |              |  |  |
| The wetland site is isola  | ted                              |                        |                   |                       |              |  |  |
|  |                                  |                        | 50                |                       |              |  |  |
| (General assessment of adjace site (indicate the % abundance     |                                  | cover in the area      | within 50 meters  | of the perimeter of   | the wetland  |  |  |
| 25 Native Vegetation - woo                                       | dland                            | 50                     | Road / highway /  | / railroad bed / parl | king lot     |  |  |
| Native Vegetation - old  | field / scrub                    |                        | Industrial        |                       |              |  |  |
| Agricultural- tilled   |                                  |                        | Residential – sin | gle family            |              |  |  |
| Agricultural - pasture   |                                  |                        | Commercial or m   | nultifamily resident  | ial          |  |  |
| 25 Recreation - green space                                      | e, mowed                         |                        |                   |                       |              |  |  |

|           | olygon #<br>e on page one  | 119<br>e)   |                              | Data Reference #    | S5W119                  | InWRAP, TERG May 2000                     |
|-----------|----------------------------|---|------------------------------|---------------------|-------------------------|---|
| •         | ndividual                  | •   | inary As                     | sessment (to be     | completed on            | -site for <u>each</u> NWI polygon present |
| 2.1 Wetla | and Geomo                  | rphic Setting and Su<br>nal   | ı <b>rface. W</b> a<br>Slope | •                   | <b>ne):</b><br>oodplain | Lacustrine                                |
|           | Riverine (w                | rithin the river/stream   | banks)                       |                     |                         |   |
| 2.2 Pres  | ence of Star               | nding Water:  |                              |                     |                         |   |
| •         | If standing w              | rmally present in the pater is present, is the rmally present in an a | water gre                    |                     | n depth? <u>N</u>       | lo  |
| 2.3 Appa  | arent Hydro                | period (check one):   |                              |                     |                         |   |
|           | ermanently F               |   |                              | Artifi              | cially Flooded          | I   |
|           | easonally Floaturated (sui | ooded<br>face water seldom pr   | resent)                      | Artifi              | cially Drained          |   |
| 2.4 Soil  |                            | e. peat, etc.)  | X                            | Mineral             | Bo                      | oth Mineral and Organic Present           |
| 25 Wetl:  | and Commu                  | nity Type for this N  | WI nolvad                    | on (see Kev to Wetl | and Commu               | nities of Indiana)·                       |
|           | ally flooded               |   | m polygo                     | in (see hey to wear |                         | maes of malanay.                          |
|           | -                          |   |                              |                     |                         |   |
|           |                            | Hydrology (check a  | II that app                  |                     |                         |   |
| В         | itching                    |   |                              | Culvert             |                         |   |
|           | iles                       |   |                              |                     | uman Disturb            | ances to the Hydrology (explain):         |
|           | ams                        |   |                              | Concrete gutter     |                         |   |
| R         | oad or Railro              | oad Embankment  |                              |                     |                         |   |
| 2.7 Pres  | ence of Inva               | sive Exotics (Score   | as: S = S                    | cattered, F = Frequ | ient, or C = C          | common):                                  |
| G         | arlic Mustard              |   | Gl                           | ossy Buckthorn      |                         |   |
| P         | hragmities                 | _   | Re                           | ed canary grass     |                         |   |
| P         | urple loosest              | rife  | Ot                           | her (list):         |                         |   |
| 2.8 Pres  | ence of Spe                | cial Hydrologic Con   | ditions (i                   | e. seeps. wet slope | es. floating m          | nat):                                     |
|           | •                          | ing water into site   | `                            |                     | ,                       | ,   |
|           |                            | -   |                              |                     |                         |   |
| 2.9 Pres  | -                          | cial Community Typ  | es:                          |                     |                         |   |
|           | Bog                        | Fen   |                              | W                   | et Sand / Mud           | ck Flats or Marl Seeps                    |
| 2.10 Pres | sence of Kn                | own Federal or Indi   | ana Rare.                    | Threatened or End   | dangered Spe            | ecies:                                    |
| X         |                            | rved or known to be p   |                              |                     |                         |   |
|           | RTES Pres                  | •   | VI COCIII                    |                     |                         |   |
|           | •                          | · ,   |                              |                     |                         |   |
| 2.11 Wet  |                            | on Quality Descripto  | •                            | -                   | -                       | I check one):                             |
|           | Good                       | Med   | dium                         | <u>X</u> Po         | oor                     |   |

| NWI    | Polyg      | jon  | #     | 119   | Da                  | ata Refere    | nce #    | S5W1      | 19            |                |         |      |
|--------|------------|------|-------|---|---------------------|---------------|----------|-----------|---------------|----------------|---------|------|
| Tier 3 | Sa In      | div  | idu   | al Polygon: Rapid H   | lydrology Indic     | ators         |          |           |               |                |         |      |
| 3a.1 N | otabl      | e Fo | eatu  | res that influence water  | quality and hydro   | ology:        |          |           |               |                |         |      |
| Estim  | ated I     | nerb | ace   | ous plant cover (percenta   | ge) in the polygon  | _X            | 100-7    | 5         | 75-50         | 50-25          |         | <25  |
| Estim  | ated v     | woo  | dv p  | lant foliar cover in the pol  | ygon                |               | 100-7    | 5         | 75-50         | 50-25          | Х       | <25  |
|        |            |      |       | ody material on the soil s  |                     |               |          |           | _             |                |         | _    |
| 3a.2 W | /ater      | Qua  | ality | Protection Questions:   |                     |               |          |           |               |                |         |      |
| 1.     | <b>X Y</b> |      | N     | Does the wetland have density to potentially up   |                     |               | tive (sp | oecifical | ly perennia   | I and wood     | y plar  | nt)  |
| 2.     | Y          | X    | N     | Managed water (e.g. m or municipal wastewate  |                     |               |          |           |               | ige outlet, ii | ndust   | rial |
| 3.     |            |      |       | If wetland in question is   | a depressional wet  | land answe    | er 3a, i | f not, an | swer 3b       |                |         |      |
| 3a.    | Y          | X    | N     | Does the wetland have before the water reache   |                     |               | the se   | ttling ou | t of susper   | nded materi    | als     |      |
| 3b.    | Y          |      | N     | Is the position of the we surface body of water d   |                     | ape such th   | at run-  | off is he | ld or filtere | d before en    | tering  | g a  |
| 4.     | Y          | X    | N     | Does the wetland <b>lack</b> with row cropping, or ar   |                     |               |          |           |               |                | 12%)    |      |
| 5.     | Y          | X    | N     | Are there recreational ladown gradient in the loc   |                     | ercourses,    | or wat   | er suppl  | y sources l   | ocated with    | nin a r | mile |
| 6.     | Y          | X    | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |                     |               |          |           |               |                |         |      |
|        |            |      |       | Average width of buffer   | area (in meters)    |               | Appro    | ximate s  | slope (perce  | ent)           |         |      |
| 3a.3 F | lood       | and  | Sto   | rmwater Storage / Atter   | nuation Questions   | :             |          |           |               |                |         |      |
| 1.     |            |      |       | If wetland in question is   | a depressional wet  | land answe    | er 1a, i | f not, an | swer 1b       |                |         |      |
| 1a.    | Y          | X    | N     | Around the wetland is the slow overland flow into   |                     | f natural ve  | getatio  | n (fores  | ted, old fie  | ld, scrub) th  | nat wi  | II   |
| 1b.    | Y          |      | N     | Is there a significant am   |                     |               | egetativ | e densi   | ty within the | e wetland to   | o redu  | ıce  |
| 2.     | Y          | X    | N     | Does the wetland <b>lack</b> (tiles, culverts, ditches)   |                     | es that wou   | ld spe   | ed the fl | ow of water   | r from the w   | /etlan  | nd   |
| 3.     | Y          | Χ    | N     | Is the flood potential high   | h in the sub-waters | shed in which | ch the   | wetland   | is located    | (history of f  | lood    |      |
| 4.     | Y          | X    | N     | Is the wetland located in impermeable, or is bedi   |                     |               |          |           |               | clayey and     | t       |      |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

**X Y** 

| NWI Polygon #                       | _119   | Data Reference # S5W119  |
|-------------------------------------|--|--|
| Tier 3b Individu                    | ıal Polygon: Rapid Vege                                | etation Description  |
| <b>3b.1 Zonation and</b> 1. How man | Interspersion: y vegetation zones are evident          | t in this wetland polygon? _ 1   |
| 1b. If only one                     | e vegetation zone is evident, w                        | hich best describes the site?  |
|                                     | Polygon composed of a mosh heterogeneous textures acro | aic of small vegetation patches, hummocks, or tussocks; ss the polygon.                                    |
| X                                   | Polygon composed of a single polygon.                  | e vegetation type with more or less uniform texture across the   |
|                                     | n one vegetation zone is preser<br>ion of these zones? | nt in the polygon, which interspersion diagram most closely represents                                     |
| Тур                                 | e One Interspersion                                    | Type Two Interspersion   |
| (                                   |  |  |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zone                            | A Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)                          |
| What % of the poly                  | gon does this vegetative zone                          | ,  |
| 10 – 25%                            | -  | 50 - 75% 75 - 90% X >90%   |
| Is there notable laye               | ering/stratification in this veget                     |  |
|                                     | es that forms extensive monoc                          | ore than 10% of the area) listed in order of relative abundance. (Mark ultural patches).  d  Carex sp. e f |
|                                     | pecies listed in order of relative                     |  |
| ·                                   | secies listed in order of relative                     |  |
|                                     |  |  |
|                                     | ecies listed in order of relative a                    |  |
| ·                                   |  |  |
| b                                   |  | d  |
| Tree & shrub canop                  | oy: X nil separa                                       | te, seldom touching often touching More or less closed   |
| Mature trees (>12"                  | dbh) present: ye:                                      | s X no   |
| Other remarks (inc                  | clude personal comments abou                           | t what adds to or detracts from the quality of this wetland site).   |

NWI Polygon # 119 Data Reference # S5W119 3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. SW = southwestern Indiana (N = northern Indiana)*numbers* = *C-coefficients* \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots

| horsetail, scouring rush spp. (Equisetum) 2                     | *arrow arum (Peltandra virginica, N) 6            |
|---|---|
| *ferns: marsh shield fern spp. (Dryopteris) 7                   | arrow-head spp. (Sagittaria) 4                    |
| *cinnamon fern (Osmunda cinnamomea) 9                           | *green dragon (Arisaema dracontium) 6             |
| *royal fern (Osmunda regalis) 8                                 | Jack-in-the-pulpit (Arisaema triphyllum) 4        |
| sensitive fern (Onoclea sensibilis) 4                           | pickerel weed (Pontederia cordata, N) 5           |
| *other: species (if known)                                      | *skunk cabbage (Symplocarpus foetidus) 8          |
| marsh club moss (Selaginella apoda) 4                           | *water arum (Calla palustris, N) 10               |
| *Sphagnum moss spp. (Sphagnum, N) 10                            | water plantain (Alisma plantago-aquat.) 2         |
| Herbs: Ivs. floating or submergent                              | Herbs: dicots - Ivs. opposite/whorled             |
| *bladderwort spp. (Utricularia, N) 10                           | *bedstraw spp. (Galium) 6                         |
| coontail (Ceratophyllum demersum, N) 1                          | beggar's tick spp. (Bidens) 3                     |
| duckweed spp. (Lemnaceae) 3                                     | blue vervain (Verbena hastata) 3                  |
| *pondweed spp. (Potamogeton) 8 (except 0 for                    | boneset (Eupatorium perfoliatum) 4                |
| introduced P. crispus)  | bugleweed spp. (Lycopus) 5                        |
| *water lily (Nymphaea tuberosa, N) 6                            | clearweed spp. (Pilea) 3                          |
| water shield (Brasenia schreberi, N) 4                          | cup plant (Silphium perfoliatum) 4                |
| *yellow spatterdock spp. (Nuphar) 6                             | false nettle (Boehmeria cylindrica) 3             |
| у отого организация организация (такия) о                       | *fen betony (Pedicularis lanceolata) 6            |
| Herbs: insectivorous plants                                     | *gentian spp. (Gentiana & Gentianopsis) 8         |
| *pitcher plant (Sarracenia purpurea,N) 10                       | giant ragweed (Ambrosia trifida) 0                |
| *sundew spp. (Drosera, N) 10                                    | Indian hemp (Apocynum cannabinum) 2               |
|   |   |
| Herbs: linear-lvs. or leafless ± monocots                       | Joe-pye weed spp. (Eupatorium) 5                  |
| *beak rush spp. (Rhynchospora, N) 10                            | *loosestrife spp. (Lysimachia) 6                  |
| blueflag iris (Iris virginica) 5                                | meadow beauty (Rhexia virginica) 5                |
| <u>1</u> bulrush spp. (Scirpus / Schoenoplectus) 5              | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 |
| *bur reed spp. (Sparganium) 9                                   | moneywort (Lysimachia nummularia) 0               |
| cat-tail spp. (Typha) 1   | monkey flower spp. (Mimulus) 4                    |
| *cotton grass spp. (Eriophorum, N) 10                           | nettle (Urtica pro cera) 1                        |
| Grasses (family Gramineae) - indicate types & number of species | purple loosestrife (Lythrum salicaria) 0          |
| a. *wild rice (Zizania aquatica, N) 10                          | *richweed (Collinsonia canadensis) 8              |
| b. most native perennial grass spp. 4: e.g.                     | *St. John's wort spp.(Hypericum/Triandeum)8       |
| cut-grass, manna-g, Canada bluejoint, foxtail                   | sunflower spp. (Helianthus) 4                     |
| [Alopecurus]; other   | *swamp loosestrife (Decodon verticillatus, N) 8   |
| c. introduced grass spp. 0: reed canary                         | swamp milkweed (Asclepias incarnata) 4            |
| grass [Phalaris], reed [Phragmites], annual                     | toothcup spp. (Ammania & Rotala) 2                |
| grasses such as annual foxtail [Setaria] &                      | *turtlehead spp. (Chelone) 8                      |
| barnyard grass <i>Echinochloa</i> ]                             | virgin's bower (vine) (Clematis virginiana) 3     |
| needle sedge spp. (Eleocharis) sp.1 =2                          | water puslane (Ludwigia palustris) 3              |
| *additional=8   | winged loosestrife (Lythrum alatum) 5             |
| nutsedge spp. (Cyperus) 2                                       | Harba (Chara) Parta has alternate and anal        |
| *orchid spp.: species (if known)                                | Herbs: (vines): dicots - Ivs. alternate or basal  |
| rush spp. (Juncus) 4  | and simple  |
| sedge spp. (Carex) sp.1=3 *additional=7                         | Amer. bellflower (Campanula americana) 4          |
| *spiderlily (Hymenocallis occidentalis) 9                       | *asters: bristly aster (Aster puniceus) 7         |
| sweet flag (Acorus calamus) 0                                   | *flat-topped aster (A. umbellatus) 8              |
| *3-way sedge (Dulichium arundinaceum) 10                        | other aster spp. (e.g. New Engl, panicled-a) 3    |
| *twig rush <i>(Cladium mariscoides</i> , N) 10                  | *black-eyed Susan (Rudbeckia fulgida) 8           |
| *umbrella sedge (Fuirena squarrosa, N) 10                       | cardinal flower (Lobelia cardinalis) 4            |
| ambrona sougo (r ancha squarrosa, N) 10                         |   |

wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

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|       | cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3   | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6   |
|-------|---|--|
|       | lizard's tail <i>(Saururus cernuus) 4</i> lobelia spp. <i>(Lobelia) 4</i>   | *swamp holly & winterberry (/lex spp.) 7 swamp rose (Rosa palustris) 5   |
| 1     | *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp.(Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10  *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3  | Trees - Ivs. needle shaped  *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7  ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10   |
|       | c dicots - Ivs. basal or alternate and bund or deeply lobed aven spp.: rough a., white a. (Geum) 2  | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1   |
|       | *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrub | s - leaves opposite or whorled bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2  | OTHER  |
|       | elderberry (Sambucus) 2   | InWrap, Terg revised June 200  |

| Date F             | Report Ger    | nerated: 10/15/2011   |
|--------------------|---------------|---|
| Wetland site name: |               | ne: S5W120  |
| Data Reference #:  |               | #: 120  |
| Date o             | of Site Visit | :: 10/15/2011   |
| NWI p              | olygons in    | Site (quadrangle and NWI id. numbers: Hindustan                                       |
|                    |               |   |
| TIER               | 1 SUMM        | ARY:  |
| а                  | a. Total v    | wetland area (hectares): 0.08 hectares (0.20 acres)                                   |
| b                  | o. Wetlar     | nd size and connectivity – contribution to animal habitat:                            |
|                    |               | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral                                     |
| С                  |               | unding land use – numerical rank (max. = 1): 0.4                                      |
| d                  | l. Value      | surrounding area adds to animal habitat 🔲 Valuable 🔀 Favorable 🔲 Low                  |
| TIER               | 2 SUMN        | NWI Polygon Id. 120   |
| а                  | a. Indian     | a Wetland community type: Seasonally Flooded Basin                                    |
| b                  |               | ing water – contribution to animal habitat: Ualuable Favorable Neutral                |
| С                  |               | bances to site: Ditch   |
| d                  | I. Exotic     | species rating: Good Medium Poor  |
| е                  | e. Specia     | al Hydrologic Conditions Observed: None   |
| f.                 | . Specia      | al Community Type: None   |
| g                  | J. Rare-1     | Threatened-Endangered Species: None   |
| h                  | n. Polygo     | on Quality Description: Good Medium Poor  |
|                    |               |   |
| TIER               | 3A SUN        | IMARY:  |
| а                  | a. Dead       | woody material as indicator of animal habitat:     Valuable   Favorable   Neutral     |
| b                  | o. Water      | quality protection – numerical rank (6 max): 3 Rating: Good Medium Poor               |
| С                  | . Flood       | and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor          |
|                    |               |   |
| TIER               | 3B SUM        | IMARY:  |
| а                  | a. Zonati     | on and interspersion as indicator of animal habitat:   Valuable   Favorable   Neutral |
| b                  | o. Stratifi   | cation as indicator of animal habitat:     Valuable   Neutral                         |
| С                  | . Numbe       | er of dominant plant taxa observed: 3 Rating: Good Medium Poor                        |
| d                  | l. Averag     | ge coefficient of conservatism: 2.3 Rating: Good Medium Poor                          |
| е                  | e. Tree c     | anopy as indicator of animal habitat:   Valuable   Neutral                            |
| f.                 | . Mature      | e trees as indicator of animal habitat:   Valuable   Favorable   Neutral              |
| g                  | j. Total h    | nydrophytic taxa observed: _5 Rating: 🗌 Good 🔲 Medium 🖂 Poor                          |
| h                  | n. Numbe      | er of indicator taxa 0 Rating: Good Medium Poor                                       |

Data Reference # S5W120

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W12   | 0  |   |                    |                       |                |  |  |  |
|--|--|---|--------------------|-----------------------|----------------|--|--|--|
| Ownership (if known):  |  |   |                    |                       |                |  |  |  |
| USGS Topographic Quadrang  | ıle(s): Hindustaı  | า   |                    |                       |                |  |  |  |
| USGS Watershed map 14-Dig  | it HUC: Bryant   | Creek (Morgan)  | 051202011800       | 140                   |                |  |  |  |
|  |  |   |                    |                       |                |  |  |  |
| Identify each NWI Polygon with NWI Polygon ID Number   | in the Wetland Site 120  | e (Polygon sped<br>I                                    | cific data)        |                       |                |  |  |  |
| Cowardin Classification  | PEMC   |   |                    |                       |                |  |  |  |
| Polygon Size (hectares)  | 0.08 (0.20 acre)   |   |                    |                       |                |  |  |  |
| NWI Polygon ID Number  | I  | 1   |                    |                       |                |  |  |  |
| Cowardin Classification  |  |   |                    |                       |                |  |  |  |
| Polygon Size (hectares)  |  |   |                    |                       |                |  |  |  |
| 1.2 Site Visit:  Team Members: K. Schroed  Agency: INDOT   | am Members: K. Schroeder & D. White gency: INDOT                                 |   |                    |                       |                |  |  |  |
| Date assessed: _ 10/15/2011 Time assessed: _ 4:15 pm   |  |   |                    |                       |                |  |  |  |
| Weather conditions: 70°F   | sunny  |   |                    |                       |                |  |  |  |
| Note any unusual weather eve recent heavy rains, an unusuall  1.3 Wetland Size:  |  |   |                    | within the wetterie   |                |  |  |  |
| Size of site under assessment  | : 0.08 hectare   | (0.20 acre)   |                    |                       |                |  |  |  |
| Size of total wetland complex  | (all continuous we   | tland polygons)   | 0.08 hectare       | (0.20 acre)           |                |  |  |  |
| 1.4 Site Setting:  Degree of isolation from other was a connected up  X The site is only connected in the site in the site is only connected in the site in the site in the site is only connected in the site in the si | estream and down<br>ed upstream with o<br>ed downstream wi<br>by (within 0.25 mi | stream with other<br>other wetlands<br>th other wetland | ds                 |                       |                |  |  |  |
| (General assessment of adjace  | nt land use / land   | cover in the are  | ea within 50 meter | s of the perimeter o  | of the wetland |  |  |  |
| site (indicate the % abundance   |  |   |                    | o or and permittee    |                |  |  |  |
| Native Vegetation - woo  | dland  | _50_  | _ Road / highwa    | y / railroad bed / pa | rking lot      |  |  |  |
| 50 Native Vegetation - old   | field / scrub  |   | Industrial         |                       |                |  |  |  |
| Agricultural- tilled   |  |   | Residential – s    | single family         |                |  |  |  |
| Agricultural - pasture   |  |   | Commercial or      | multifamily resider   | ıtial          |  |  |  |
| Recreation - green space   | e, mowed   |   |                    |                       |                |  |  |  |

| NWI Polygon # (see table on pag     |  |                         | _ Data Reference #     | S5W120                 | InWRAP, TERG May 2000               |
|-------------------------------------|--|-------------------------|------------------------|------------------------|-------------------------------------|
|                                     | •  | reliminary A            | ssessment (to be       | completed on-site      | for <u>each</u> NWI polygon present |
|                                     | omorphic Setting   | and Surface. V<br>Slope | later Flow (check on   | <b>e):</b><br>podplain | Lacustrine                          |
| Riverir                             | ne (within the river/  | stream banks)           |                        |                        |                                     |
| 2.2 Presence of                     | Standing Water:  |                         |                        |                        |                                     |
| If standi                           | er normally present<br>ng water is presen<br>er normally present | t, is the water g       | eater than 2 meters ir | n depth? <u>No</u>     |                                     |
| 2.3 Apparent Hy                     | droperiod (check   | one):                   |                        |                        |                                     |
|                                     | ntly Flooded   |                         | Artific                | cially Flooded         |                                     |
|                                     | ly Flooded<br>I (surface water se                                | dom present)            | Artific                | cially Drained         |                                     |
| <b>2.4 Soil Type:</b> Organ         | ic (i.e. peat, etc.)   | X                       | Mineral                | Both M                 | ineral and Organic Present          |
| 2.5 Wetland Con<br>Seasonally Floor |  | this NWI poly           | on (see Key to Wetl    | and Communities        | s of Indiana):                      |
| 2.6 Disturbance                     | s of Hydrology (c  | heck all that ap        | oply):                 |                        |                                     |
| X Ditching                          |  |                         | Culvert                |                        |                                     |
| Tiles<br>Dams                       |  |                         | Other Hu               | uman Disturbances      | s to the Hydrology (explain):       |
| Road or F                           | Railroad Embankm   | ent                     |                        |                        |                                     |
| 2.7 Presence of                     | Invasive Exotics   | (Score as: S =          | Scattered, F = Frequ   | ent. or C = Comm       | non):                               |
| Garlic Mu                           |  |                         | Blossy Buckthorn       | ,                      | ,                                   |
| Phragmit                            |  |                         | Reed canary grass      |                        |                                     |
| Purple loc                          |  |                         | Other (list): Typha    |                        |                                     |
| 2.8 Presence of                     | Special Hydrolog   | ic Conditions           | (i.e. seeps, wet slope | es. floating mat):     |                                     |
| Roadway runof                       |  |                         | (                      | <b>3</b> ,             |                                     |
|                                     |  |                         |                        |                        |                                     |
|                                     | Special Commun   |                         | \ <b>\</b> /           | et Sand / Muck Els     | ate or Mari Soone                   |
| Bog                                 |  | _ Fen<br>_              |                        | et Sand / Muck Fla     | as or ivian seeps                   |
| 2.10 Presence of                    | of Known Federal   | or Indiana Rar          | e, Threatened or End   | langered Species       | :                                   |
| X None                              | observed or known  | to be present           |                        |                        |                                     |
| RTES                                | Present (list)   |                         |                        |                        |                                     |
| 2.11 Wetland Po                     | olygon Quality De  | scriptor (see: I        | Wetland Quality Desc   | criptions and che      | ck one):                            |
| Good                                |  | Medium                  | _X Po                  | oor                    |                                     |

| NWI    | l Pc | olyg  | on   | #     | 120   | Data R            | Referei    | nce #     | S5W1       | 20             |              |        |      |
|--------|------|-------|------|-------|---|-------------------|------------|-----------|------------|----------------|--------------|--------|------|
|        |      |       |      |       | al Polygon: Rapid Hydrol  |                   |            |           |            |                |              |        |      |
| 3a.1 l | Not  | abl   | e Fe | atuı  | res that influence water qualit   | y and hydrology   | <b>/</b> : |           |            |                |              |        |      |
|        |      |       |      |       | ous plant cover (percentage) in t   |                   |            | 100-7     | 5          | 75-50          | 50-25        |        | <25  |
| Estin  | nate | ed v  | voo  | la vb | ant foliar cover in the polygon   |                   |            | _         | ·          | 75-50          |              |        | ='   |
|        |      |       |      |       | ody material on the soil surface:  X nil (<5% cove  |                   |            |           |            |                |              |        |      |
| 3a.2 \ | Wat  | ter ( | Qua  | lity  | Protection Questions:   |                   |            |           |            |                |              |        |      |
| 1.     | Χ    | Υ     |      | N     | Does the wetland have a signit density to potentially uptake di   |                   |            | itive (sp | oecifical  | y perennial    | and wood     | ly pla | nt)  |
| 2.     |      | Y     | X    | N     | Managed water (e.g. municipa or municipal wastewater) is <b>no</b>  |                   |            |           |            |                | je outlet, i | ndust  | rial |
| 3.     |      |       |      |       | If wetland in question is a depr  | essional wetland  | answ       | er 3a, i  | f not, an  | swer 3b        |              |        |      |
| 3a.    |      | Y     |      | N     | Does the wetland have a shap before the water reaches the control of the control |                   |            | the se    | ttling ou  | t of suspend   | ded mater    | ials   |      |
| 3b.    | Χ    | Υ     |      | N     | Is the position of the wetland in<br>surface body of water down gr  |                   | such th    | at run-   | off is he  | ld or filtered | before er    | nterin | ga   |
| 4.     |      | Y     | Χ    | N     | Does the wetland <b>lack</b> steep s with row cropping, or areas wit  |                   |            |           |            |                |              | 12%)   |      |
| 5.     |      | Y     | Χ    | N     | Are there recreational lakes, no down gradient in the local water   |                   | urses,     | or wat    | er suppl   | y sources lo   | cated with   | nin a  | mile |
| 6.     | X    | Y     |      | N     | Is a vegetative buffer area (>1st could be filtered) located uplan width and slope.   |                   |            |           |            |                |              |        |      |
|        |      |       |      |       | Average width of buffer area (i   | n meters) 5       |            | Appro     | ximate s   | lope (perce    | nt) 5        |        |      |
| 3a.3 I | Flo  | od a  | and  | Sto   | rmwater Storage / Attenuation   | Questions:        |            |           |            |                |              |        |      |
| 1.     |      |       |      |       | If wetland in question is a depr  | essional wetland  | answ       | er 1a, i  | f not, an  | swer 1b        |              |        |      |
| 1a.    | X    | Y     |      | N     | Around the wetland is there a l slow overland flow into the wet   |                   | ural ve    | egetatio  | n (fores   | ted, old field | l, scrub) tl | nat wi | II   |
| 1b.    |      | Y     |      | N     | Is there a significant amount of the velocity of the water leavin   |                   | y or ve    | egetativ  | e densi    | ty within the  | wetland t    | o red  | uce  |
| 2.     |      | Y     | Χ    | N     | Does the wetland <b>lack</b> man-matter (tiles, culverts, ditches)?   | ade structures th | at wou     | ıld spe   | ed the flo | ow of water    | from the v   | vetlar | ıd   |
| 3.     | Χ    | Y     |      | N     | Is the flood potential high in the damages)?  | e sub-watershed   | in whic    | ch the    | wetland    | is located (h  | nistory of f | lood   |      |
| 4.     |      | Υ     | Χ    | N     | Is the wetland located in a wat impermeable, or is bedrock wit  |                   |            |           |            |                | clayey and   | b      |      |

Is the wetland located in a local watershed which has highly modified runoff conditions due to

existing development (e.g. >50% area in row crop, commercial, or residential use)?

**X Y** 

5.

| NWI Polygon #                       | 120 Data Reference # S5W120                                      |   |  |  |  |  |
|-------------------------------------|--|---|--|--|--|--|
| Tier 3b Individu                    | ıal Polygon: Rapid Vegeta  | ation Description   |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man | Interspersion: y vegetation zones are evident ir                 | n this wetland polygon?11   |  |  |  |  |
| 1b. If only one                     | e vegetation zone is evident, whi                                | ich best describes the site?  |  |  |  |  |
|                                     | Polygon composed of a mosaid heterogeneous textures across       | c of small vegetation patches, hummocks, or tussocks;<br>s the polygon.                     |  |  |  |  |
| X                                   | Polygon composed of a single polygon.                            | vegetation type with more or less uniform texture across the                                |  |  |  |  |
|                                     | one vegetation zone is present ion of these zones?               | in the polygon, which interspersion diagram most closely represents                         |  |  |  |  |
| Туре                                | e One Interspersion  | Type Two Interspersion  |  |  |  |  |
| (                                   |  |   |  |  |  |  |
| 3b.2 Dominant Pla                   | nt Species: Vegetation zone A                                    | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)             |  |  |  |  |
| What % of the polyg                 | gon does this vegetative zone oc                                 |   |  |  |  |  |
| 10 – 25%                            | 25 – 50 %  | 50 – 75% <u>X</u> 75 – 90% >90%   |  |  |  |  |
| Is there notable laye               | ering/stratification in this vegetati                            |   |  |  |  |  |
|                                     | ous Species (i.e. covering more es that forms extensive monocult | e than 10% of the area) listed in order of relative abundance. <b>(Mark</b> tural patches). |  |  |  |  |
| b Typha angustif                    | olia   | e   |  |  |  |  |
| c Eupatorium ma                     | aculatum   | f   |  |  |  |  |
| Dominant <b>Shrub</b> Sp            | pecies listed in order of relative a                             | abundance.  |  |  |  |  |
|                                     |  |   |  |  |  |  |
| b                                   |  | d   |  |  |  |  |
| Dominant <b>Tree</b> Spe            | cies listed in order of relative ab                              | undance.  |  |  |  |  |
| I.                                  |  | J.  |  |  |  |  |
| b shrub senen                       | v. V nil concrete  | d d, seldom touching often touching More or less closed                                     |  |  |  |  |
| Tree & Shrub Canop                  | ny.  | , seldom touching often touching whole of less closed                                       |  |  |  |  |
| Mature trees (>12"                  | dbh) present: yes  | X no  |  |  |  |  |
| Other remarks (inc                  | lude personal comments about v                                   | what adds to or detracts from the quality of this wetland site).                            |  |  |  |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana)SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants \*arrow arum (Peltandra virginica, N) 6 horsetail, scouring rush spp. (Equisetum) 2 arrow-head spp. (Sagittaria) 4 \*ferns: marsh shield fern spp. (Dryopteris) 7 \*green dragon (Arisaema dracontium) 6 \*cinnamon fern (Osmunda cinnamomea) 9 Jack-in-the-pulpit (Arisaema triphyllum) 4 \*royal fern (Osmunda regalis) 8 pickerel weed (Pontederia cordata, N) 5 sensitive fern (Onoclea sensibilis) 4 \*skunk cabbage (Symplocarpus foetidus) 8 \*other: species (if known) \*water arum (Calla palustris, N) 10 marsh club moss (Selaginella apoda) 4 water plantain (Alisma plantago-aguat.) 2 \*Sphagnum moss spp. (Sphagnum, N) 10 Herbs: dicots - Ivs. opposite/whorled Herbs: Ivs. floating or submergent \*bedstraw spp. (Galium) 6 \*bladderwort spp. (Utricularia, N) 10 beggar's tick spp. (Bidens) 3 coontail (Ceratophyllum demersum, N) 1 blue vervain (Verbena hastata) 3 duckweed spp. (Lemnaceae) 3 boneset (Eupatorium perfoliatum) 4 \*pondweed spp. (Potamogeton) 8 (except 0 for bugleweed spp. (Lycopus) 5 introduced *P. crispus*) clearweed spp. (Pilea) 3 \*water lily (Nymphaea tuberosa, N) 6 cup plant (Silphium perfoliatum) 4 water shield (Brasenia schreberi, N) 4 false nettle (Boehmeria cylindrica) 3 \*yellow spatterdock spp. (Nuphar) 6 \*fen betony (Pedicularis lanceolata) 6 \*gentian spp. (Gentiana & Gentianopsis) 8 Herbs: insectivorous plants giant ragweed (Ambrosia trifida) 0 \*pitcher plant (Sarracenia purpurea,N) 10 Indian hemp (Apocynum cannabinum) 2 \*sundew spp. (Drosera, N) 10 X Joe-pye weed spp. (Eupatorium) 5 \*loosestrife spp. (Lysimachia) 6 Herbs: linear-lvs. or leafless ± monocots meadow beauty (Rhexia virginica) 5 \*beak rush spp. (Rhynchospora, N) 10 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 blueflag iris (Iris virginica) 5 moneywort (Lysimachia nummularia) 0 bulrush spp. (Scirpus / Schoenoplectus) 5 monkey flower spp. (Mimulus) 4 \*bur reed spp. (Sparganium) 9 nettle (Urtica pro cera) 1 cat-tail spp. (Typha) 1 purple loosestrife (Lythrum salicaria) 0 \*cotton grass spp. (Eriophorum, N) 10 \*richweed (Collinsonia canadensis) 8 Grasses (family Gramineae) - indicate types & number of species \*St. John's wort spp.(Hypericum/Triandeum)8 a. \*wild rice (Zizania aquatica, N) 10 sunflower spp. (Helianthus) 4 most native perennial grass spp. 4: e.g. \*swamp loosestrife (Decodon verticillatus, N) 8 cut-grass, manna-g, Canada bluejoint, foxtail swamp milkweed (Asclepias incarnata) 4 [Alopecurus]: other toothcup spp. (Ammania & Rotala) 2 introduced grass spp. 0: reed canary \*turtlehead spp. (Chelone) 8 grass [Phalaris], reed [Phragmites], annual virgin's bower (vine) (Clematis virginiana) 3 grasses such as annual foxtail [Setaria] & water puslane (Ludwigia palustris) 3 barnyard grass Echinochloa] winged loosestrife (Lythrum alatum) 5 needle sedge spp. (Eleocharis) sp.1 =2 \*additional=8 Herbs: (vines): dicots - Ivs. alternate or basal nutsedge spp. (Cyperus) 2 and simple \*orchid spp.: species (if known) Amer. bellflower (Campanula americana) 4 rush spp. (Juncus) 4 \*asters: bristly aster (Aster puniceus) 7 sedge spp. (Carex) sp.1=3 \*additional=7 \*flat-topped aster (A. umbellatus) 8 \*spiderlily (Hymenocallis occidentalis) 9 other aster spp. (e.g. New Engl.-, panicled-a) 3 sweet flag (Acorus calamus) 0 \*black-eved Susan (Rudbeckia fulgida) 8 \*3-way sedge (Dulichium arundinaceum) 10 cardinal flower (Lobelia cardinalis) 4 \*twig rush (Cladium mariscoides, N) 10 \*umbrella sedge (Fuirena squarrosa, N) 10 InWrap, Terg revised June 2005 wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

hackberry (Celtis occidentalis) 3

oak, pin or white (Quercus) 4

\*papaw (Asimina triloba) 6

**OTHER** 

ironwood (Carpinus caroliniana) 5

\*sugarberry (Celtis laevigata, S) 7

sweet gum (Liquidambar styraciflua) 4

sycamore, Amer. (Platanus occidentalis) 3

willow spp. (Salix) sp.1=3; \*additional=7

\*oak, Shumard's, sw. chestnut, sw. white 7

aven spp.: rough a., white a. (Geum) 2

\*buttercup spp: e.g. cursed b., hooked b.,
swamp b. (Ranunculus) 6
chervil (Chaerophyllum procumbens) 3

\*cowbane (Oxypolis rigidior) 7

\*great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3

honewort (*Cryptotaenia canadensis*) meadow rue spp. (*Thalictrum*) 5 poison ivy (vine) (*Rhus radicans*) 1

\*queen-of-the-prairie (Filipendula rubra) 9

senna spp. (Cassia) 4

**NWI Polygon #** 

120

garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4

patula, S. riddellil) 9

lizard's tail (Saururus cernuus) 4

rose mallow spp. (Hibiscus) 4

\*marsh marigold (Caltha palustris) 7

ironweed spp. (Vernonia) 4

lobelia spp. (Lobelia) 4

\*goldenrod spp. (Solidago ohioensis. S.

dock spp.: swamp-, water-, pale- (Rumex) 4

\*grass of Parnassus (Parnassia glauca) 10
\*Indian plantain (Cacalia plantaginea) 10

jewelweed, touch-me-not spp. (Impatiens) 3

\*moonseed (vine) (Menispermum canadense) 6

primrose-willow spp.(Epilobium &Ludwigia) 3

smartweed spp.: incl. jumpseed, pinkweed,

sneezeweed (Helenium autumnale) 3

\_ stinging nettle (Laportea canadensis) 2

\*swamp saxifrage (Saxifraga pa.) 10

wingstem (Actinomeris alternifolia) 3

\*Virginia bluebells (Mertensia virginica) 6

waterhemp (Amaranthus tuberculatus) 1

tearthumb, water-pepper, water-sm.

(Polygonum) 4 [Except \*for P. arifolium 10]

cress spp. (Cardamine) 4

swamp agrimony (Agrimonia parviflora) 4

\*swamp thistle (Cirsium muticum) 8

tall coneflower (Rudbeckia laciniata) 3
\*water hemlock spp. (Cicuta) 7

water parsnips (Sium suave) 5

Shrubs - leaves opposite or whorled

bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4

\*dogwood, blue-fruited or silky *Cornus* 

obliqua) 7 \_ dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

| InWrap, | Terg | revised | June | 2005 |
|---------|------|---------|------|------|

#### **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W121

TERG May 2000

#### **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetl   | and site name: S5W12  | 1  |                               |                           |                   |                    |                 |  |
|--------|---|--|-------------------------------|---------------------------|-------------------|--------------------|-----------------|--|
| Own    | ership (if known):  |  |                               |                           |                   |                    |                 |  |
| USG    | S Topographic Quadrang  | ıle(s): Hindustaı  | า                             |                           |                   |                    |                 |  |
| USG    | USGS Watershed map 14-Digit HUC: Little Indian Creek-Jordan Creek 05120201180010  |  |                               |                           |                   |                    |                 |  |
|        |   |  |                               |                           |                   |                    |                 |  |
|        | y each NWI Polygon with<br>Polygon ID Number  | in the Wetland Site  | e (Polygon<br>I               | specifi                   | c data)<br>T      |                    |                 |  |
|        | ardin Classification  | PEMC   |                               |                           |                   |                    |                 |  |
|        | gon Size (hectares)   | 0.02 (0.04 acre)   |                               |                           |                   |                    |                 |  |
| NI\A/I | Polygon ID Number   | T  | 1                             |                           |                   |                    |                 |  |
|        | ardin Classification  |  |                               |                           |                   |                    |                 |  |
|        | gon Size (hectares)   |  |                               |                           |                   |                    |                 |  |
| Tear   | <b>te Visit:</b><br>m Members: <u>K. Schroed</u><br>ncy: <u>INDOT</u>   | ler & D. White   |                               |                           |                   |                    |                 |  |
| Date   | assessed:10/14/2011   |  | т                             | Time as                   | sessed: 8:00 a    | m                  |                 |  |
| Wea    | ther conditions: 60°F   |  |                               |                           |                   |                    |                 |  |
| recent | any unusual weather ever<br>theavy rains, an unusuall<br>etland Size:   |  |                               |                           |                   | within this wetlar | nd system (e.g. |  |
| Size   | of site under assessment  | :. 0.02 hectare (0   | 0.04 acre)                    |                           |                   |                    |                 |  |
| Size   | of total wetland complex  | (all continuous we   | tland polyg                   | jons):                    | 0.02 hectare (0   | .04 acre)          |                 |  |
|        | te Setting: The of isolation from other we the site is connected up the site is only connected. The site is only connected. Other wetlands are near the wetland site is isolated. | estream and down<br>ed upstream with o<br>ed downstream wi<br>by (within 0.25 mi | stream with<br>other wetlanth | n other<br>nds<br>etlands |                   |                    |                 |  |
| (Gene  | ral assessment of adjace  | nt land use / land   | cover in th                   | e area                    | within 50 meters  | of the perimeter   | of the wetland  |  |
|        | ndicate the % abundance   |  | 00001 111 111                 | o arca                    | Within 60 motors  | or the perimeter   | or the wetterla |  |
|        | Native Vegetation - woo   | dland  | -                             | 50                        | Road / highway    | / railroad bed / p | parking lot     |  |
|        | Native Vegetation - old f   | ield / scrub   | -                             |                           | Industrial        |                    |                 |  |
| 50     | Agricultural- tilled  |  | -                             |                           | Residential – sir | ngle family        |                 |  |
|        | Agricultural - pasture  |  | -                             |                           | Commercial or I   | multifamily reside | ential          |  |
|        | Recreation - green space  | e, mowed   |                               |                           |                   |                    |                 |  |

|          | Polygon # <u>1</u><br>ble on page one)      | 121                     |                       | Data Reference #                   | S5W121                 | InWRAP, TERG May 2000                 |
|----------|---|-------------------------|-----------------------|------------------------------------|------------------------|---------------------------------------|
| Tier 2   |   |                         | liminary A            | ssessment (to be o                 | completed on-site      | e for <u>each</u> NWI polygon present |
| 2.1 We   | etland Geomorp Depressiona                  | _                       | d Surface. W<br>Slope | ater Flow (check on                | <b>e):</b><br>oodplain | Lacustrine                            |
|          | Riverine (with                              | thin the river/stre     | eam banks)            |                                    | _                      |                                       |
| 2.2 Pro  | esence of Stand                             | ding Water:             |                       |                                    |                        |                                       |
| Is sta   | nding water norr                            | mally present in        | the polygon?          | No                                 |                        |                                       |
| Is sta   | <ul> <li>If standing wanter norm</li> </ul> | •                       | _                     | eater than 2 meters in oolygon? No | n depth? No            |                                       |
| 2.3 Ap   | parent Hydrop                               | eriod (check or         | ne):                  |                                    |                        |                                       |
|          | Permanently FI                              |                         |                       | Artific                            | cially Flooded         |                                       |
| <u>X</u> | Seasonally Floo<br>Saturated (surf          | oded<br>ace water seldo | m present)            | Artific                            | cially Drained         |                                       |
| 2.4 So   | il Type:<br>Organic (i.e.                   | peat, etc.)             | X                     | Mineral                            | Both N                 | Mineral and Organic Present           |
| 25 W     | atland Commun                               | nity Type for th        | s NWI nalva           | on (see Key to Wetla               | and Communitie         | os of Indiana):                       |
|          | onally Flooded E                            |                         | is ittir polyg        | on (see Ney to Wette               |                        | s of indiana).                        |
|          | oriany r roodou i                           |                         |                       |                                    |                        |                                       |
| 2.6 Dis  | sturbances of F                             | lydrology (che          | ck all that ap        |                                    |                        |                                       |
|          | Ditching                                    |                         |                       | Culvert                            |                        |                                       |
|          | Tiles<br>Dams                               |                         |                       | Other Hu                           | uman Disturbance       | es to the Hydrology (explain):        |
| Χ        | Road or Railroa                             | ad Embankment           |                       |                                    |                        |                                       |
| 2.7 Pro  | esence of Invas                             | sive Exotics (Se        | core as: S = S        | Scattered, F = Frequ               | ent, or C = Com        | mon):                                 |
|          | Garlic Mustard                              | •                       |                       | lossy Buckthorn                    |                        | ·                                     |
|          | Phragmities                                 |                         |                       | eed canary grass                   |                        |                                       |
|          | Purple loosestr                             | ife                     | 0                     | ther (list):                       |                        |                                       |
|          | -   | ial Hydrologic          | Conditions (          | i.e. seeps, wet slope              | es, floating mat):     |                                       |
| None     | <b>)</b>                                    |                         |                       |                                    |                        |                                       |
| 2.9 Pro  | esence of Spec                              | ial Community           | Types:                |                                    |                        |                                       |
|          | Bog   |                         | -en                   | We                                 | et Sand / Muck F       | lats or Mari Seeps                    |
| 2.10 P   | resence of Kno                              | own Federal or          | Indiana Rare          | , Threatened or End                | angered Specie         | s:                                    |
| X        |   | ved or known to         |                       | ,                                  | J                      |                                       |
|          | RTES Prese                                  |                         |                       |                                    |                        |                                       |
| 2.11 W   | /etland Polygoı                             | n Quality Desci         | riptor (see: V        | Vetland Quality Desc               | criptions and ch       | eck one):                             |
|          | Good  | <u> </u>                | Medium                | Po                                 | -                      | -                                     |

| NWI Polygon # |      | #     | 121 Data Reference # S5W121 |        |  |                                    |  |  |  |
|---------------|------|-------|-----------------------------|--------|--|------------------------------------|--|--|--|
| Tier          | 3a   | Inc   | vik                         | idua   | al Polygon: Rapid Hydrology Indicators   |                                    |  |  |  |
| 3a.1 N        | Not  | able  | e Fe                        | eatur  | res that influence water quality and hydrology:  |                                    |  |  |  |
| Estin         | nate | ed h  | erb                         | acec   | ous plant cover (percentage) in the polygon X 100-75   | 75-50 50-25 <25                    |  |  |  |
| Estin         | nate | ed w  | /00                         | dy pl  | ant foliar cover in the polygon 100-75   | 75-50 50-25 _X <25                 |  |  |  |
| Amo           | unt  | of c  | lead                        | ow b   | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover)   | Frequent (>20% cover)              |  |  |  |
| 3a.2 \        | Nat  | ter ( | Qua                         | lity l | Protection Questions:  |                                    |  |  |  |
| 1.            | Χ    | Y     |                             | N      | Does the wetland have a significant amount of vegetative (specification density to potentially uptake dissolved nutrients?                             | ally perennial and woody plant)    |  |  |  |
| 2.            |      | Y     | X                           | N      | Managed water (e.g. municipal or road stormwater drainage, agricular or municipal wastewater) is <b>not</b> discharged into the wetland polygon        |                                    |  |  |  |
| 3.            |      |       |                             |        | If wetland in question is a depressional wetland answer 3a, if not, a  | answer 3b                          |  |  |  |
| 3a.           |      | Y     | Χ                           | N      | Does the wetland have a shape or flow that allows for the settling obefore the water reaches the center of the wetland?                                | out of suspended materials         |  |  |  |
| 3b.           |      | Y     |                             | N      | Is the position of the wetland in the landscape such that run-off is h surface body of water down gradient?  | neld or filtered before entering a |  |  |  |
| 4.            |      | Y     | Χ                           | N      | Does the wetland <b>lack</b> steep slopes (>12%), large impervious area with row cropping, or areas with severe overgrazing within 100 met             |                                    |  |  |  |
| 5.            |      | Y     | Χ                           | N      | Are there recreational lakes, navigable watercourses, or water supdown gradient in the local watershed?  | ply sources located within a mile  |  |  |  |
| 6.            |      | Y     | Х                           | N      | Is a vegetative buffer area (>15 m wide) or another wetland polygo could be filtered) located upland and adjacent to the wetland polygwidth and slope. |                                    |  |  |  |
|               |      |       |                             |        | Average width of buffer area (in meters) Approximate   | e slope (percent)                  |  |  |  |
| 3a.3 F        | Floo | od a  | ınd                         | Stor   | rmwater Storage / Attenuation Questions:   |                                    |  |  |  |
| 1.            |      |       |                             |        | If wetland in question is a depressional wetland answer 1a, if not, a  | angwar 1h                          |  |  |  |
| ••            |      |       |                             |        | Around the wetland is there a buffer strip of natural vegetation (fore   |                                    |  |  |  |
| 1a.           |      | Υ     | Χ                           | N      | slow overland flow into the wetland?   | osted, old field, soldby that will |  |  |  |
| 1b.           |      | Y     |                             | N      | Is there a significant amount of microtopography or vegetative densitive velocity of the water leaving the wetland?                                    | sity within the wetland to reduce  |  |  |  |
| 2.            | X    | Υ     |                             | N      | Does the wetland <b>lack</b> man-made structures that would speed the (tiles, culverts, ditches)?  | flow of water from the wetland     |  |  |  |
| 3.            | X    | Y     |                             | N      | Is the flood potential high in the sub-watershed in which the wetlan damages)?   | d is located (history of flood     |  |  |  |
| 4.            |      | Y     | X                           | N      | Is the wetland located in a watershed where the majority of the uplaimpermeable, or is bedrock within two feet of the top of the soil pro              |                                    |  |  |  |
| 5.            | Χ    | Υ     |                             | N      | Is the wetland located in a local watershed which has highly modific existing development (e.g. >50% area in row crop, commercial, or                  |                                    |  |  |  |

| NWI Polygon #                        | 121 Data Reference # S5W121 |  |                    |                         |                                       |  |
|--------------------------------------|-----------------------------|--|--------------------|-------------------------|---------------------------------------|--|
| Tier 3b Individu                     | ıal Polygon: Rap            | oid Vegetation Desc                                    | ription            |                         |                                       |  |
| <b>3b.1 Zonation and</b> 1. How many | -                           | re evident in this wetland                             | d polygon? 1       |                         |                                       |  |
| 1b. If only one                      | e vegetation zone is        | evident, which best desc                               | ribes the site?    |                         |                                       |  |
|                                      |                             | l of a mosaic of small veo<br>tures across the polygon |                    | hummocks, or tu         | ssocks;                               |  |
| X                                    | Polygon composed polygon.   | l of a single vegetation ty                            | pe with more or l  | ess uniform textu       | re across the                         |  |
| the distribut                        | ion of these zones?         | e is present in the polygo                             | -                  | _                       |                                       |  |
| Туре                                 | One Interspersion           | 1  |                    | Type Two Inters         | persion                               |  |
| (                                    |                             |  |                    |                         |                                       |  |
| 3b.2 Dominant Pla                    | nt Species: Vegeta          | tion zone A  |                    | Observation Ponumber(s) |                                       |  |
| What % of the polyg                  | gon does this vegeta        | tive zone occupy?                                      | (                  |                         | , , , , , , , , , , , , , , , , , , , |  |
| 10 – 25%                             | 25 – 50                     | • •  | 75%                | 75 – 90%                | _X >90%                               |  |
| Is there notable laye                | ering/stratification in     | this vegetation zone?                                  | No                 |                         |                                       |  |
| with an * any specie                 | es that forms extensi       | overing more than 10% over monocultural patches        | ).                 | d in order of relat     | ive abundance. <b>(Mark</b>           |  |
| a Juncus canade                      |                             |  | d                  |                         |                                       |  |
| b Bidens frondos                     |                             |  | e                  |                         |                                       |  |
| c Aster ericoides                    |                             |  | ' <u> </u>         |                         |                                       |  |
| •                                    |                             | of relative abundance.                                 |                    |                         |                                       |  |
|                                      |                             |  |                    |                         |                                       |  |
| b                                    |                             |  | d                  |                         |                                       |  |
| Dominant <b>Tree</b> Spe             | cies listed in order o      | f relative abundance.                                  |                    |                         |                                       |  |
| a                                    |                             |  | С                  |                         |                                       |  |
| b                                    |                             |  | d                  |                         |                                       |  |
| Tree & shrub canop                   | y: X nil                    | _ separate, seldom touc                                | ching ofte         | n touching              | _ More or less closed                 |  |
| Mature trees (>12"                   | dbh) present:               | yesX   | _ no               |                         |                                       |  |
| Other remarks (inc                   | lude personal comm          | ents about what adds to                                | or detracts from t | the quality of this     | wetland site).                        |  |

| NWI Polygon# 121 | Data Reference # S5W121 |
|------------------|-------------------------|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| (N = northern Indiana  | SW = southwestern Indiana   | numbers = C-coeffici | ients '  | * = species with high conservationism   |
|--|---|----------------------|--|---|
| *ferns: marsh sh *cinnamon fern *royal fern (Osn sensitive fern (C *other: species marsh club mos  | ng rush spp. (Equisetum) 2<br>nield fern spp. (Dryopteris) 7<br>(Osmunda cinnamomea) 9  |                      | *arrow aru<br>arrow-head<br>*green dra<br>Jack-in-the<br>pickerel we<br>*skunk cab<br>*water aru   | d monocots m (Peltandra virginica, N) 6 d spp. (Sagittaria) 4 gon (Arisaema dracontium) 6 e-pulpit (Arisaema triphyllum) 4 eed (Pontederia cordata, N) 5 obage (Symplocarpus foetidus) 8 m (Calla palustris, N) 10 tain (Alisma plantago-aquat.) 2  |
| coontail (Cerator duckweed spp. *pondweed spp introduced P. cr *water lily (Nym water shield (Br *yellow spatterd  | p. (Utricularia, N) 10 phyllum demersum, N) 1 (Lemnaceae) 3 . (Potamogeton) 8 (except 0 foispus) phaea tuberosa, N) 6 asenia schreberi, N) 4 ock spp. (Nuphar) 6  |                      | *bedstraw<br>beggar's tide<br>blue verva<br>boneset (E<br>bugleweed<br>clearweed<br>cup plant (false nettle  | s. opposite/whorled spp. (Galium) 6 ck spp. (Bidens) 3 in (Verbena hastata) 3 Eupatorium perfoliatum) 4 d spp. (Lycopus) 5 spp. (Pilea) 3 (Silphium perfoliatum) 4 e (Boehmeria cylindrica) 3 y (Pedicularis lanceolata) 6  |
| *pitcher plant (S *sundew spp. (L  | Sarracenia purpurea,N) 10   |                      | *gentian sp<br>giant ragw<br>Indian hem  | op. (Gentiana & Gentianopsis) 8<br>eed (Ambrosia trifida) 0<br>np (Apocynum cannabinum) 2   |
| blueflag iris (Iris bulrush spp. (So *bur reed spp. ( 1 cat-tail spp. (Ty) *cotton grass sp  Grasses (family Gramine a. *wild rice (Z b. most native cut-grass, m [Alopecurus grass [Phale grasses suc barnyard gra needle sedge sp *additional= | (Rhynchospora, N) 10 virginica) 5 cirpus / Schoenoplectus) 5 Sparganium) 9 cha) 1 cp. (Eriophorum, N) 10 ae) - indicate types & number of species izania aquatica, N) 10 perennial grass spp. 4: e.g. channa-g, Canada bluejoint, foxta l; other grass spp. 0: reed canary aris], reed [Phragmites], annu- ch as annual foxtail [Setaria] ass Echinochloa] cp. (Eleocharis) sp.1 =2 | ail<br>al<br>&       | *Ioosestrife meadow be mint spp.: moneywork monkey flo nettle (Urtipurple loos *richweed *St. John's sunflowers *swamp looswamp mil toothcup s *turtlehead virgin's bow water push winged loos | eed spp. (Eupatorium) 5 e spp. (Lysimachia) 6 eauty (Rhexia virginica) 5 e.g. hedge nettle, mtn. m., skullcap 5 t (Lysimachia nummularia) 0 ower spp. (Mimulus) 4 ica pro cera) 1 sestrife (Lythrum salicaria) 0 (Collinsonia canadensis) 8 s wort spp. (Hypericum/Triandeum)8 spp. (Helianthus) 4 osestrife (Decodon verticillatus, N) 8 lkweed (Asclepias incarnata) 4 pp. (Ammania & Rotala) 2 d spp. (Chelone) 8 wer (vine) (Clematis virginiana) 3 ane (Ludwigia palustris) 3 osestrife (Lythrum alatum) 5 |
| *spiderlily (Hym<br>sweet flag (Acol<br>*3-way sedge (I<br>*twig rush (Clad<br>*umbrella sedge<br>wild hyacinth (C   | ecies (if known)<br>us) 4<br>ex) sp.1=3 *additional=7<br>enocallis occidentalis) 9  | and sin              | Amer. bellf<br>*asters: bri<br>*flat-toppe<br>other aster<br>*black-eye<br>cardinal flo  | flower (Campanula americana) 4 istly aster (Aster puniceus) 7 d aster (A. umbellatus) 8 r spp. (e.g. New Engl, panicled-a) 3 d Susan (Rudbeckia fulgida) 8 ower (Lobelia cardinalis) 4 d June 2005  |

\*alder, speckled (Alnus rugosa) 9
birch, river (Betula nigra) 2
black gum (Nyssa sylvatica) 5
cottonwood, eastern (Populus deltoides) 1
\*cottonwood, swamp (P. heterophylla, SW) 8
elm, Amer. (Ulmus americana) 3
hackberry (Celtis occidentalis) 3
ironwood (Carpinus caroliniana) 5
oak, pin or white (Quercus) 4
\*oak, Shumard's, sw. chestnut, sw. white 7
\*papaw (Asimina triloba) 6
\*sugarberry (Celtis laevigata, S) 7

\*sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4

sycamore, Amer. (*Platanus occidentalis*) 3 willow spp. (*Salix*) sp.1=3; \*additional=7

OTHER

|        | cress spp. (Cardamine) 4  |
|--------|---|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4  |
|        | garlic mustard (Alliaria petio/ata) 0   |
|        | golden ragwort (Senecio aureus) 4   |
|        | *goldenrod spp. (Solidago ohioensis, S.   |
|        | patula, S. riddellil) 9   |
|        | *grass of Parnassus (Parnassia glauca) 10   |
|        | *Indian plantain (Cacalia plantaginea) 10   |
|        | ironweed spp. (Vernonia) 4  |
|        | jewelweed, touch-me-not spp. (Impatiens) 3  |
|        | lizard's tail (Saururus cernuus) 4  |
|        | lobelia spp. (Lobelia) 4  |
|        | *marsh marigold (Caltha palustris) 7  |
|        | *moonseed (vine) (Menispermum canadense) 6  |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3                                       |
|        | rose mallow spp. (Hibiscus) 4   |
|        | smartweed spp.: incl. jumpseed, pinkweed,   |
|        | tearthumb, water-pepper, water-sm.  |
|        | (Polygonum) 4 [Except *for P. arifolium 10]                                       |
|        | sneezeweed (Helenium autumnale) 3   |
|        | stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10       |
|        |   |
|        | *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 |
|        | wingstem (Actinomeris alternifolia) 3   |
|        | wingstern (Actinomens alterniolia) 3  |
| Herbs: | dicots - Ivs. basal or alternate and  |
| compo  | und or deeply lobed   |
|        | aven spp.: rough a., white a. (Geum) 2  |
|        | *buttercup spp: e.g. cursed b., hooked b.,  |
|        | swamp b. <i>(Ranunculus)</i> 6  |
|        | chervil (Chaerophyllum procumbens) 3  |
|        | *cowbane (Oxypolis rigidior) 7  |
|        | *great angelica (Angelica atropurpurea) 6   |
|        | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5                                    |
|        | honewort (Cryptotaenia canadensis) 3  |
|        | meadow rue spp. (Thalictrum) 5  |
|        | poison ivy (vine) (Rhus radicans) 1   |
|        | *queen-of-the-prairie (Filipendula rubra) 9                                       |
|        | senna spp. (Cassia) 4   |
|        | swamp agrimony (Agrimonia parviflora) 4   |
|        | *swamp thistle (Cirsium muticum) 8  |
|        | tall coneflower (Rudbeckia laciniata) 3   |
|        | *water hemlock spp. (Cicuta) 7  |
|        | water parsnips (Sium suave) 5   |
| Shrubs | s - leaves opposite or whorled  |
| Om abo | bladdernut (Staphylea trifolia) 5   |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0                                     |
|        | button bush (Cepha/anthus occidentalis) 5   |
|        | dogwood, red-osier (Cornus stolonifera) 4   |
|        | *dogwood, blue-fruited or silky <i>Cornus</i>                                     |
|        | obliqua) 7  |
|        | dogwood, gray (C. racemosa) 2   |
|        | elderberry (Sambucus) 2   |

**NWI Polygon #** 

121

| Date Re   | port Generated: 10/15/2011  |
|-----------|---|
| Wetland   | site name: S5W122   |
| Data Re   | erence #: 122   |
| Date of S | Site Visit: 10/14/2011  |
| NWI poly  | gons in Site (quadrangle and NWI id. numbers: Martinsville  |
|           |   |
| TIER 1    | SUMMARY:  |
| a.        | Total wetland area (hectares): 0.11 (0.28 acre)   |
| b.        | Wetland size and connectivity – contribution to animal habitat:   |
|           | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |
| C.        | Surrounding land use – numerical rank (max. = 1): 0.5   |
| d.        | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low  |
| TIER 2    | SUMMARY: NWI Polygon Id. 122  |
| a.        | Indiana Wetland community type: Wet Meadow  |
| b.        | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral   |
| C.        | Disturbances to site: Road embankment   |
| d.        | Exotic species rating: Good Medium Poor   |
| e.        | Special Hydrologic Conditions Observed: None  |
| f.        | Special Community Type: None  |
| g.        | Rare-Threatened-Endangered Species: None  |
| h.        | Polygon Quality Description: Good Definition Poor   |
| TIED 2    | A SUMMARY:  |
|           |   |
| a.<br>b   |   |
| b.<br>c.  | Water quality protection – numerical rank (6 max): 1 Rating: ☐ Good ☐ Medium ☒ Poor  Flood and storm water storage – numerical rank (5 max): 3 Rating: ☐ Good ☒ Medium ☐ Poor |
| C.        | Thou and storm water storage – numerical rank (smax) Rating Good Medium Fooi  |
| TIER 3    | B SUMMARY:  |
| a.        | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral   |
| b.        | Stratification as indicator of animal habitat:   Valuable   Neutral   |
| C.        | Number of dominant plant taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor  |
| d.        | Average coefficient of conservatism: 2.25 Rating: Good Medium Poor  |
| e.        | Tree canopy as indicator of animal habitat:   Valuable   Neutral  |
| f.        | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral   |
| g.        | Total hydrophytic taxa observed: 5 Rating: ☐ Good ☐ Medium ☒ Poor   |
| h.        | Number of indicator taxa 0 Rating: ☐ Good ☐ Medium ☒ Poor   |

#### **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W122

TERG May 2000

#### **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W122   | 2                  |                   |                   |                       |                |        |
|---|--------------------|-------------------|-------------------|-----------------------|----------------|--------|
| Ownership (if known):   |                    |                   |                   |                       |                |        |
| USGS Topographic Quadrang   | le(s): Martinsvi   | lle               |                   |                       |                |        |
| USGS Watershed map 14-Dig   | it HUC: 051202     | 201180010 Little  | e Indian Creek-Jo | rdan Creek            |                |        |
| Identify each NWI Polygon with  | in the Wetland Sit | o (Polygon spec   | fic data)         |                       |                |        |
| NWI Polygon ID Number   | 122                | e (Polygon spec   |                   |                       |                | $\neg$ |
| Cowardin Classification   | PEMC               |                   |                   |                       |                |        |
| Polygon Size (hectares)   | 0.11 (0.28 acre)   |                   |                   |                       |                |        |
| NWI Polygon ID Number   |                    |                   |                   |                       |                | $\neg$ |
| Cowardin Classification   |                    |                   |                   |                       |                |        |
| Polygon Size (hectares)   |                    |                   |                   |                       |                |        |
| 1.2 Site Visit:   |                    |                   |                   |                       |                |        |
| Team Members: K. Schroed  | ler & D. White     |                   |                   |                       |                |        |
| Agency: INDOT   |                    |                   |                   |                       |                |        |
| Date assessed: 10/14/2011   |                    | Time a            | assessed: 7:00    | am                    |                |        |
| Weather conditions:   |                    |                   |                   |                       |                |        |
| Note any unusual weather ever recent heavy rains, an unusuall   | •                  |                   |                   | within this wetland   | d system (e.g. |        |
| 1.3 Wetland Size:   |                    |                   |                   |                       |                |        |
| Size of site under assessment   | : 0.11 hectare (   | 0.28 acre)        |                   |                       |                |        |
| Size of total wetland complex   | (all continuous we | tland polygons):  | 0.11 hectare (0   | ).28 acre)            |                |        |
| 1.4 Site Setting:  Degree of isolation from other w  The site is connected up  The site is only connected | stream and down    | stream with othe  | r wetlands        |                       |                |        |
| The site is only connected  | ed downstream wi   | th other wetland  | S                 |                       |                |        |
| X Other wetlands are near   | by (within 0.25 mi | le) but not conne | ected             |                       |                |        |
| The wetland site is isola   | ted                |                   |                   |                       |                |        |
| (General assessment of adjace site (indicate the % abundance  |                    | cover in the are  | a within 50 meter | s of the perimeter    | of the wetland |        |
| 50 Native Vegetation - woo  | dland              | 50                | _ Road / highway  | y / railroad bed / pa | arking lot     |        |
| Native Vegetation - old f   | ield / scrub       |                   | _ Industrial      |                       |                |        |
| Agricultural- tilled  |                    |                   | _ Residential – s | ingle family          |                |        |
| Agricultural - pasture  |                    |                   | _ Commercial or   | multifamily resider   | ntial          |        |
| Recreation - green spac   | e, mowed           |                   |                   |                       |                |        |
|   |                    |                   |                   |                       |                |        |

| NWI Polygo<br>(see table on |   |                   | Data Reference #     | S5W122                 | InWRAP, TERG May 2000               |
|-----------------------------|---|-------------------|----------------------|------------------------|-------------------------------------|
|                             | vidual Polygon: Pro                                   | eliminary As      | sessment (to be o    | completed on-site      | for <u>each</u> NWI polygon present |
|                             | Geomorphic Setting an pressional                      | nd Surface. Wa    |                      | <b>e):</b><br>oodplain | Lacustrine                          |
| Riv                         | rerine (within the river/st                           | ream banks)       |                      |                        |                                     |
| 2.2 Presence                | of Standing Water:                                    |                   |                      |                        |                                     |
| Is standing v               | vater normally present ir                             | the polygon?      | Yes                  |                        |                                     |
|                             | anding water is present,<br>vater normally present in | -                 |                      | depth? No              |                                     |
| 2.3 Apparent                | Hydroperiod (check o                                  | ne):              |                      |                        |                                     |
|                             | anently Flooded                                       |                   | Artific              | cially Flooded         |                                     |
|                             | onally Flooded<br>ated (surface water seld            | om present)       | Artific              | cially Drained         |                                     |
| <b>2.4 Soil Type</b> Org    | e:<br>ganic (i.e. peat, etc.)                         | Х                 | Mineral              | Both M                 | ineral and Organic Present          |
| 2 E Watland                 | Community Type for t                                  | oio NIVA/I molves |                      |                        | of Indiana).                        |
| Wet Meado                   | Community Type for tl<br>                             | nis wwi polygo    | on (see Key to Wetla | ana Communities        | s of Indiana):                      |
| vvet ivieado                | VV  |                   |                      |                        |                                     |
| 2.6 Disturba                | nces of Hydrology (ch                                 | eck all that app  | oly):                |                        |                                     |
| Ditchi                      | ng  |                   | Culvert              |                        |                                     |
| Tiles Dams                  |   |                   | Other Hu             | ıman Disturbance:      | s to the Hydrology (explain):       |
| X Road                      | or Railroad Embankmer                                 | nt                |                      |                        |                                     |
| 2.7 Presence                | e of Invasive Exotics (S                              | Score as: S = S   | cattered, F = Freque | ent, or C = Comn       | non):                               |
| Garlic                      | Mustard   | Gl                | ossy Buckthorn       |                        |                                     |
| Phrag                       | mities  | F Re              | ed canary grass      |                        |                                     |
| Purple                      | e loosestrife   | Ot                | her (list):          |                        |                                     |
| 2.8 Presence                | e of Special Hydrologic                               | Conditions (i     | e. seeps, wet slope  | s, floating mat):      |                                     |
| 200                         | of Charlet Comment                                    | T                 |                      |                        |                                     |
| 2.9 Presence<br>Bo          | e of Special Communit                                 | y Types:<br>Fen   | We                   | et Sand / Muck Fla     | ats or Mari Seeps                   |
| 2.10 Presence               | e of Known Federal o                                  | r Indiana Rare,   | Threatened or End    | angered Species        | :                                   |
|                             | ne observed or known to                               |                   |                      |                        |                                     |
|                             | ES Present (list)                                     | ,                 |                      |                        |                                     |
| 2.11 Wetland                | l Polygon Quality Desc                                | criptor (see: W   | etland Quality Desc  | riptions and che       | ck one):                            |
| Go                          | od  | Medium            | X Po                 | or                     |                                     |

| NW     | l Po | olyg | on   | #     | 122 Data Ref  | erer  | nce#      | S5W1     | 22        |                |        |       |
|--------|------|------|------|-------|---|---|-----------|----------|-----------|----------------|--------|-------|
| Tier   | 3a   | Ind  | vik  | idua  | al Polygon: Rapid Hydrology Indicators  |   |           |          |           |                |        |       |
| 3a.1 I | Not  | able | e Fe | eatui | res that influence water quality and hydrology:   |   |           |          |           |                |        |       |
| Estin  | nate | ed h | erb  | aceo  | ous plant cover (percentage) in the polygon   | Χ   | 100-75    |          | 75-50     | 50-25          |        | <25   |
| Estin  | nate | ed v | v00  | dy pl | lant foliar cover in the polygon  |   | 100-75    |          | 75-50     | 50-25          | Х      | <25   |
| Amo    | unt  | of c | dea  | d wo  | oody material on the soil surface:  X nil (<5% cover) scattere  | ∍d (5   |           |          | _         | Frequent (>2   |        | _     |
| 3a.2 \ | Wat  | er ( | Qua  | lity  | Protection Questions:   |   |           |          |           |                |        |       |
| 1.     | X    | Y    |      | N     | Does the wetland have a significant amount of veg<br>density to potentially uptake dissolved nutrients?   | geta  | tive (sp  | ecifical | ly peren  | nial and wood  | dy pla | nt)   |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwate or municipal wastewater) is <b>not</b> discharged into the  |   | •         | _        |           | inage outlet,  | indus  | trial |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland ar   | ารพ   | er 3a, if | not, an  | swer 3b   |                |        |       |
| 3a.    |      | Y    | X    | N     |   | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland? |           |          |           |                |        |       |
| 3b.    |      | Y    |      | N     | Is the position of the wetland in the landscape suc surface body of water down gradient?  | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?      |           |          |           |                |        |       |
| 4.     |      | Y    | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large with row cropping, or areas with severe overgrazing.  |   |           |          |           |                | 12%)   |       |
| 5.     |      | Y    | X    | N     | Are there recreational lakes, navigable watercours down gradient in the local watershed?  | ses,  | or wate   | r suppl  | y source  | es located wit | hin a  | mile  |
| 6.     |      | Y    | X    | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |   |           |          |           |                |        |       |
|        |      |      |      |       | Average width of buffer area (in meters)  | Average width of buffer area (in meters)  Approximate slope (percent)   |           |          |           |                |        |       |
| 3a.3 I | Floo | od a | nd   | Sto   | ormwater Storage / Attenuation Questions:   |   |           |          |           |                |        |       |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland ar   | ารพ   | er 1a, if | not, an  | swer 1b   |                |        |       |
| 1a.    |      | Y    | X    | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |   |           |          |           |                |        |       |
| 1b.    |      | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |   |           |          |           |                |        |       |
| 2.     | Χ    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that (tiles, culverts, ditches)?   | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland  |           |          |           |                |        |       |
| 3.     | Χ    | Y    |      | N     | Is the flood potential high in the sub-watershed in damages)?   | whic  | ch the w  | etland   | is locate | ed (history of | flood  |       |
| 4.     |      | Υ    | Χ    | N     | Is the wetland located in a watershed where the mimpermeable, or is bedrock within two feet of the t  | wetland located in a watershed where the majority of the upland soils are clayey and  |           |          |           |                |        |       |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

| NWI Polygon #                                    | 122   | Dat  | a Reference #     | S5W122                                     | _                           |  |  |
|--|---|--|-------------------|--|-----------------------------|--|--|
| Tier 3b Individu                                 | ıal Polygon: Rap  | oid Vegetation Descr                               | iption            |  |                             |  |  |
| <b>3b.1 Zonation and</b> 1. How many             | -   | re evident in this wetland                         | polygon? 1        |  |                             |  |  |
| 1b. If only one                                  | 1b. If only one vegetation zone is evident, which best describes the site?  |  |                   |  |                             |  |  |
|  | Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks; heterogeneous textures across the polygon. |  |                   |  |                             |  |  |
| X  | Polygon composed of a single vegetation type with more or less uniform texture across the polygon.                          |  |                   |  |                             |  |  |
| the distribut                                    | ion of these zones?   | e is present in the polygon                        |                   | _  |                             |  |  |
| Туре   | e One Interspersion   | 1  | •                 | Type Two Inters                            | persion                     |  |  |
| (  |   |  |                   |  |                             |  |  |
| 3b.2 Dominant Pla                                | nt Species: Vegeta  | tion zone A  |                   | Observation Ponumber(s)ark location on the |                             |  |  |
| What % of the polyg                              | gon does this vegeta  | tive zone occupy?                                  | (14010. 7 111     | and location on the                        | e rww polygon,              |  |  |
| 10 – 25%   | 25 – 50   | 50 – 7   | 75% <u> </u>      | 75 – 90%                                   | _X >90%                     |  |  |
| Is there notable laye                            | ering/stratification in   | this vegetation zone?I                             | No                |  |                             |  |  |
| with an * any specie                             | es that forms extensi   | overing more than 10% of ve monocultural patches). |                   |  | ive abundance. <b>(Mark</b> |  |  |
| a <u>Phalaris arunda</u> b <u>Bidens frondos</u> |   |  |                   | m hydropiper                               |                             |  |  |
| c Cyperus escule                                 |   |  | e                 |  |                             |  |  |
| o <u>Oyporus cocure</u>                          |   |  | •                 |  |                             |  |  |
| Dominant <b>Shrub</b> Sp                         | pecies listed in order  | of relative abundance.                             |                   |  |                             |  |  |
| a  |   |  | C                 |  |                             |  |  |
|  |   |  | d                 |  |                             |  |  |
| Dominant <b>Tree</b> Spe                         | cies listed in order o  | f relative abundance.                              |                   |  |                             |  |  |
|  |   |  |                   |  |                             |  |  |
| b  | ou V sil  |  | d                 | n touching                                 | More or loss slessed        |  |  |
| rree & snrub canop                               | oy: <u>X</u> nii  | _ separate, seldom touch                           | ing ofte          | n touching                                 | _ iviore or less closed     |  |  |
| Mature trees (>12"                               | dbh) present:   | yesX   | no                |  |                             |  |  |
| Other remarks (inc                               | lude personal comm  | ents about what adds to c                          | r detracts from t | the quality of this                        | wetland site).              |  |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 1 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9

sweet flag (Acorus calamus) 0

\*3-way sedge (Dulichium arundinaceum) 10

\*umbrella sedge (Fuirena squarrosa, N) 10 wild hyacinth (Camassia scilloides) 5

\*twig rush (Cladium mariscoides, N) 10

\*yellow-eyed grass (Xyris torta, N) 9

\*flat-topped aster (A. umbellatus) 8 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*black-eyed Susan (Rudbeckia fulgida) 8 cardinal flower (Lobelia cardinalis) 4

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|        | cress spp. (Cardamine) 4                       | Shrubs - Ivs. alternate                         |
|--------|--|---|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4     | *cranberry spp. (Vaccinium, N) 10               |
|        | garlic mustard (Alliaria petio/ata) 0          | *dwarf birch (Betula pumila, N) 10              |
|        | golden ragwort (Senecio aureus) 4              | *high bush blueberry (V. corymbosum, N) 9       |
|        | *goldenrod spp. (Solidago ohioensis, S.        | *leatherleaf (Chamaedaphne calycul., N) 10      |
|        | patula, S. riddellil) 9                        | meadowsweet & hardhack spp.(Spiraea) 4          |
|        | *grass of Parnassus (Parnassia glauca) 10      | *ninebark (Physocarpus opulifoius) 7            |
|        | *Indian plantain (Cacalia plantaginea) 10      | *shrubby cinquefoil (Potentilla fruticosa) 9    |
|        | ironweed spp. (Vernonia) 4                     | spice bush (Lindera benzoin) 5                  |
|        | jewelweed, touch-me-not spp. (Impatiens) 3     | *swamp dewberry (Rubus hispidus) 6              |
|        | lizard's tail (Saururus cernuus) 4             | *swamp holly & winterberry (/lex spp.) 7        |
|        | lobelia spp. (Lobelia) 4                       | swamp rose (Rosa palustris) 5                   |
|        | *marsh marigold (Caltha palustris) 7           |   |
|        | *moonseed (vine) (Menispermum canadense) 6     | Trees - Ivs. needle shaped                      |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3    | *tamarack (Larix laricina, N) 10                |
|        | rose mallow spp. (Hibiscus) 4                  |   |
| 1      | smartweed spp.: incl. jumpseed, pinkweed,      | Trees - Ivs. compound                           |
|        | tearthumb, water-pepper, water-sm.             | *ash, black <i>(Fraxinus nigra)</i> 7           |
|        | (Polygonum) 4 [Except *for P. arifolium 10]    | ash, green (Fraxinus pensylvanica) 3            |
|        | sneezeweed (Helenium autumnale) 3              | *ash, pumpkin (Fraxinus tomentosa, SW) 8        |
|        | stinging nettle (Laportea canadensis) 2        | boxelder (Acer negundo) 1                       |
|        | *swamp saxifrage (Saxifraga pa.) 10            | hickory, bitternut (Carya cordiformis) 5        |
|        | *Virginia bluebells (Mertensia virginica) 6    | *hickory, shell bark <i>(Carya laciniosa)</i> 8 |
| -      | waterhemp (Amaranthus tuberculatus) 1          | honey locust (Gleditsia triacanthos) 1          |
|        | wingstem (Actinomeris alternifolia) 3          | *poison sumac <i>(Rhus vernix)</i> 10           |
|        | wingstern (Actinomens alterniola) 5            |   |
| Herbs: | dicots - Ivs. basal or alternate and           | Trees – Ivs. simple and opposite                |
|        | ound or deeply lobed                           | red maple (Acer rubrum) 5                       |
| •      | aven spp.: rough a., white a. (Geum) 2         | silver maple (A. saccharinum) 1                 |
|        | *buttercup spp: e.g. cursed b., hooked b.,     | Trees – Ivs. simple and alternate               |
|        | swamp b. (Ranunculus) 6                        | *alder, speckled (Alnus rugosa) 9               |
|        | chervil (Chaerophyllum procumbens) 3           | birch, river (Betula nigra) 2                   |
|        | *cowbane (Oxypolis rigidior) 7                 | black gum (Nyssa sylvatica) 5                   |
|        | *great angelica (Angelica atropurpurea) 6      | cottonwood, eastern (Populus deltoides) 1       |
|        | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 | *cottonwood, swamp (P. heterophylla, SW) 8      |
|        | honewort (Cryptotaenia canadensis) 3           | elm, Amer. (Ulmus americana) 3                  |
|        | meadow rue spp. (Thalictrum) 5                 | hackberry (Celtis occidentalis) 3               |
|        | poison ivy (vine) <i>(Rhus radicans)</i> 1     | ironwood (Carpinus caroliniana) 5               |
|        | *queen-of-the-prairie (Filipendula rubra) 9    | oak, pin or white (Quercus) 4                   |
|        | senna spp. (Cassia) 4                          | *oak, Shumard's, sw. chestnut, sw. white 7      |
|        | swamp agrimony (Agrimonia parviflora) 4        | *papaw (Asimina triloba) 6                      |
|        | *swamp thistle (Cirsium muticum) 8             |   |
|        | tall coneflower (Rudbeckia laciniata) 3        | *sugarberry (Celtis laevigata, S) 7             |
|        | *water hemlock spp. (Cicuta) 7                 | sweet gum (Liquidambar styraciflua) 4           |
|        | water parsnips (Sium suave) 5                  | sycamore, Amer. (Platanus occidentalis) 3       |
|        |  | willow spp. (Salix) sp.1=3; *additional=7       |
| Shrub  | s - leaves opposite or whorled                 | OTHER   |
|        | bladdernut (Staphylea trifolia) 5              |   |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0  |   |
|        | button bush (Cepha/anthus occidentalis) 5      |   |
|        | dogwood, red-osier (Cornus stolonifera) 4      |   |
|        | *dogwood, blue-fruited or silky Cornus         |   |
|        | obliqua) 7                                     |   |
|        | dogwood, gray (C. racemosa) 2                  |   |
|        | elderberry (Sambucus) 2                        | InWrap, Terg revised June 200                   |

| Date Re                        | port Generated: 10/15/2011   |  |  |  |  |
|--------------------------------|--|--|--|--|--|
| Wetland site name: S5W123      |  |  |  |  |  |
| Data Reference #: 123          |  |  |  |  |  |
| Date of Site Visit: 10/14/2011 |  |  |  |  |  |
| NWI poly                       | ygons in Site (quadrangle and NWI id. numbers: Bloomington                                     |  |  |  |  |
|                                |  |  |  |  |  |
| TIER 1 S                       | SUMMARY:   |  |  |  |  |
| a.                             | Total wetland area (hectares): 0.07 (0.18 acre)  |  |  |  |  |
| b.                             | Wetland size and connectivity – contribution to animal habitat:                                |  |  |  |  |
|                                |  |  |  |  |  |
| C.                             | Surrounding land use – numerical rank (max. = 1): 0.3  |  |  |  |  |
| d.                             | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                     |  |  |  |  |
|                                |  |  |  |  |  |
| TIER 2                         | SUMMARY: NWI Polygon Id. 123   |  |  |  |  |
| a.                             | Indiana Wetland community type: Wet Meadow   |  |  |  |  |
| b.                             | Standing water – contribution to animal habitat:   Valuable Favorable   Neutral                |  |  |  |  |
| C.                             | c. Disturbances to site: None  |  |  |  |  |
| d.                             | . Exotic species rating:   Good   Medium   Poor  |  |  |  |  |
| e.                             | Special Hydrologic Conditions Observed: None   |  |  |  |  |
| f.                             | . Special Community Type: None   |  |  |  |  |
| g.                             | Rare-Threatened-Endangered Species: None   |  |  |  |  |
| h.                             | Polygon Quality Description: Good Medium Poor  |  |  |  |  |
|                                |  |  |  |  |  |
| TIER 3                         | A SUMMARY:   |  |  |  |  |
| a.                             | Dead woody material as indicator of animal habitat:   Valuable  Favorable  Neutral             |  |  |  |  |
| b.                             | Water quality protection – numerical rank (6 max): 5 Rating: ☐ Good ☐ Medium ☐ Poor            |  |  |  |  |
| C.                             | Flood and storm water storage – numerical rank (5 max): 4 Rating: Good Medium Poor             |  |  |  |  |
|                                |  |  |  |  |  |
| + 3B S                         | UMMARY:  |  |  |  |  |
| a.                             | Zonation and interspersion as indicator of animal habitat:    Valuable    Favorable    Neutral |  |  |  |  |
| b.                             | Stratification as indicator of animal habitat:   Valuable   Neutral                            |  |  |  |  |
| C.                             | Number of dominant plant taxa observed: 3 Rating: ☐ Good ☐ Medium ☒ Poor                       |  |  |  |  |
| d.                             | Average coefficient of conservatism: 3 Rating: Good Medium Poor                                |  |  |  |  |
| e.                             | Tree canopy as indicator of animal habitat:  |  |  |  |  |
| f.                             | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral                  |  |  |  |  |
| g.                             | Total hydrophytic taxa observed: 7 Rating: ☐ Good ☐ Medium ☒ Poor                              |  |  |  |  |
| h.                             | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                      |  |  |  |  |
| 11.                            | Number of indicator taxa _ i Kating: _ Good Medium _ Poor                                      |  |  |  |  |

#### **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W123

TERG May 2000

#### **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W12  | 3  |   |                    |                        |                |  |  |
|---|--|---|--------------------|------------------------|----------------|--|--|
| Ownership (if known):   |  |   |                    |                        |                |  |  |
| USGS Topographic Quadrangle(s): Bloomington   |  |   |                    |                        |                |  |  |
| USGS Watershed map 14-Digit HUC: Bean Blossom Creek – Stout Creek 05120202010080  |  |   |                    |                        |                |  |  |
|   |  |   |                    |                        |                |  |  |
| Identify each NWI Polygon with NWI Polygon ID Number  | in the vvetiand Sit  | e (Polygon speci<br>                                    | iic data)          |                        |                |  |  |
| Cowardin Classification   | PEMC   |   |                    |                        |                |  |  |
| Polygon Size (hectares)   | 0.07 (0.18 acre)   |   |                    |                        |                |  |  |
| NWI Polygon ID Number   |  |   |                    |                        |                |  |  |
| Cowardin Classification   |  |   |                    |                        |                |  |  |
| Polygon Size (hectares)   |  |   |                    |                        |                |  |  |
| 1.2 Site Visit:  Team Members: K. Schroed Agency: INDOT   | ler & D. White   |   |                    |                        |                |  |  |
| <u> </u>  |  |   |                    |                        |                |  |  |
| Date assessed: 10/14/2011   |  | Time a  | assessed: 12:00    | pm                     |                |  |  |
| Weather conditions: Rain,   | overcast, 50°F   |   |                    |                        |                |  |  |
| 1.3 Wetland Size: Size of site under assessment   |  |   | pring, etc.):      |                        |                |  |  |
| Size of total wetland complex   |  | •   | 0.07 hectare (0    | .18 acre)              |                |  |  |
| 1.4 Site Setting:  Degree of isolation from other v  X The site is connected up  The site is only connected  The site is only connected  Other wetlands are near  The wetland site is isola | estream and down<br>ed upstream with o<br>ed downstream wi<br>by (within 0.25 mi | stream with othe<br>other wetlands<br>th other wetlands | 3                  |                        |                |  |  |
| (General assessment of adjace   | nt land use / land   | cover in the area                                       | a within 50 meters | s of the perimeter o   | of the wetland |  |  |
| site (indicate the % abundance  |  |   |                    | •                      |                |  |  |
| Native Vegetation - woo   | dland  | _25   | _ Road / highway   | / / railroad bed / pai | rking lot      |  |  |
| Native Vegetation - old f   | ield / scrub   |   | _ Industrial       |                        |                |  |  |
| Agricultural- tilled  |  |   | _ Residential – s  | ingle family           |                |  |  |
| 75 Agricultural - pasture   |  |   | _ Commercial or    | multifamily residen    | tial           |  |  |
| Recreation - green space  | e, mowed   |   |                    |                        |                |  |  |

| NWI Polygon (see table on pa |                       |                                  | Data Reference #       | S5W123                 | InWRAP, TERG May 2000         |
|------------------------------|-----------------------|----------------------------------|------------------------|------------------------|-------------------------------|
|                              |                       | Preliminary A                    | ssessment (to be o     | completed on-site      | for each NWI polygon present  |
|                              | eomorphic Setting     | <b>g and Surface. W</b><br>Slope | /ater Flow (check on   | <b>e):</b><br>podplain | Lacustrine                    |
|                              | rine (within the rive |                                  |                        |                        |                               |
| 2.2 Presence of              | of Standing Water     | :                                |                        |                        |                               |
| Is standing wa               | ter normally prese    | nt in the polygon?               | No                     |                        |                               |
| _                            | • •                   |                                  | eater than 2 meters in | depth?                 |                               |
| Is standing wa               | ter normally prese    | nt in an adjacent p              | oolygon? No            | <u> </u>               |                               |
| 2.3 Apparent H               | lydroperiod (ched     | ck one):                         |                        |                        |                               |
|                              | ently Flooded         |                                  | Artific                | cially Flooded         |                               |
|                              | ally Flooded          | aldom procent)                   | A mtific               | sially Drainad         |                               |
| Saturate                     | ed (surface water s   | seidom present)                  | Aruno                  | cially Drained         |                               |
| 2.4 Soil Type:               |                       |                                  |                        |                        |                               |
| Orga                         | nic (i.e. peat, etc.) | X                                | Mineral<br>            | Both M                 | lineral and Organic Present   |
| Wet Meadow                   | ees of Hydrology (    |                                  | on (see Key to Wetla   | and Communitie         | s or Indiana):                |
| Ditching                     |                       | Cileck all tilat ap              | Culvert                |                        |                               |
| Tiles                        |                       |                                  | Other Hu               | ıman Disturbance       | s to the Hydrology (explain): |
| Dams                         |                       |                                  |                        |                        |                               |
| Road or                      | Railroad Embank       | ment                             |                        |                        |                               |
| 2.7 Presence of              | of Invasive Exotic    | s (Score as: S =                 | Scattered, F = Frequ   | ent, or C = Comr       | non):                         |
| Garlic M                     | lustard               | 6                                | lossy Buckthorn        |                        |                               |
| Phragm                       | ities                 | R                                | eed canary grass       |                        |                               |
| Purple le                    | oosestrife            | C                                | other (list):          |                        | _                             |
| 2.8 Presence of              | of Special Hydrolo    | ogic Conditions (                | i.e. seeps, wet slope  | s, floating mat):      |                               |
| None                         |                       |                                  |                        |                        |                               |
| 2 0 Processo                 | of Special Commu      | inity Typosi                     |                        |                        |                               |
| Bog                          | of Special Commu      | Fen                              | W                      | et Sand / Muck Fl      | ats or Mari Seeps             |
|                              |                       | I GH                             |                        | or Garia / Wuck Fl     | ato or mair Oceps             |
| 2.10 Presence                | of Known Federa       | al or Indiana Rare               | e, Threatened or End   | angered Species        | <b>s:</b>                     |
| X None                       | e observed or know    | vn to be present                 |                        |                        |                               |
|                              | S Present (list)      |                                  |                        |                        |                               |
| 2.11 Wetland F               | Polygon Quality D     | escriptor (see: l                | Vetland Quality Desc   | criptions and che      | eck one):                     |
| Good                         |                       | Medium                           | Po                     | -                      | ,                             |

Is the flood potential high in the sub-watershed in which the wetland is located (history of flood

Is the wetland located in a watershed where the majority of the upland soils are clayey and

Is the wetland located in a local watershed which has highly modified runoff conditions due to

existing development (e.g. >50% area in row crop, commercial, or residential use)?

impermeable, or is bedrock within two feet of the top of the soil profile?

3.

4.

5.

X Y

**X Y** 

Χ

Ν

damages)?

| NWI Polygon #                       | 123  | Da  | ta Reference #     | S5W123                  |                        |  |  |
|-------------------------------------|--|---|--------------------|-------------------------|------------------------|--|--|
| Tier 3b Individu                    | ıal Polygon: Rap   | id Vegetation Desc                                  | ription            |                         |                        |  |  |
| <b>3b.1 Zonation and</b> 1. How man | -  | re evident in this wetland                          | l polygon? 1       |                         |                        |  |  |
| 1b. If only one                     | e vegetation zone is e   | evident, which best desc                            | ribes the site?    |                         |                        |  |  |
| X                                   | X Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks;<br>heterogeneous textures across the polygon. |   |                    |                         |                        |  |  |
|                                     | Polygon composed of a single vegetation type with more or less uniform texture across the polygon.                               |   |                    |                         |                        |  |  |
|                                     | one vegetation zone ion of these zones?  | is present in the polygo                            | n, which interspe  | rsion diagram mo        | ost closely represents |  |  |
| Тур                                 | e One Interspersion  |   |                    | Type Two Inters         | persion                |  |  |
| ı                                   |  |   |                    |                         |                        |  |  |
| 3b.2 Dominant Pla                   | nt Species: Vegetat  | ion zone A  |                    | Observation Ponumber(s) |                        |  |  |
| What % of the polyg                 | gon does this vegetat<br>25 – 50   | • •   | 75%                |                         | X >90%                 |  |  |
| Is there notable layer              |  |   | No                 | <del></del>             |                        |  |  |
|                                     |  | vering more than 10% or<br>re monocultural patches) |                    | d in order of relat     | tive abundance. (Mark  |  |  |
| b Cyperus escul                     | entus  |   | e                  |                         |                        |  |  |
| c Lysimachia nu                     |  |   | f                  |                         |                        |  |  |
| •                                   |  | of relative abundance.                              | _                  |                         |                        |  |  |
|                                     |  |   |                    |                         | _                      |  |  |
| b                                   |  |   | u                  |                         |                        |  |  |
| •                                   | cies listed in order of  |   | С                  |                         |                        |  |  |
| L                                   |  |   | d                  |                         |                        |  |  |
|                                     |  | separate, seldom touc                               | hing ofte          | n touching _            | More or less closed    |  |  |
|                                     | dbh) present:  |   |                    |                         |                        |  |  |
| Other remarks (inc                  | clude personal comme   | ents about what adds to                             | or detracts from t | the quality of this     | wetland site).         |  |  |
| Depression in an aç                 | gricultural field  |   |                    |                         |                        |  |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana)SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants \*arrow arum (Peltandra virginica, N) 6 horsetail, scouring rush spp. (Equisetum) 2 arrow-head spp. (Sagittaria) 4 \*ferns: marsh shield fern spp. (Dryopteris) 7 \*green dragon (Arisaema dracontium) 6 \*cinnamon fern (Osmunda cinnamomea) 9 Jack-in-the-pulpit (Arisaema triphyllum) 4 \*royal fern (Osmunda regalis) 8 pickerel weed (Pontederia cordata, N) 5 sensitive fern (Onoclea sensibilis) 4 \*skunk cabbage (Symplocarpus foetidus) 8 \*other: species (if known) \*water arum (Calla palustris, N) 10 marsh club moss (Selaginella apoda) 4 water plantain (Alisma plantago-aguat.) 2 \*Sphagnum moss spp. (Sphagnum, N) 10 Herbs: dicots - Ivs. opposite/whorled Herbs: Ivs. floating or submergent \*bedstraw spp. (Galium) 6 \*bladderwort spp. (Utricularia, N) 10 beggar's tick spp. (Bidens) 3 coontail (Ceratophyllum demersum, N) 1 blue vervain (Verbena hastata) 3 duckweed spp. (Lemnaceae) 3 boneset (Eupatorium perfoliatum) 4 \*pondweed spp. (Potamogeton) 8 (except 0 for bugleweed spp. (Lycopus) 5 introduced *P. crispus*) clearweed spp. (Pilea) 3 \*water lily (Nymphaea tuberosa, N) 6 cup plant (Silphium perfoliatum) 4 water shield (Brasenia schreberi, N) 4 false nettle (Boehmeria cylindrica) 3 \*yellow spatterdock spp. (Nuphar) 6 \*fen betony (Pedicularis lanceolata) 6 \*gentian spp. (Gentiana & Gentianopsis) 8 Herbs: insectivorous plants giant ragweed (Ambrosia trifida) 0 \*pitcher plant (Sarracenia purpurea,N) 10 Indian hemp (Apocynum cannabinum) 2 \*sundew spp. (Drosera, N) 10 Joe-pye weed spp. (Eupatorium) 5 \*loosestrife spp. (Lysimachia) 6 Herbs: linear-lvs. or leafless ± monocots meadow beauty (Rhexia virginica) 5 \*beak rush spp. (Rhynchospora, N) 10 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 blueflag iris (Iris virginica) 5 moneywort (Lysimachia nummularia) 0 bulrush spp. (Scirpus / Schoenoplectus) 5 monkey flower spp. (Mimulus) 4 \*bur reed spp. (Sparganium) 9 nettle (Urtica pro cera) 1 cat-tail spp. (Typha) 1 purple loosestrife (Lythrum salicaria) 0 \*cotton grass spp. (Eriophorum, N) 10 \*richweed (Collinsonia canadensis) 8 Grasses (family Gramineae) - indicate types & number of species \*St. John's wort spp.(Hypericum/Triandeum)8 a. \*wild rice (Zizania aquatica, N) 10 sunflower spp. (Helianthus) 4 most native perennial grass spp. 4: e.g. \*swamp loosestrife (Decodon verticillatus, N) 8 cut-grass, manna-g, Canada bluejoint, foxtail swamp milkweed (Asclepias incarnata) 4 [Alopecurus]: other toothcup spp. (Ammania & Rotala) 2 introduced grass spp. 0: reed canary \*turtlehead spp. (Chelone) 8 grass [Phalaris], reed [Phragmites], annual virgin's bower (vine) (Clematis virginiana) 3 grasses such as annual foxtail [Setaria] & water puslane (Ludwigia palustris) 3 barnyard grass Echinochloa] winged loosestrife (Lythrum alatum) 5 needle sedge spp. (Eleocharis) sp.1 =2 \*additional=8 Herbs: (vines): dicots - Ivs. alternate or basal 1 nutsedge spp. (Cyperus) 2 and simple \*orchid spp.: species (if known) Amer. bellflower (Campanula americana) 4 rush spp. (Juncus) 4 \*asters: bristly aster (Aster puniceus) 7 sedge spp. (Carex) sp.1=3 \*additional=7 \*flat-topped aster (A. umbellatus) 8 \*spiderlily (Hymenocallis occidentalis) 9 other aster spp. (e.g. New Engl.-, panicled-a) 3 sweet flag (Acorus calamus) 0 \*black-eved Susan (Rudbeckia fulgida) 8 \*3-way sedge (Dulichium arundinaceum) 10 cardinal flower (Lobelia cardinalis) 4 \*twig rush (Cladium mariscoides, N) 10 \*umbrella sedge (Fuirena squarrosa, N) 10 InWrap, Terg revised June 2005 wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

| cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4  | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  |
|---|---|
| lobelia spp. (Lobelia) 4  *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10  *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3   | swamp rose (Rosa palustris) 5  Trees - Ivs. needle shaped *tamarack (Larix laricina, N) 10  Trees - Ivs. compound *ash, black (Fraxinus nigra) 7 ash, green (Fraxinus pensylvanica) 3 *ash, pumpkin (Fraxinus tomentosa, SW) 8 boxelder (Acer negundo) 1 hickory, bitternut (Carya cordiformis) 5 *hickory, shell bark (Carya laciniosa) 8 honey locust (Gleditsia triacanthos) 1 *poison sumac (Rhus vernix) 10  |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5 | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrubs - leaves opposite or whorled bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2   | OTHERInWrap. Terg revised June 200  |

| Date Re                        | eport Genera   | ted: 10/15/2011  |  |  |  |
|--------------------------------|--|--|--|--|--|
| Wetland                        | d site name:   | S5W124   |  |  |  |
| Data Reference #:              |  | 124  |  |  |  |
| Date of Site Visit: 10/14/2011 |  |  |  |  |  |
| NWI po                         | lygons in Site   | e (quadrangle and NWI id. numbers: Bloomington                                     |  |  |  |
|                                |  |  |  |  |  |
| TIER 1                         | SUMMAR   | Y:   |  |  |  |
| a.                             | Total wetla  | and area (hectares): 0.05 (0.14 acre)  |  |  |  |
| b.                             | Wetland si   | ize and connectivity – contribution to animal habitat:                             |  |  |  |
|                                |  |  |  |  |  |
| C.                             |  | ng land use – numerical rank (max. = 1): 0.3                                       |  |  |  |
| d.                             | Value surr   | ounding area adds to animal habitat 🏻 🗎 Valuable 🔻 Favorable 🔀 Low                 |  |  |  |
|                                |  |  |  |  |  |
| TIER 2                         | 2 SUMMAF   | RY: NWI Polygon Id. 124  |  |  |  |
| a.                             | Indiana W  | etland community type: Wet Meadow  |  |  |  |
| b.                             | Standing v   | vater – contribution to animal habitat: 🔲 Valuable 🔃 Favorable 🔲 Neutral           |  |  |  |
| C.                             | c. Disturbances to site: None                                    |  |  |  |  |
| d.                             | Exotic species rating: Sood Medium Poor                          |  |  |  |  |
| e.                             | Special Hydrologic Conditions Observed: None                     |  |  |  |  |
| f.                             | Special Community Type: None                                     |  |  |  |  |
| g.                             |  | atened-Endangered Species: None  |  |  |  |
| h.                             | Polygon Q  | euality Description: Good Medium Poor  |  |  |  |
|                                |  |  |  |  |  |
| IIER :                         | 3A SUMMA   |  |  |  |  |
| a.                             |  | dy material as indicator of animal habitat: Ualuable Favorable Neutral             |  |  |  |
| b.                             | •  | lity protection – numerical rank (6 max): 5 Rating: Good Medium Poor               |  |  |  |
| C.                             | Flood and  | storm water storage – numerical rank (5 max): 4 Rating: Good Medium Poor           |  |  |  |
|                                |  |  |  |  |  |
| TIER :                         | 3B SUMMA   | ARY:   |  |  |  |
| a.                             | Zonation a   | and interspersion as indicator of animal habitat: 🛛 Valuable 🔲 Favorable 🔲 Neutral |  |  |  |
| b.                             | Stratification   | on as indicator of animal habitat:   Valuable   Neutral                            |  |  |  |
| C.                             | Number of  | f dominant plant taxa observed: 4 Rating: Good Medium Poor                         |  |  |  |
| d.                             | Average co   | pefficient of conservatism: 3.75 Rating: Good Medium Poor                          |  |  |  |
| e.                             | Tree canopy as indicator of animal habitat:   Valuable   Neutral |  |  |  |  |
| f.                             | Mature tre   | es as indicator of animal habitat:   Valuable  Favorable  Neutral                  |  |  |  |
| g.                             | Total hydro  | ophytic taxa observed: 8 Rating: Good Medium Poor                                  |  |  |  |
| h.                             | Number of  | indicator taxa 1 Rating: Good Medium Poor  |  |  |  |

### **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W124
TERG May 2000

# Tier 1: Assessment Overview

| HE  | er 1: | Assessment      | Overviev |
|-----|-------|-----------------|----------|
| 1.1 | Site  | Identification: |          |

| Wetland site name: S5W124                                      |                     |                      |                    |                      |               |
|--|---------------------|----------------------|--------------------|----------------------|---------------|
| Ownership (if known):  |                     |                      |                    |                      |               |
| USGS Topographic Quadran                                       | gle(s): Blooming    | ton                  |                    |                      |               |
| USGS Watershed map 14-Di                                       | igit HUC: Bean B    | lossom Creek –       | Stout Creek 0512   | 20202010080          |               |
| Identify and NIM/I Delygon wit                                 | hin the Wetlend Cit | o (Dobraca anaci     | (in data)          |                      |               |
| Identify each NWI Polygon wit NWI Polygon ID Number            | 124                 | e (Polygon speci<br> | ilc data)          |                      |               |
| Cowardin Classification  | PEMC                |                      |                    |                      |               |
| Polygon Size (hectares)  | 0.05 (0.14 acre)    |                      |                    |                      |               |
| NWI Polygon ID Number  |                     |                      |                    |                      |               |
| Cowardin Classification  |                     |                      |                    |                      |               |
| Polygon Size (hectares)  |                     |                      |                    |                      |               |
| 1.2 Site Visit:  |                     |                      |                    |                      |               |
| Team Members: K. Schroe  | eder & D. White     |                      |                    |                      |               |
| Agency: INDOT  |                     |                      |                    |                      |               |
| Date assessed: _10/14/201                                      | 11                  | Time a               | ssessed: 12:20     | pm                   |               |
| Weather conditions: Rain                                       | , Overcast, 50°F    | <u> </u>             |                    |                      |               |
|  |                     |                      | e Pe               | 2012 012 01 1        | . ,           |
| Note any unusual weather ever<br>recent heavy rains, an unusua | •                   |                      |                    | within this wetland  | system (e.g.  |
| recent neavy rame, an anacad                                   | my dry ocason, and  | sopeolally early s   | pring, cto.).      |                      |               |
| 1.2 Wetland Size.  |                     |                      |                    |                      |               |
| 1.3 Wetland Size:  | ot: 0.05 hootoro    | (0.14 apro)          |                    |                      |               |
| Size of site under assessmen                                   |                     | `                    | 0.05 haatara /     | (0.4.4.555)          |               |
| Size of total wetland complex                                  | (all continuous we  | itiand polygons):    | 0.05 hectare (     | 0.14 acre)           |               |
| 1.4 Site Setting:  |                     |                      |                    |                      |               |
| Degree of isolation from other X The site is connected u       |                     | •                    | r wotlands         |                      |               |
|  | •                   |                      | i wellanus         |                      |               |
| The site is only connec  | •                   |                      |                    |                      |               |
| The site is only connec  |                     |                      |                    |                      |               |
| Other wetlands are nea   | • ,                 | le) but not conne    | cted               |                      |               |
| The wetland site is isol                                       | ated                |                      |                    |                      |               |
| (General assessment of adjac<br>site (indicate the % abundance |                     | cover in the area    | a within 50 meters | s of the perimeter o | f the wetland |
| Native Vegetation - wo   | odland              | 25                   | Road / highway     | / railroad bed / par | king lot      |
| Native Vegetation - old  | field / scrub       |                      | Industrial         |                      |               |
| Agricultural- tilled   |                     |                      | _ Residential – si | ngle family          |               |
| _75_ Agricultural - pasture                                    |                     |                      | _ Commercial or    | multifamily resident | tial          |
| Recreation - green spa   | ice, mowed          |                      |                    |                      |               |

| NWI Polygon # (see table on page      |                                 |                         | Data Reference #          | S5W124                 | InWRAP, TERG May 2000          |
|---------------------------------------|---------------------------------|-------------------------|---------------------------|------------------------|--------------------------------|
|                                       |                                 | reliminary A            | <b>ssessment</b> (to be d | completed on-site      | for each NWI polygon present   |
| 2.1 Wetland Geo                       |                                 | and Surface. W<br>Slope | ater Flow (check on       | <b>e):</b><br>oodplain | Lacustrine                     |
|                                       | e (within the river/s           |                         |                           | · <u>-</u>             |                                |
| 2.2 Presence of                       | Standing Water:                 |                         |                           |                        |                                |
| Is standing wate                      | r normally present              | in the polygon?         | No                        |                        |                                |
|                                       | •                               | _                       | eater than 2 meters in    | depth?                 |                                |
| Is standing wate                      | r normally present              | in an adjacent p        | oolygon? Yes              |                        |                                |
| 2.3 Apparent Hy                       | droperiod (check                | one):                   |                           |                        |                                |
|                                       | ntly Flooded                    |                         | Artific                   | cially Flooded         |                                |
| X Seasonall Saturated                 | y Flooded<br>(surface water sel | dom present)            | Artific                   | cially Drained         |                                |
| 2.4 Soil Type:                        |                                 | . ,                     |                           | ·                      |                                |
|                                       | c (i.e. peat, etc.)             | Χ                       | Mineral                   | Both M                 | lineral and Organic Present    |
| Wet Meadow  2.6 Disturbance  Ditching | s of Hydrology (cl              | neck all that ap        | ply): Culvert             |                        |                                |
| Tiles<br>Dams                         |                                 |                         | Other Hu                  | ıman Disturbance       | es to the Hydrology (explain): |
| Road or R                             | ailroad Embankme                | ent                     |                           |                        |                                |
| 2.7 Presence of                       | Invasive Exotics                | (Score as: S =          | Scattered, F = Frequ      | ent, or C = Comr       | mon):                          |
| Garlic Mu                             | stard                           | G                       | lossy Buckthorn           |                        |                                |
| Phragmiti                             |                                 | R                       | eed canary grass          |                        |                                |
| Purple loc                            | sestrife                        | C                       | ther (list):              |                        |                                |
| 2.8 Presence of                       | Special Hydrolog                | ic Conditions (         | i.e. seeps, wet slope     | s, floating mat):      |                                |
| None                                  |                                 |                         |                           |                        |                                |
| 2.9 Presence of                       | Special Commun                  | ity Types:              |                           |                        |                                |
| Bog                                   |                                 | _ Fen                   | We                        | et Sand / Muck Fl      | ats or Mari Seeps              |
| 2.10 Presence o                       | f Known Federal (               | or Indiana Rare         | , Threatened or End       | angered Species        | s:                             |
|                                       | bserved or known                |                         | , catoriou or Lilu        | go. ou opooio          |                                |
|                                       | Present (list)                  | 13 20 procent           |                           |                        |                                |
| 2.11 Wetland Po                       | lygon Quality Des               | scriptor (see: V        | Vetland Quality Desc      | eriptions and che      | eck one):                      |
| Good                                  | _X                              | Medium                  | Po                        | -                      |                                |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

Is the wetland located in a local watershed which has highly modified runoff conditions due to

existing development (e.g. >50% area in row crop, commercial, or residential use)?

impermeable, or is bedrock within two feet of the top of the soil profile?

damages)?

Χ

Ν

**X Y** 

4.

5.

| NWI Polygon #                       | 124                                   |  | Data Reference #    | \$S5W124                                    |                               |
|-------------------------------------|---------------------------------------|--|---------------------|---|-------------------------------|
| Tier 3b Individu                    | ıal Polygon: Rap                      | oid Vegetation De                              | scription           |   |                               |
| <b>3b.1 Zonation and</b> 1. How man | -                                     | are evident in this wetla                      | and polygon? 1      |   |                               |
| 1b. If only one                     | e vegetation zone is                  | evident, which best de                         | scribes the site?   |   |                               |
| X                                   |                                       | d of a mosaic of small values across the polyg | •                   | s, hummocks, or to                          | ussocks;                      |
|                                     | Polygon composed polygon.             | d of a single vegetation                       | type with more or   | less uniform text                           | ure across the                |
|                                     | one vegetation zonion of these zones? | e is present in the poly                       | gon, which intersp  | ersion diagram m                            | ost closely represents        |
|                                     | One Interspersion                     | 1  |                     | Type Two Inters                             | spersion                      |
| (                                   |                                       |  |                     |   |                               |
| 3b.2 Dominant Pla                   | nt Species: Vegeta                    | tion zone A                                    |                     | Observation Ponumber(s)  mark location on t |                               |
|                                     | gon does this vegeta<br>25 – 50       |  | ·                   |   | _X >90%                       |
| Is there notable laye               | ering/stratification in               | this vegetation zone?                          | No                  |   |                               |
|                                     | es that forms extensi                 | overing more than 10% ve monocultural patch    | es).                | ed in order of rela                         | ative abundance. <b>(Mark</b> |
| b Carex sp.                         |                                       |  | e                   |   |                               |
| c <u>Lysimachia nu</u>              | mmularia                              |  | f                   |   |                               |
|                                     |                                       | of relative abundance                          |                     |   |                               |
|                                     |                                       |  |                     |   |                               |
|                                     |                                       | f relative abundance.                          | · <u></u>           |   |                               |
| a                                   |                                       |  |                     |   |                               |
|                                     | V ''                                  |  | d                   | Control of the control                      | Managaria da sa da sa d       |
| ree & shrub canop                   | y: X nil                              | _ separate, seldom to                          | ucning of           | ten touching                                | More or less closed           |
| Mature trees (>12"                  | dbh) present:                         | yes>   | ( no                |   |                               |
| Other remarks (inc                  | lude personal comm                    | ents about what adds                           | to or detracts from | the quality of this                         | s wetland site).              |
| Depression in an ag                 | gricultural field                     |  |                     |   |                               |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 X moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*3-way sedge (Dulichium arundinaceum) 10 \*black-eyed Susan (Rudbeckia fulgida) 8 \*twig rush (Cladium mariscoides, N) 10 cardinal flower (Lobelia cardinalis) 4

\*umbrella sedge (Fuirena squarrosa, N) 10 wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

InWrap, Terg revised June 2005

|        | cress spp. (Cardamine) 4  | Shrubs - Ivs. alternate   |
|--------|---|---|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4  | *cranberry spp. (Vaccinium, N) 10                                   |
|        | garlic mustard (Alliaria petio/ata) 0   | *dwarf birch (Betula pumila, N) 10                                  |
|        | golden ragwort (Senecio aureus) 4   | *high bush blueberry (V. corymbosum, N) 9                           |
|        | *goldenrod spp. (Solidago ohioensis, S.   | *leatherleaf (Chamaedaphne calycul., N) 10                          |
|        | patula, S. riddellil) 9   | meadowsweet & hardhack spp.(Spiraea) 4                              |
|        | *grass of Parnassus (Parnassia glauca) 10   | *ninebark (Physocarpus opulifoius) 7                                |
|        | *Indian plantain (Cacalia plantaginea) 10   | *shrubby cinquefoil (Potentilla fruticosa) 9                        |
|        | ironweed spp. (Vernonia) 4  | spice bush (Lindera benzoin) 5                                      |
|        | jewelweed, touch-me-not spp. (Impatiens) 3  | *swamp dewberry (Rubus hispidus) 6                                  |
|        | lizard's tail (Saururus cernuus) 4  | *swamp holly & winterberry (/lex spp.) 7                            |
|        | lobelia spp. (Lobelia) 4  | swamp rose (Rosa palustris) 5                                       |
|        | *marsh marigold (Caltha palustris) 7  |   |
|        | *moonseed (vine) (Menispermum canadense) 6  | Trees - Ivs. needle shaped  |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3   | *tamarack (Larix laricina, N) 10                                    |
|        | rose mallow spp. (Hibiscus) 4   |   |
| 1      | smartweed spp.: incl. jumpseed, pinkweed,   | Trees - Ivs. compound   |
|        | tearthumb, water-pepper, water-sm.  | *ash, black (Fraxinus nigra) 7                                      |
|        | (Polygonum) 4 [Except *for P. arifolium 10]   | ash, green (Fraxinus pensylvanica) 3                                |
|        | sneezeweed (Helenium autumnale) 3   | *ash, pumpkin (Fraxinus tomentosa, SW) 8                            |
|        | stinging nettle (Laportea canadensis) 2   | boxelder (Acer negundo) 1   |
|        | *swamp saxifrage (Saxifraga pa.) 10   | hickory, bitternut (Carya cordiformis) 5                            |
| -      | *Virginia bluebells (Mertensia virginica) 6   | *hickory, shell bark <i>(Carya laciniosa)</i> 8                     |
| -      | waterhemp (Amaranthus tuberculatus) 1   | honey locust (Gleditsia triacanthos) 1                              |
|        | wingstem (Actinomeris alternifolia) 3   | *poison sumac <i>(Rhus vernix)</i> 10                               |
|        | wingstern (Actinomens alterniola) 5   |   |
| Herbs: | dicots - lvs. basal or alternate and  | Trees – Ivs. simple and opposite                                    |
|        | ound or deeply lobed  | red maple (Acer rubrum) 5   |
| •      | aven spp.: rough a., white a. (Geum) 2  | silver maple (A. saccharinum) 1                                     |
|        | *buttercup spp: e.g. cursed b., hooked b.,  | Troop lye simple and alternate                                      |
|        | swamp b. (Ranunculus) 6   | Trees – Ivs. simple and alternate *alder, speckled (Alnus rugosa) 9 |
|        | chervil (Chaerophyllum procumbens) 3  |   |
|        | *cowbane (Oxypolis rigidior) 7  | birch, river (Betula nigra) 2                                       |
|        | *great angelica (Angelica atropurpurea) 6   | black gum (Nyssa sylvatica) 5                                       |
|        | *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 | cottonwood, eastern (Populus deltoides) 1                           |
|        | honewort (Cryptotaenia canadensis) 3  | *cottonwood, swamp (P. heterophylla, SW) 8                          |
|        | meadow rue spp. (Thalictrum) 5  | elm, Amer. (Ulmus americana) 3                                      |
|        | poison ivy (vine) (Rhus radicans) 1   | hackberry (Celtis occidentalis) 3                                   |
|        | *queen-of-the-prairie (Filipendula rubra) 9   | ironwood (Carpinus caroliniana) 5                                   |
|        | senna spp. (Cassia) 4   | oak, pin or white (Quercus) 4                                       |
|        | swamp agrimony (Agrimonia parviflora) 4   | *oak, Shumard's, sw. chestnut, sw. white 7                          |
|        | *swamp thistle (Cirsium muticum) 8  | *papaw (Asimina triloba) 6  |
|        | tall coneflower (Rudbeckia laciniata) 3   | *sugarberry (Celtis laevigata, S) 7                                 |
|        | *water hemlock spp. (Cicuta) 7  | sweet gum (Liquidambar styraciflua) 4                               |
|        | water parsnips (Sium suave) 5   | sycamore, Amer. (Platanus occidentalis) 3                           |
|        | water parampa (olum suave) o  | willow spp. (Salix) sp.1=3; *additional=7                           |
| Shrubs | s - leaves opposite or whorled  | OTHER   |
|        | bladdernut (Staphylea trifolia) 5   |   |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0   |   |
|        | button bush (Cepha/anthus occidentalis) 5   |   |
|        | dogwood, red-osier (Cornus stolonifera) 4   |   |
|        | *dogwood, blue-fruited or silky Cornus  |   |
|        | obliqua) 7  |   |
|        | dogwood, gray (C. racemosa) 2   |   |
|        | elderberry (Sambucus) 2   | InWran, Terg revised June 200                                       |

| Date Rep           | port Generate   | ed: 10/15/2011  |  |
|--------------------|---|---|--|
| Wetland site name: |   | S5W125  |  |
| Data Reference #:  |   | 125   |  |
| Date of S          | Pate of Site Visit: 10/14/2011                              |   |  |
| NWI poly           | gons in Site  | (quadrangle and NWI id. numbers: Bloomington  |  |
|                    |   |   |  |
| TIER 1 S           | SUMMARY   | <b>'</b> :  |  |
| a.                 | a. Total wetland area (hectares): 3.0 hectares (7.40 acres) |   |  |
| b.                 | Wetland siz   | ze and connectivity – contribution to animal habitat:                               |  |
|                    |   |   |  |
| C.                 |   | g land use – numerical rank (max. = 1): 0.55  |  |
| d.                 | Value surro   | ounding area adds to animal habitat   □ Valuable   □ Favorable   □ Low              |  |
|                    |   |   |  |
| TIER 2             | SUMMAR  | Y: NWI Polygon Id. 125a   |  |
| a.                 | Indiana We  | etland community type: Wet Meadow   |  |
| b.                 | Standing w  | ater – contribution to animal habitat: 🔲 Valuable 🔃 Favorable 🔲 Neutral             |  |
| C.                 | Disturbance   | es to site: Ditching; Road/Railroad Embankment                                      |  |
| d.                 | Exotic species rating:                                      |   |  |
| e.                 | Special Hydrologic Conditions Observed: None                |   |  |
| f.                 | •   | mmunity Type: None  |  |
| g.                 |   | atened-Endangered Species: None   |  |
| h.                 | Polygon Qu  | uality Description:   |  |
|                    |   |   |  |
| HER 3              | A SUMMA   |   |  |
| a.                 |   | ly material as indicator of animal habitat:   |  |
| b.                 | •   | ity protection – numerical rank (6 max): 3 Rating: Good Medium Poor                 |  |
| C.                 | Flood and s   | storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor            |  |
|                    |   |   |  |
| TIER 3             | B SUMMA   | RY:   |  |
| a.                 | Zonation ar   | nd interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |  |
| b.                 | Stratificatio   | n as indicator of animal habitat:   Valuable   Neutral                              |  |
| C.                 | Number of   | dominant plant taxa observed: 4 Rating: Good Medium Poor                            |  |
| d.                 | Average co  | efficient of conservatism: 4.5 Rating: Good Medium Poor                             |  |
| e.                 | Tree canop  | y as indicator of animal habitat:   Valuable   Neutral                              |  |
| f.                 | Mature tree   | es as indicator of animal habitat: 🔲 Valuable 🔛 Favorable 🔀 Neutral                 |  |
| g.                 | Total hydro   | phytic taxa observed: 13 Rating: 🗌 Good 🔲 Medium 🔀 Poor                             |  |
| h.                 | Number of i   | ndicator taxa 2 Rating: Good Medium Poor  |  |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2 | PSUMMARY: NWI Polygon Id. 125d  |
|--------|---|
| a.     | Indiana Wetland community type: Wet Meadow  |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.     | Disturbances to site: Ditching  |
| d.     | Exotic species rating: Good Medium Poor   |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | BA SUMMARY:   |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral            |
| b.     | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.     | Flood and storm water storage – numerical rank (5 max): 4 Rating: Sood Medium Poor            |
|        |   |
| TIER 3 | BB SUMMARY:   |
| a.     | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.     | Number of dominant plant taxa observed: 4 Rating:   Good   Medium   Poor                      |
| d.     |   |
|        |   |
| е.     | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |
| f.     | Mature trees as indicator of animal habitat:  |
| g.     | Total hydrophytic taxa observed: 8 Rating: Good Medium Poor                                   |
| h.     | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                     |
|        |   |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2 | SUMMARY: NWI Polygon Id. 125e   |
|--------|---|
| a.     | Indiana Wetland community type: Floodplain Forest   |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral             |
| C.     | Disturbances to site: Ditching; Road/Railroad Embankment                                      |
| d.     | Exotic species rating: Good Medium Poor   |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral          |
| b.     | Water quality protection – numerical rank (6 max): 5 Rating: ⊠ Good ☐ Medium ☐ Poor           |
| C.     | Flood and storm water storage – numerical rank (5 max): 4 Rating: Sood Medium Poor            |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.     | Number of dominant plant taxa observed: 5 Rating:   Good   Medium  Poor                       |
| d.     | Average coefficient of conservatism: 4.2 Rating: Good Medium Poor                             |
| e.     | Tree canopy as indicator of animal habitat:   |
| f.     | <u> </u>  |
|        | <u> </u>  |
| g.     | Total hydrophytic taxa observed: 23 Rating: Good Medium Poor                                  |
| h.     | Number of indicator taxa 2 Rating: Good Medium Poor   |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2                                  | SUMMARY: NWI Polygon Id. 125f   |
|---|---|
| a.                                      | Indiana Wetland community type: Floodplain Forest   |
| b.                                      | Standing water – contribution to animal habitat:   Valuable Favorable   Neutral               |
| c.                                      | Disturbances to site: None  |
| d.                                      | Exotic species rating:  |
| e.                                      | Special Hydrologic Conditions Observed: None  |
| f.                                      | Special Community Type: None  |
| g.                                      | Rare-Threatened-Endangered Species: None  |
| h.                                      | Polygon Quality Description:  |
|   |   |
| TIER 3                                  | A SUMMARY:  |
| a.                                      | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral          |
| b.                                      | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.                                      | Flood and storm water storage – numerical rank (5 max): 4 Rating: Good Medium Poor            |
|   |   |
| TIER 3                                  | B SUMMARY:  |
| a.                                      | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.                                      | Stratification as indicator of animal habitat:     Valuable   Neutral                         |
| C.                                      | Number of dominant plant taxa observed: 6 Rating: ☐ Good ☐ Medium ☐ Poor                      |
| d.                                      | Average coefficient of conservatism: 4.8 Rating: Good Medium Poor                             |
| e.                                      | Tree canopy as indicator of animal habitat:   |
| f.                                      | Mature trees as indicator of animal habitat:  Valuable  Favorable  Neutral                    |
| g.                                      | Total hydrophytic taxa observed: 27 Rating: ☐ Good ☐ Medium ☐ Poor                            |
| h.                                      | Number of indicator taxa 2 Rating: ☐ Good ☐ Medium ☒ Poor                                     |
| • |   |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W125

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W12   | 5                   |                    |                        |                       |                |
|--|---------------------|--------------------|------------------------|-----------------------|----------------|
| Ownership (if known):  |                     |                    |                        |                       |                |
| USGS Topographic Quadrang  | ale(s): Blooming    | ton                |                        |                       |                |
| USGS Watershed map 14-Dig  | · · · · · ·         |                    | ut Creek 051202        | 202010080             |                |
|  |                     |                    |                        |                       |                |
| Identify each NWI Polygon with                                   |                     |                    | , ,                    | 10Ef                  | 1              |
| NWI Polygon ID Number Cowardin Classification                    | 125a<br>PEMA        | 125d<br>PEMC       | 125e<br>PFO1A          | 125f<br>PFO1A         |                |
| Polygon Size (hectares)  | 1.52 (3.75 acres)   | 0.42 (1.03 acres)  | 0.13 (0.33 acre)       | 0.93 (2.29 acres)     |                |
|  | T                   | T                  | T                      |                       |                |
| NWI Polygon ID Number Cowardin Classification                    |                     |                    |                        |                       |                |
| Polygon Size (hectares)  |                     |                    |                        |                       |                |
|  |                     |                    |                        |                       |                |
| 1.2 Site Visit:  |                     |                    |                        |                       |                |
| Team Members: K. Schroed   | der & D. White      |                    |                        |                       |                |
| Agency: INDOT  |                     |                    |                        |                       |                |
| Date assessed: 10/14/2011  | 1                   | Time as            | sessed: <u>11:15 a</u> | m                     |                |
| Weather conditions: Overc  | cast, Rain          |                    |                        |                       |                |
| Note on consumption of the second                                | nto that may be a   | influenced the cu  |                        | :4b:a 4b:aa4laaal     | victore (o. e. |
| Note any unusual weather ever<br>recent heavy rains, an unusuall |                     |                    |                        | itnin this wetland s  | ystem (e.g.    |
| room roavy rame, an anaoaan                                      | y ary boason, are   | openium camy op    | g, 5.5.).              |                       |                |
| 4.0 Weller, 1.0'   |                     |                    |                        |                       |                |
| 1.3 Wetland Size:  |                     | (4.70) DEN         | 4. 4.00 h t            | (0.00) DEO            |                |
| Size of site under assessment                                    |                     | ,                  |                        | (2.62 acres)- PFO     |                |
| Size of total wetland complex                                    | (all continuous we  | tland polygons):   | 3.0 hectares (7.       | 40 acres)             |                |
| 1.4 Site Setting:  |                     |                    |                        |                       |                |
| Degree of isolation from other v                                 |                     | •                  |                        |                       |                |
| X The site is connected up                                       | ostream and down    | stream with other  | wetlands               |                       |                |
| The site is only connected                                       | ed upstream with o  | other wetlands     |                        |                       |                |
| The site is only connected                                       | ed downstream wi    | th other wetlands  |                        |                       |                |
| Other wetlands are near  | rby (within 0.25 mi | le) but not connec | ted                    |                       |                |
| The wetland site is isola  | ted                 |                    |                        |                       |                |
| (General assessment of adjace                                    | ent land use / land | cover in the area  | within 50 meters o     | of the perimeter of   | the wetland    |
| site (indicate the % abundance                                   |                     | oover in the area  | Within 00 meters t     | or the perimeter of   | ine welland    |
| 25 Native Vegetation - woo                                       | dland               | 25                 | Road / highway /       | railroad bed / park   | ing lot        |
| Native Vegetation - old f  | field / scrub       | _                  | Industrial             |                       |                |
| Agricultural- tilled   |                     |                    | Residential – sing     | ale family            |                |
| 25 Agricultural - pasture  |                     |                    |                        | ultifamily residentia | al             |
| Recreation - green space   | re mowed            |                    |                        |                       |                |
| Neoreation - green spac  | o, mowed            |                    |                        |                       |                |

| NWI Polygon # 12 (see table on page one) | 25a   | Data Reference #          | S5W125             | InWRAP, TERG May 2000               |
|--|---|---------------------------|--------------------|-------------------------------------|
| Tier 2 Individual Pointhe wetland)       | olygon: Preliminary A   | <b>ssessment</b> (to be o | completed on-site  | for <u>each</u> NWI polygon present |
| Depressional                             | hic Setting and Surface. We Slope in the river/stream banks)                                    |                           | e):<br>odplain     | Lacustrine                          |
| 2.2 Presence of Stand                    | ing Water:  |                           |                    |                                     |
| <ul> <li>If standing water</li> </ul>    | ally present in the polygon?<br>er is present, is the water gr<br>ally present in an adjacent p | eater than 2 meters in    | depth? No          |                                     |
| 2.3 Apparent Hydrope                     | riod (check one):   |                           |                    |                                     |
| X Permanently Flo                        |   | Artific                   | ially Flooded      |                                     |
|  | ce water seldom present)  | Artific                   | ially Drained      |                                     |
| 2.4 Soil Type: Organic (i.e.             | peat, etc.) X   | Mineral _                 | Both M             | ineral and Organic Present          |
| 2.5 Wetland Communi                      | ty Type for this NWI polyg  | on (see Key to Wetla      | and Communities    | s of Indiana):                      |
| Wet Meadow                               |   |                           |                    |                                     |
| 2.6 Disturbances of Hy                   | ydrology (check all that ap   | nlv):                     |                    |                                     |
| X Ditching                               | ,   | Culvert                   |                    |                                     |
| Tiles                                    |   | Other Hu                  | man Disturbance    | s to the Hydrology (explain):       |
| Dams                                     |   |                           |                    |                                     |
| Road or Railroad                         | d Embankment  |                           |                    |                                     |
| 2.7 Presence of Invasi                   | ve Exotics (Score as: S =   | Scattered, F = Freque     | ent, or C = Comn   | non):                               |
| Garlic Mustard                           | G   | lossy Buckthorn           |                    |                                     |
| Phragmities                              |   | eed canary grass          |                    |                                     |
| Purple loosestrif                        | e C   | ther (list):              |                    |                                     |
| 2.8 Presence of Special None             | al Hydrologic Conditions (  | i.e. seeps, wet slope     | s, floating mat):  |                                     |
|  |   |                           |                    |                                     |
| 2.9 Presence of Specia                   | • • • •   | \\/.                      | et Sand / Muck Fla | ate or Mari Soone                   |
| Bog                                      | Fen   |                           | et Sanu / Muck Fie | als of Mari Seeps                   |
| 2.10 Presence of Know                    | vn Federal or Indiana Rare  | , Threatened or End       | angered Species    | :                                   |
| X None observe                           | ed or known to be present   |                           |                    |                                     |
| RTES Preser                              | nt (list)   |                           |                    |                                     |
| 2.11 Wetland Polygon                     | Quality Descriptor (see: V  | •                         | -                  | ck one):                            |
| Good                                     | X Medium  | Po                        | or                 |                                     |

| N IVA  |      |       |      | ш     | 405-   | Data Dafana  |          | OF WA        | 05           |                |              |
|--------|------|-------|------|-------|--|--|----------|--------------|--------------|----------------|--------------|
| NW     |      |       |      |       | 125a   | Data Refere  | ence #   | <u> 55W1</u> | <u> </u>     |                |              |
| Tier   | 3a   | Inc   | div  | idua  | al Polygon: Rapid Hydrology  | Indicators   |          |              |              |                |              |
| 3a.1   | Not  | able  | e Fe | eatu  | res that influence water quality and   | d hydrology:   |          |              |              |                |              |
| Estir  | nate | ed h  | erb  | aceo  | ous plant cover (percentage) in the p  | olygon X   | _ 100-7  | 75 <u> </u>  | _75-50 _     | 50-25          | <25          |
| Estir  | nate | ed v  | voo  | dy pl | lant foliar cover in the polygon   |  | _ 100-7  | 75 <u> </u>  | 75-50        | 50-25          | <u>X</u> <25 |
| Amo    | unt  | of o  | dea  | d wo  | oody material on the soil surface:  X nil (<5% cover)                              | scattered (  | (5-15%   | cover)       | F            | requent (>2    | 0% cover)    |
| 3a.2 \ | Wat  | ter ( | Qua  | ality | Protection Questions:  |  |          |              |              |                |              |
| 1.     | Х    | Y     |      | N     | Does the wetland have a significant density to potentially uptake dissolv          |  | ative (s | pecificall   | y perennia   | al and wood    | y plant)     |
| 2.     |      | Y     | X    | N     | Managed water (e.g. municipal or re<br>or municipal wastewater) is <b>not</b> disc |  |          |              |              | age outlet, ir | ndustrial    |
| 3.     |      |       |      |       | If wetland in question is a depression   | onal wetland ansv  | ver 3a,  | if not, an   | swer 3b      |                |              |
| 3a.    |      | Y     |      | N     | Does the wetland have a shape or the before the water reaches the center           |  | r the se | ettling ou   | t of suspe   | nded materi    | als          |
| 3b.    | Χ    | Υ     |      | N     |  | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?   |          |              |              |                |              |
| 4.     |      | Y     | X    | N     | Does the wetland <b>lack</b> steep slopes with row cropping, or areas with sev     |  |          |              |              |                | 2%)          |
| 5.     |      | Υ     | X    | N     | Are there recreational lakes, naviga down gradient in the local watershe           |  | , or wa  | ter suppl    | y sources    | located with   | in a mile    |
| 6.     | X    | Y     |      | N     |  | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area |          |              |              |                |              |
|        |      |       |      |       | Average width of buffer area (in me  | ters) 20   | Appro    | ximate s     | lope (perc   | ent) 1         |              |
| 3a.3   | Flo  | od a  | and  | Sto   | rmwater Storage / Attenuation Que  | estions:   |          |              |              |                |              |
| 1.     |      |       |      |       | If wetland in question is a depression   | onal wetland ansv  | ver 1a,  | if not, an   | swer 1b      |                |              |
| 1a.    |      | Y     |      | N     | Around the wetland is there a buffe slow overland flow into the wetland            |  | egetati  | on (fores    | ted, old fie | eld, scrub) th | nat will     |
| 1b.    | Χ    | Y     |      | N     | Is there a significant amount of mice the velocity of the water leaving the        |  | egetati  | ve densit    | y within th  | e wetland to   | reduce       |
| 2.     |      | Y     | Χ    | N     | Does the wetland <b>lack</b> man-made s (tiles, culverts, ditches)?                | structures that wo   | uld spe  | ed the flo   | ow of wate   | r from the w   | etland       |
| 3.     | X    | Υ     |      | N     | Is the flood potential high in the subdamages)?                                    | -watershed in wh   | ich the  | wetland      | is located   | (history of fl | lood         |
| 4.     |      | Υ     | X    | N     | Is the wetland located in a watershe impermeable, or is bedrock within to          |  |          |              |              | e clayey and   | i            |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

4.

5.

**X Y** 

| NWI Polygon #                        | 125a  | Data Reference #             | S5W125  |
|--------------------------------------|---|------------------------------|---|
| Tier 3b Individu                     | ıal Polygon: Rapid Vegetatio  | n Description                |   |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion: y vegetation zones are evident in this               | s wetland polygon? 1         |   |
| 1b. If only one                      | e vegetation zone is evident, which b                               | est describes the site?      |   |
| X                                    | Polygon composed of a mosaic of a heterogeneous textures across the | •                            | nummocks, or tussocks;  |
|                                      | Polygon composed of a single vego polygon.                          | etation type with more or le | ess uniform texture across the                                  |
|                                      | one vegetation zone is present in the                               | e polygon, which intersper   | rsion diagram most closely represents                           |
|                                      | One Interspersion   | 1                            | Гуре Two Interspersion  |
| (                                    |   |                              |   |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone A                                       |                              | Observation Point #1 number(s) ark location on the NWI polygon) |
| What % of the polyg                  | gon does this vegetative zone occupy 25 – 50 %                      |                              |   |
| Is there notable layer               | ering/stratification in this vegetation z                           | rone? No                     |   |
| with an * any specie<br>a            | es that forms extensive monocultural                                |                              | in order of relative abundance. (Mark                           |
| b Polygonum per                      | nnsylvanium   | _ e                          |   |
| a                                    | pecies listed in order of relative abun                             | _ c                          |   |
|                                      | cies listed in order of relative abunda                             | _                            |   |
|                                      |   |                              |   |
|                                      | V all apparets and  | d                            | Mara anlara alara d   |
|                                      | dbh) present: yes   |                              | n touching More or less closed                                  |
| Other remarks (inc                   | lude personal comments about what                                   | adds to or detracts from the | he quality of this wetland site).                               |

| NWI Polygon # 125a | Data Reference # S5W125 |
|--------------------|-------------------------|
|--------------------|-------------------------|

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 *cinnamon fern (Osmunda cinnamomea) 9 *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 *Sphagnum moss spp. (Sphagnum, N) 10  | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6 arrow-head spp. (Sagittaria) 4  *green dragon (Arisaema dracontium) 6 Jack-in-the-pulpit (Arisaema triphyllum) 4 pickerel weed (Pontederia cordata, N) 5 *skunk cabbage (Symplocarpus foetidus) 8  *water arum (Calla palustris, N) 10  X water plantain (Alisma plantago-aquat.) 2  |
|---|--|
| *bladderwort spp. (Utricularia, N) 10 coontail (Ceratophyllum demersum, N) 1 duckweed spp. (Lemnaceae) 3 *pondweed spp. (Potamogeton) 8 (except 0 for introduced P. crispus)  *water lily (Nymphaea tuberosa, N) 6 water shield (Brasenia schreberi, N) 4 *yellow spatterdock spp. (Nuphar) 6  Herbs: insectivorous plants  *pitcher plant (Sarracenia purpurea,N) 10 *sundew spp. (Drosera, N) 10  Herbs: linear-lvs. or leafless ± monocots  *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5 bulrush spp. (Scirpus / Schoenoplectus) 5 *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1 *cotton grass spp. (Eriophorum, N) 10  Grasses (family Gramineae) - indicate types & number of species a. *wild rice (Zizania aquatica, N) 10  f b. most native perennial grass spp. 4: e.g. cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  c. introduced grass spp. 0: reed canary grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & barnyard grass Echinochloa] needle sedge spp. (Eleocharis) sp.1 = 2 | *bedstraw spp. (Galium) 6 beggar's tick spp. (Bidens) 3 blue vervain (Verbena hastata) 3 boneset (Eupatorium perfoliatum) 4 bugleweed spp. (Lycopus) 5 clearweed spp. (Pilea) 3 cup plant (Silphium perfoliatum) 4 false nettle (Boehmeria cylindrica) 3 *fen betony (Pedicularis lanceolata) 6 *gentian spp. (Gentiana & Gentianopsis) 8 giant ragweed (Ambrosia trifida) 0 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 *loosestrife spp. (Lysimachia) 6 meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5  X moneywort (Lysimachia nummularia) 0 monkey flower spp. (Mimulus) 4 nettle (Urtica pro cera) 1 purple loosestrife (Lythrum salicaria) 0 *richweed (Collinsonia canadensis) 8 *St. John's wort spp.(Hypericum/Triandeum)8 sunflower spp. (Helianthus) 4 *swamp loosestrife (Decodon verticillatus, N) 8 X swamp milkweed (Asclepias incarnata) 4 toothcup spp. (Ammania & Rotala) 2 *turtlehead spp. (Chelone) 8 virgin's bower (vine) (Clematis virginiana) 3 water puslane (Ludwigia palustris) 3 |
| *additional=8 nutsedge spp. (Cyperus) 2 *orchid spp.: species (if known) 1 rush spp. (Juncus) 4 3 sedge spp. (Carex) sp.1=3 *additional=7 *spiderlily (Hymenocallis occidentalis) 9 sweet flag (Acorus calamus) 0 *3-way sedge (Dulichium arundinaceum) 10 *twig rush (Cladium mariscoides, N) 10 *umbrella sedge (Fuirena squarrosa, N) 10   | winged loosestrife (Lythrum alatum) 5  Herbs: (vines): dicots - Ivs. alternate or basal and simple  Amer. bellflower (Campanula americana) 4  *asters: bristly aster (Aster puniceus) 7  *flat-topped aster (A. umbellatus) 8  1 other aster spp. (e.g. New Engl, panicled-a) 3  *black-eyed Susan (Rudbeckia fulgida) 8  cardinal flower (Lobelia cardinalis) 4  InWrap, Terg revised June 2005   |
| wild hyacinth (Camassia scilloides) 5  *vellow-eved grass (Xvris torta, N) 9  | ilivitap, tely teviseu Julie 2003  |

| X      | dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4  | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5  |
|--------|---|--|
|        | *marsh marigold (Caltha palustris) 7 *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp.(Epilobium &Ludwigia) 3   | Trees - Ivs. needle shaped *tamarack (Larix laricina, N) 10  |
| 1      | rose mallow spp. (Hibiscus) 4 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10 *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3  | Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7 ash, green (Fraxinus pensylvanica) 3 *ash, pumpkin (Fraxinus tomentosa, SW) 8 boxelder (Acer negundo) 1 hickory, bitternut (Carya cordiformis) 5 *hickory, shell bark (Carya laciniosa) 8 honey locust (Gleditsia triacanthos) 1 *poison sumac (Rhus vernix) 10  |
|        | dicots - Ivs. basal or alternate and bund or deeply lobed aven spp.: rough a., white a. (Geum) 2  | Trees – Ivs. simple and opposite  red maple (Acer rubrum) 5  silver maple (A. saccharinum) 1   |
|        | *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrubs | bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus  | OTHER  |
|        | obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2  | InWrap, Terg revised June 2005   |

| NWI Polygon<br>(see table on pag |   |               | Data Reference #          | S5W125                 | InWRAP, TERG May 2000               |
|----------------------------------|---|---------------|---------------------------|------------------------|-------------------------------------|
| Tier 2 Individing the wetland)   | dual Polygon: Pre   | liminary A    | <b>ssessment</b> (to be d | completed on-site      | for <u>each</u> NWI polygon present |
| Depre                            | comorphic Setting and essional ine (within the river/stre                         | Slope         | •                         | <b>e):</b><br>oodplain | Lacustrine                          |
| 2.2 Presence o                   | f Standing Water:   |               |                           |                        |                                     |
| • If stand                       | er normally present in a<br>ling water is present, is<br>er normally present in a | the water gr  | eater than 2 meters in    | depth? No              | <u></u>                             |
| 2.3 Apparent H                   | ydroperiod (check on  | ie):          |                           |                        |                                     |
|                                  | ently Flooded<br>Illy Flooded   |               | Artific                   | cially Flooded         |                                     |
|                                  | d (surface water seldor   | m present)    | Artific                   | cially Drained         |                                     |
| 2.4 Soil Type: Organ             | nic (i.e. peat, etc.)   | Х             | Mineral                   | Both M                 | ineral and Organic Present          |
| Wet Meadow                       | emmunity Type for thi   |               |                           | and Communities        | s of Indiana):                      |
| Ditching                         | ,   | ·             | Culvert                   |                        |                                     |
| Tiles Dams                       |   |               | Other Hu                  | ıman Disturbance       | s to the Hydrology (explain):       |
| X Road or                        | Railroad Embankment   |               |                           |                        |                                     |
| 2.7 Presence o                   | f Invasive Exotics (So  | ore as: S =   | Scattered, F = Freque     | ent, or C = Comn       | non):                               |
| Garlic M                         | ustard  | G             | lossy Buckthorn           |                        |                                     |
| Phragmi                          |   | <del></del>   | eed canary grass          |                        |                                     |
| Purple id                        | osestrife   |               | ther (list):              |                        |                                     |
|                                  | f Special Hydrologic  | Conditions (  | i.e. seeps, wet slope     | s, floating mat):      |                                     |
| None                             |   |               |                           |                        |                                     |
| 2.9 Presence o                   | f Special Community   | Types:        |                           |                        |                                     |
| Bog                              | F   | -en           | We                        | et Sand / Muck Fla     | ats or Mari Seeps                   |
| 2.10 Presence                    | of Known Federal or l   | Indiana Rare  | , Threatened or End       | angered Species        | :                                   |
|                                  | observed or known to  |               |                           | -                      |                                     |
|                                  | Present (list)  | •             |                           |                        |                                     |
| 2.11 Wetland P                   | olygon Quality Descr  | iptor (see: V | Vetland Quality Desc      | riptions and che       | ck one):                            |
| Good                             | X   | Medium        | Po                        | or                     |                                     |

| NW         | I Po | olyg  | on  | #     |   |
|------------|------|-------|-----|-------|---|
| Tier       | 3a   | In    | vib | idu   | al Polygon: Rapid Hydrology Indicators  |
| 3a.1       | Not  | abl   | e F | eatu  | res that influence water quality and hydrology:   |
| Estir      | mate | ed h  | erb | ace   | ous plant cover (percentage) in the polygon 100-75 _X_ 75-50 50-25 <25  |
| Estir      | nate | ed v  | voo | dy p  | lant foliar cover in the polygon 100-75 75-50 50-25 _X <25  |
| Amo        | unt  | of o  | dea | d wo  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |
| 3a.2       | Wat  | ter ( | Qua | ality | Protection Questions:   |
| 1.         | X    | Y     |     | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.         | X    | Y     |     | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.         |      |       |     |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| За.        |      | Y     |     | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.        | Χ    | Υ     |     | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.         |      | Y     | X   | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.         |      | Y     | X   | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 5.         | X    | Y     |     | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|            |      |       |     |       | Average width of buffer area (in meters) 15 Approximate slope (percent) 1   |
| 3a.3       | Flo  | od a  | and | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.         |      |       |     |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.        |      | Υ     |     | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.        | Χ    | Υ     |     | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.         | X    | Υ     |     | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.         | X    | Υ     |     | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |
| <b>1</b> . |      | Υ     | Χ   | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |
| 5.         | X    | Υ     |     | N     | Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?                                   |

| NWI Polygon #                        | 125d                    | Da                           | S5W125              |                                       |                        |
|--------------------------------------|-------------------------|------------------------------|---------------------|---------------------------------------|------------------------|
| Tier 3b Individu                     | ıal Polygon: Ra         | pid Vegetation Desc          | ription             |                                       |                        |
| <b>3b.1 Zonation and</b> 1. How many |                         | are evident in this wetland  | polygon? 1          |                                       |                        |
| 1b. If only one                      | e vegetation zone is    | evident, which best descr    | ibes the site?      |                                       |                        |
| X                                    | -                       | d of a mosaic of small veg   |                     | hummocks, or to                       | ussocks:               |
|                                      |                         | ctures across the polygon.   | •                   | , , , , , , , , , , , , , , , , , , , | ,                      |
|                                      | Polygon compose         | d of a single vegetation typ | oe with more or I   | ess uniform text                      | ure across the         |
|                                      | polygon.                |                              |                     |                                       |                        |
| 2. If more than                      | one vegetation zor      | ne is present in the polygor | n, which interspe   | ersion diagram m                      | ost closely represents |
|                                      | ion of these zones?     |                              | -                   | Toma Torra Inton                      |                        |
| туре                                 | e One Interspersion     | n                            |                     | Type Two Inters                       | spersion               |
| ,                                    |                         |                              |                     |                                       |                        |
| (                                    | $(\bigcirc))$           |                              |                     | (5)                                   |                        |
|                                      |                         |                              |                     |                                       |                        |
| Ol. O Dami'r and Dia                 | O                       |                              |                     | Oleana atta B                         |                        |
| 3b.2 Dominant Pla                    | nt Species: vegeta      | ition zone A                 | Photo               | Observation Ponumber(s)               | oint #1                |
|                                      |                         |                              |                     |                                       | he NWI polygon)        |
| What % of the polyg                  | gon does this vegeta    | ative zone occupy?           |                     |                                       |                        |
| 10 – 25%                             | 25 – 5                  | 0 % 50 -                     | 75%                 | 75 – 90%                              | X >90%                 |
| Is there notable laye                | ering/stratification in | this vegetation zone? _      | No                  |                                       |                        |
|                                      |                         |                              |                     |                                       |                        |
|                                      |                         | overing more than 10% o      |                     | d in order of rela                    | ative abundance. (Mark |
| a Juncus effusus                     |                         | ive monocultural patches)    | d <i>Aster sim</i>  | nnlev                                 |                        |
| b Polygonum per                      |                         |                              | e <u>Aster siir</u> | ipiex                                 |                        |
| c Carex sp.                          |                         |                              | f                   |                                       |                        |
| ·                                    |                         |                              | <del></del>         |                                       |                        |
| Dominant Shrub Sp                    | pecies listed in orde   | r of relative abundance.     |                     |                                       |                        |
| a                                    |                         |                              | С                   |                                       |                        |
| b                                    |                         |                              | d                   |                                       |                        |
| Danisant Trac Con                    | alaa Katadin andan      | of valativa alcumulanaa      |                     |                                       |                        |
| •                                    |                         | of relative abundance.       | С                   |                                       |                        |
| L                                    |                         |                              | d                   |                                       |                        |
|                                      | oy: X nil               | separate, seldom toucl       |                     | n touching                            | More or less closed    |
| ·                                    | · <u>—</u> –            | _ '                          | <u> </u>            | <u> </u>                              | <del></del>            |
| Mature trees (>12"                   | dbh) present:           | yesX                         | _ no                |                                       |                        |
| Other remarks (inc                   | lude personal comn      | nents about what adds to     | or detracts from    | the quality of this                   | s wetland site).       |
| Wet area next to dit                 | ch within an agricult   | tural field                  |                     |                                       |                        |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 1 moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8

sweet flag (Acorus calamus) 0

\*3-way sedge (Dulichium arundinaceum) 10

\*umbrella sedge (Fuirena squarrosa, N) 10

\*twig rush (Cladium mariscoides, N) 10

wild hyacinth (Camassia scilloides) 5 \*yellow-eyed grass (Xyris torta, N) 9

cardinal flower (Lobelia cardinalis) 4 InWrap, Terg revised June 2005

1 other aster spp. (e.g. New Engl.-, panicled-a) 3

\*black-eyed Susan (Rudbeckia fulgida) 8

|          | Polygon #<br>ole on page on  | 125e<br>e)  |             | _ Data Reference #        | S5W125                 | InWRAP, TERG May 2000          |
|----------|------------------------------|---|-------------|---------------------------|------------------------|--------------------------------|
|          | ! Individual<br>vetland)     | Polygon: Preli  | minary A    | <b>ssessment</b> (to be o | completed on-site      | for each NWI polygon present   |
| 2.1 We   | Depressio                    | •   | Slope       | /ater Flow (check one     | <b>e):</b><br>oodplain | Lacustrine                     |
| 2.2 Pre  | esence of Sta                | nding Water:  |             |                           |                        |                                |
|          | If standing v                | ormally present in the<br>vater is present, is to<br>ormally present in a | he water gr | eater than 2 meters in    | depth? No              |                                |
| 2.3 Ap   | parent Hydro                 | period (check one   | ):          |                           |                        |                                |
|          | Permanently<br>Seasonally Fl |   |             | Artific                   | cially Flooded         |                                |
|          | •                            | rface water seldom  | present)    | Artific                   | cially Drained         |                                |
| 2.4 Soi  | il Type:<br>Organic (i.      | e. peat, etc.)  | X           | Mineral                   | Both M                 | lineral and Organic Present    |
| 2.5 We   | tland Commi                  | unity Type for this   | NWI polya   | on (see Key to Wetla      | and Communitie         | s of Indiana):                 |
|          | plain Forest                 |   | . , , ,     |                           |                        | ,                              |
| 2.6 Dis  | sturbances of                | Hydrology (check  | all that an | nply):                    |                        |                                |
| X        | Ditching                     | ,   |             | Culvert                   |                        |                                |
|          | Tiles<br>Dams                |   |             | Other Hu                  | ıman Disturbance       | es to the Hydrology (explain): |
| X        |                              | oad Embankment  |             |                           |                        |                                |
| 2.7 Pre  | esence of Inv                | asive Exotics (Sco  | re as: S =  | Scattered, F = Frequ      | ent. or C = Comr       | non):                          |
|          | Garlic Mustar                | -   |             | Blossy Buckthorn          | . ,                    | ,                              |
|          | Phragmities                  |   | R           | Reed canary grass         |                        |                                |
|          | Purple looses                | strife  | c           | Other (list):             |                        |                                |
| 2.8 Pre  | esence of Spe                | ecial Hydrologic C  | onditions ( | i.e. seeps, wet slope     | s, floating mat):      |                                |
| None     |                              |   |             |                           |                        |                                |
| 2 9 Pre  | esence of Sne                | ecial Community T   | vnes:       |                           |                        |                                |
|          | Bog                          | Fe  |             | We                        | et Sand / Muck Fl      | ats or Mari Seeps              |
| 2 10 0   | resence of K                 | nown Federal or In  | diana Para  | e, Threatened or End      | angered Species        | 2.                             |
|          |                              |   |             | e, Threatened of End      | angered Species        | <b>.</b>                       |
| <u>X</u> | RTES Pre                     | erved or known to b<br>sent (list)  | •           |                           |                        |                                |
| 2.11 W   | <del></del>                  | . ,   |             | Vetland Quality Desc      |                        |                                |
| Χ        | Good                         |   | 1edium      | Po                        | -                      | ,                              |

| NW    | l Pc | olyg | on   | #     | 125e Data Reference # S5W125  |
|-------|------|------|------|-------|---|
| Tier  | 3a   | In   | div  | /idu  | al Polygon: Rapid Hydrology Indicators  |
| 3a.1  | Not  | abl  | e F  | eatu  | res that influence water quality and hydrology:   |
| Estir | nate | ed ł | nerb | oace  | ous plant cover (percentage) in the polygon 100-75 75-50 _X 50-25 <25   |
| Estir | nate | ed v | voo  | dy p  | lant foliar cover in the polygon 100-75 75-50 _X 50-25 <25  |
| Amo   | unt  | of ( | dea  | id wo | ody material on the soil surface: nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)   |
| 3a.2  | Wat  | ter  | Qua  | ality | Protection Questions:   |
| 1.    | Х    | Υ    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.    | Χ    | Y    |      | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.    |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| За.   |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.   | X    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 1.    |      | Y    | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.    | Χ    | Y    |      | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.    | X    | Υ    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|       |      |      |      |       | Average width of buffer area (in meters) 10-20 Approximate slope (percent) 1-2  |
| 3a.3  | Flo  | od a | and  | l Sto | rmwater Storage / Attenuation Questions:  |
| 1.    |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.   |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.   | Χ    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.    | Χ    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.    | Χ    | Y    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |
| 4.    |      | Y    | X    | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |
| 5.    | Χ    | Y    |      | N     | Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?                                   |

| NWI Polygon #                        | 125e  | Data Reference #               | S5W125                         |                |
|--------------------------------------|---|--------------------------------|--------------------------------|----------------|
| Tier 3b Individu                     | al Polygon: Rapid Vegetat   | ion Description                |                                |                |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion: y vegetation zones are evident in t                          | his wetland polygon? 1         |                                |                |
| 1b. If only one                      | e vegetation zone is evident, which   | best describes the site?       |                                |                |
| X                                    | Polygon composed of a mosaic of heterogeneous textures across the           | •                              | hummocks, or tussocks;         |                |
|                                      | Polygon composed of a single ve   | egetation type with more or le | ess uniform texture across     | s the          |
|                                      | polygon.  |                                |                                |                |
| the distributi                       | one vegetation zone is present in on of these zones?                        |                                | -                              |                |
| Туре                                 | • One Interspersion   | •                              | Type Two Interspersion         |                |
| (                                    |   |                                |                                |                |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone A   |                                | Observation Point #1 number(s) | <br>olygon)    |
| What % of the polyg                  | gon does this vegetative zone occu  | лру?                           |                                |                |
| 10 – 25%                             | 25 – 50 %   | 50 – 75%                       | 75 – 90% <u>X</u>              | >90%           |
| Is there notable layer               | ering/stratification in this vegetation                                     | r zone? Yes                    |                                |                |
|                                      | ous Species (i.e. covering more to that forms extensive monocultural collis |                                | d in order of relative abun    | •              |
| b                                    |   | е                              |                                |                |
| С                                    |   | f                              |                                |                |
| Dominant <b>Shrub</b> Sn             | pecies listed in order of relative abo                                      | undance                        |                                |                |
| a Lindera benzoi                     |   |                                |                                |                |
| b Rosa palustris                     |   | ۵                              |                                |                |
| Dominant <b>Tree</b> Sne             | cies listed in order of relative abur                                       | ndance                         |                                |                |
| a Fraxinus penns                     |   |                                |                                |                |
| b Liquidambar st                     | •   | d                              |                                |                |
| Tree & shrub canop                   | y: nil separate, se   | eldom touching X ofte          | n touching More                | or less closed |
| Mature trees (>12" of                | dbh) present: X yes   | no                             |                                |                |
| Other remarks (inc                   | lude personal comments about wh   | nat adds to or detracts from t | the quality of this wetland    | site).         |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

|   | ,   |
|---|---|
| Herbs: non-seed plants  | Herbs: wide-leafed monocots   |
| horsetail, scouring rush spp. (Equisetum) 2                                     | *arrow arum (Peltandra virginica, N) 6  |
| *ferns: marsh shield fern spp. (Dryopteris) 7                                   | arrow-head spp. (Sagittaria) 4  |
| *cinnamon fern (Osmunda cinnamomea) 9   | *green dragon (Arisaema dracontium) 6   |
| *royal fern (Osmunda regalis) 8   | Jack-in-the-pulpit (Arisaema triphyllum) 4                                    |
| X sensitive fern (Onoclea sensibilis) 4   | pickerel weed (Pontederia cordata, N) 5                                       |
| *other: species (if known)  | *skunk cabbage (Symplocarpus foetidus) 8                                      |
| marsh club moss (Selaginella apoda) 4   | *water arum (Calla palustris, N) 10   |
| *Sphagnum moss spp. (Sphagnum, N) 10  | water plantain (Alisma plantago-aquat.) 2                                     |
| Herbs: Ivs. floating or submergent  | Herbs: dicots - Ivs. opposite/whorled   |
| *bladderwort spp. (Utricularia, N) 10   | 1 *bedstraw spp. (Galium) 6   |
| coontail (Ceratophyllum demersum, N) 1  | beggar's tick spp. (Bidens) 3   |
| duckweed spp. (Lemnaceae) 3   | blue vervain (Verbena hastata) 3  |
| *pondweed spp. (Potamogeton) 8 (except 0 for                                    | boneset (Eupatorium perfoliatum) 4  |
| introduced P. crispus)  | bugleweed spp. (Lycopus) 5  |
| *water lily (Nymphaea tuberosa, N) 6  | 1 clearweed spp. (Pilea) 3  |
| water shield (Brasenia schreberi, N) 4  | cup plant (Silphium perfoliatum) 4  |
| *yellow spatterdock spp. (Nuphar) 6   | false nettle (Boehmeria cylindrica) 3   |
| yenen opaneraeen opp. (riopinal) e  | *fen betony (Pedicularis lanceolata) 6  |
| Herbs: insectivorous plants   | *gentian spp. (Gentiana & Gentianopsis) 8                                     |
| *pitcher plant (Sarracenia purpurea,N) 10                                       | giant ragweed (Ambrosia trifida) 0  |
| *sundew spp. <i>(Drosera,</i> N) 10   | Indian hemp (Apocynum cannabinum) 2   |
|   | Joe-pye weed spp. (Eupatorium) 5  |
| Herbs: linear-lvs. or leafless ± monocots                                       | *loosestrife spp. (Lysimachia) 6  |
| *beak rush spp. (Rhynchospora, N) 10  | meadow beauty (Rhexia virginica) 5  |
| blueflag iris (Iris virginica) 5  | mint spp.: e.g. hedge nettle, mtn. m., skullcap s                             |
| bulrush spp. (Scirpus / Schoenoplectus) 5                                       | X moneywort (Lysimachia nummularia) 0   |
| *bur reed spp. (Sparganium) 9   | monkey flower spp. (Mimulus) 4  |
| cat-tail spp. (Typha) 1   | nettle (Urtica pro cera) 1  |
| *cotton grass spp. <i>(Eriophorum,</i> N) 10                                    | purple loosestrife (Lythrum salicaria) 0                                      |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species         | *richweed (Collinsonia canadensis) 8  |
| a. *wild rice (Zizania aquatica, N) 10  |   |
| 1 b. most native perennial grass spp. 4: e.g.                                   | *St. John's wort spp.(Hypericum/Triandeum)8                                   |
| cut-grass, manna-g, Canada bluejoint, foxtail                                   | sunflower spp. (Helianthus) 4 *swamp loosestrife (Decodon verticillatus, N) 8 |
| [Alopecurus]; other   |   |
| c. introduced grass spp. 0: reed canary   | swamp milkweed (Asclepias incarnata) 4  |
| grass [Phalaris], reed [Phragmites], annual                                     | toothcup spp. (Ammania & Rotala) 2  |
| grasses such as annual foxtail [Setaria] &                                      | *turtlehead spp. (Chelone) 8  |
| barnyard grass Echinochloa]   | virgin's bower (vine) (Clematis virginiana) 3                                 |
| needle sedge spp. (Eleocharis) sp.1 =2  | water puslane (Ludwigia palustris) 3  |
| *additional=8   | winged loosestrife (Lythrum alatum) 5   |
| nutsedge spp. (Cyperus) 2   | Herbs: (vines): dicots - lvs. alternate or basal                              |
| *orchid spp.: species (if known)  | and simple  |
| rush spp. (Juncus) 4  | Amer. bellflower (Campanula americana) 4                                      |
| 3 sedge spp. (Carex) sp.1=3 *additional=7                                       | *asters: bristly aster (Aster puniceus) 7                                     |
| *spiderlily (Hymenocallis occidentalis) 9                                       | *flat-topped aster (A. umbellatus) 8  |
| sweet flag (Acorus calamus) 0   |   |
| *3-way sedge (Dulichium arundinaceum) 10  | other aster spp. (e.g. New Engl, panicled-a) 3                                |
| *twig rush (Cladium mariscoides, N) 10  | *black-eyed Susan (Rudbeckia fulgida) 8                                       |
| ,   | cardinal flower (Lobelia cardinalis) 4  |
| *umbrella sedge (Fuirena squarrosa, N) 10 wild hyacinth (Camassia scilloides) 5 | InWrap, Terg revised June 2005  |
| woo oyacaaa (Callassia Schioloes) (   |   |

\*yellow-eyed grass (Xyris torta, N) 9

bladdernut (Staphylea trifolia) 5

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

obliqua) 7

button bush (Cepha/anthus occidentalis) 5
 dogwood, red-osier (Cornus stolonifera) 4
 \*dogwood, blue-fruited or silky Cornus

buckthorn spp. (Rhamnus cathar. & frangula) 0

|                 | olygon #<br>le on page on                     | 125f<br>e)  |              | _ Data Reference #            | S5W125            | InWRAP, TERG May 2000               |
|-----------------|---|---|--------------|-------------------------------|-------------------|-------------------------------------|
| Tier 2 in the w |   | Polygon: Preli  | minary A     | ssessment (to be o            | completed on-site | for <u>each</u> NWI polygon present |
| 2.1 We          | Depression                                    | •   | Slope        | /ater Flow (check on<br>X Flo | e):<br>oodplain   | Lacustrine                          |
| 2.2 Pre         | sence of Sta                                  | nding Water:  |              |                               |                   |                                     |
|                 | <ul> <li>If standing v</li> </ul>             | ormally present in the<br>vater is present, is to<br>ormally present in a | he water gr  | eater than 2 meters in        | depth?            |                                     |
| 2.3 App         | oarent Hydro                                  | period (check one   | <b>)</b> :   |                               |                   |                                     |
| X               | Permanently<br>Seasonally Fl<br>Saturated (su |   | present)     |                               | cially Flooded    |                                     |
| 2.4 Soi         | l Type:                                       | e. peat, etc.)  | X            | Mineral                       |                   | lineral and Organic Present         |
| 2.5 We          | tland Commu                                   | unity Type for this   | NWI polyg    | on (see Key to Wetla          | and Communitie    | s of Indiana):                      |
| Flood           | olain Forest                                  |   |              |                               |                   |                                     |
| 2.6 Dis         | turbances of                                  | Hydrology (check  | all that ap  | pply):                        |                   |                                     |
|                 | Ditching                                      |   |              | Culvert                       |                   |                                     |
|                 | Tiles<br>Dams                                 |   |              | Other Hu                      | ıman Disturbance  | es to the Hydrology (explain):      |
|                 | Road or Railr                                 | oad Embankment  |              |                               |                   |                                     |
| 2.7 Pre         | sence of Inv                                  | asive Exotics (Sco  | re as: S =   | Scattered, F = Frequ          | ent, or C = Com   | mon):                               |
|                 | Garlic Mustar                                 | d   |              | Blossy Buckthorn              |                   |                                     |
|                 | Phragmities                                   |   |              | leed canary grass             |                   |                                     |
|                 | Purple looses                                 | trife   |              | Other (list):                 |                   |                                     |
| 2.8 Pre         | sence of Spe                                  | ecial Hydrologic C  | onditions (  | i.e. seeps, wet slope         | s, floating mat): |                                     |
| None            |   |   |              |                               |                   |                                     |
| 2.9 Pre         | sence of Spe                                  | ecial Community T   | ypes:        |                               |                   |                                     |
|                 | Bog   | F6  | en           | We                            | et Sand / Muck Fl | ats or Mari Seeps                   |
| 2.10 Pr         | esence of Kr                                  | nown Federal or In  | diana Rare   | e, Threatened or End          | angered Species   | s:                                  |
| X               |   | erved or known to b   |              | .,                            | go. oa opooiot    | <del>-</del> -                      |
|                 | RTES Pres                                     | ant (list)  | •            |                               |                   |                                     |
| 2.11 W          | etland Polyg                                  | on Quality Descrip  | otor (see: V | Vetland Quality Desc          | riptions and che  | eck one):                           |
| Χ               | _ Good  |   | 1edium       | Po                            | -                 | •                                   |

| NW    | l Po | olyg | gon  | #     | _125f   | Data Referen         | ce # <u>S5W12</u> | 25            |           |          |       |
|-------|------|------|------|-------|---|----------------------|-------------------|---------------|-----------|----------|-------|
| Tier  | 3a   | In   | div  | idι   | ual Polygon: Rapid Hydrology  | Indicators           |                   |               |           |          |       |
| 3a.1  | Not  | abl  | e F  | eatı  | ures that influence water quality and   | hydrology:           |                   |               |           |          |       |
| Estir | nate | ed I | herk | ace   | eous plant cover (percentage) in the po   | lygon                | 100-75            | 75-50         | 50-25     | <u>X</u> | _ <25 |
| Estir | nate | ed ' | woc  | dy p  | plant foliar cover in the polygon   |                      | 100-75            | 75-50 X       | 50-25     | ;        | _<25  |
| Amo   | unt  | of   | dea  | d w   | oody material on the soil surface: nil (<5% cover)  | X scattered (5-      | 15% cover)        | Free          | quent (>  | ·20% (   | cover |
| 3a.2  | Wat  | ter  | Qua  | ality | Protection Questions:   |                      |                   |               |           |          |       |
| 1.    | X    | Y    |      | N     | Does the wetland have a significant density to potentially uptake dissolve                  |                      | ve (specifically  | y perennial a | and woo   | dy pla   | ınt)  |
| 2.    | Χ    | Y    |      | N     | Managed water (e.g. municipal or ro or municipal wastewater) is <b>not</b> disc             |                      |                   |               | e outlet, | indus    | trial |
| 3.    |      |      |      |       | If wetland in question is a depression  | nal wetland answe    | 3a, if not, and   | swer 3b       |           |          |       |
| 3a.   |      | Y    |      | N     | Does the wetland have a shape or fl before the water reaches the center                     |                      | he settling out   | of suspend    | ed mate   | rials    |       |
| 3b.   | Χ    | Y    |      | N     | Is the position of the wetland in the last surface body of water down gradient              |                      | t run-off is hel  | d or filtered | before e  | enterin  | g a   |
| 4.    |      | Υ    | X    | N     | Does the wetland <b>lack</b> steep slopes with row cropping, or areas with sev              |                      |                   |               |           | -12%)    | ı     |
| 5.    |      | Υ    | X    | N     | Are there recreational lakes, navigate down gradient in the local watershed                 |                      | or water supply   | sources lo    | cated wi  | thin a   | mile  |
| 6.    | X    | Y    |      | N     | Is a vegetative buffer area (>15 m w could be filtered) located upland and width and slope. |                      |                   |               |           |          |       |
|       |      |      |      |       | Average width of buffer area (in met  | ers) 20-25 <i>F</i>  | Approximate sl    | ope (percen   | nt) 1-    | 2        |       |
| 3a.3  | Flo  | od   | anc  | Sto   | ormwater Storage / Attenuation Que  | stions:              |                   |               |           |          |       |
| 1.    |      |      |      |       | If wetland in question is a depression  | nal wetland answe    | r 1a, if not, ans | swer 1b       |           |          |       |
| 1a.   |      | Υ    |      | N     | Around the wetland is there a buffer slow overland flow into the wetland?                   | strip of natural veg |                   |               | , scrub)  | that w   | /ill  |
| 1b.   | Χ    | Υ    |      | N     | Is there a significant amount of micro  |                      | jetative densit   | y within the  | wetland   | to red   | luce  |
| 2.    | Χ    | Υ    |      | N     | Does the wetland <b>lack</b> man-made st (tiles, culverts, ditches)?                        | ructures that would  | d speed the flo   | w of water f  | rom the   | wetla    | nd    |
| 3.    | Χ    | Υ    |      | N     | Is the flood potential high in the sub-<br>damages)?  | watershed in whicl   | n the wetland i   | s located (h  | istory of | flood    |       |
| 4.    |      | Υ    | X    | N     | Is the wetland located in a watershe impermeable, or is bedrock within tw                   |                      |                   |               | layey ar  | nd       |       |
| 5.    | Х    | Υ    |      | N     | Is the wetland located in a local water existing development (e.g. >50% are                 |                      |                   |               |           | ue to    |       |

| NWI Polygon #                          | 125f   | Data Reference #         | S5W125  |        |
|--|--|--------------------------|---|--------|
| Tier 3b Individua                      | al Polygon: Rapid Vegetation D   | escription               |   |        |
| <b>3b.1 Zonation and I</b> 1. How many | nterspersion: vegetation zones are evident in this we                            | tland polygon? 1         |   |        |
| 1b. If only one                        | vegetation zone is evident, which best of  | describes the site?      |   |        |
|  | Polygon composed of a mosaic of small heterogeneous textures across the poly     | •                        | nummocks, or tussocks;  |        |
|  | Polygon composed of a single vegetation  | on type with more or le  | ess uniform texture across the                                  |        |
|  | polygon.   |                          |   |        |
|  | one vegetation zone is present in the poon of these zones?                       | lygon, which intersper   | rsion diagram most closely repre                                | sents  |
| Туре                                   | One Interspersion  | Т                        | Type Two Interspersion  |        |
|  |  |                          |   |        |
| 3b.2 Dominant Plan                     | nt Species: Vegetation zone A  |                          | Observation Point #1 number(s) ark location on the NWI polygon) | )      |
| What % of the polygo                   | on does this vegetative zone occupy?   |                          |   |        |
| 10 – 25%                               | 25 – 50 %  | 50 – 75%                 | 75 – 90% X >90°   | %      |
| Is there notable layer                 | ring/stratification in this vegetation zone                                      | ? Yes                    |   |        |
| with an * any species                  | ous Species (i.e. covering more than 10 s that forms extensive monocultural pate | ches).                   | in order of relative abundance.                                 | (Mark  |
| a <i>Carex sp.</i><br>b                |  | d<br>e                   |   |        |
| c                                      |  | f                        |   |        |
|  |  |                          |   |        |
| Dominant <b>Shrub</b> Spe              | ecies listed in order of relative abundand                                       | e.                       |   |        |
| a Lindera benzoin                      | 1  |                          |   |        |
| b Rosa palustris                       |  | d                        |   |        |
| Dominant <b>Tree</b> Spec              | cies listed in order of relative abundance                                       |                          |   |        |
| a Fraxinus penns                       |  |                          | ar styraciflua  |        |
| b Acer rubrum                          |  | d                        | •   |        |
| Tree & shrub canopy                    | r: nil separate, seldom t  | ouching often            | touching X More or less   | closed |
| Mature trees (>12" d                   | bh) present: X yes   | no                       |   |        |
| Other remarks (incl                    | ude personal comments about what add   | s to or detracts from th | he quality of this wetland site).                               |        |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 X sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 X water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 2 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 X clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 X moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3

\*3-way sedge (Dulichium arundinaceum) 10

\*umbrella sedge (Fuirena squarrosa, N) 10

\*twig rush (Cladium mariscoides, N) 10

wild hyacinth (Camassia scilloides) 5
\*yellow-eyed grass (Xyris torta, N) 9

InWrap, Terg revised June 2005

\*black-eyed Susan (Rudbeckia fulgida) 8

cardinal flower (Lobelia cardinalis) 4

bladdernut (Staphylea trifolia) 5

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

obliqua) 7

button bush (Cepha/anthus occidentalis) 5
 dogwood, red-osier (Cornus stolonifera) 4
 \*dogwood, blue-fruited or silky Cornus

buckthorn spp. (Rhamnus cathar. & frangula) 0

# **IN-WRAP Summary Sheet**

| Date Re | port Generated: 10/15/2011  |
|---------|---|
| Wetland | site name: S5W126   |
| Data Re | ference #: 126  |
| Date of | Site Visit: 10/14/2011  |
| NWI pol | ygons in Site (quadrangle and NWI id. numbers: Bloomington                                  |
|         |   |
| TIER 1  | SUMMARY:  |
| a.      | Total wetland area (hectares): 2.02 (5.00 acres)  |
| b.      | Wetland size and connectivity – contribution to animal habitat:                             |
|         |   |
| C.      | Surrounding land use – numerical rank (max. = 1): 1   |
| d.      | Value surrounding area adds to animal habitat □ Valuable □ Favorable □ Low                  |
|         |   |
| TIER 2  | SUMMARY: NWI Polygon Id. 126  |
| a.      | Indiana Wetland community type: Floodplain Forest   |
| b.      | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral           |
| C.      | Disturbances to site: None  |
| d.      | Exotic species rating:   Good   Medium   Poor   |
| e.      | Special Hydrologic Conditions Observed: None  |
| f.      | Special Community Type: None  |
| g.      | Rare-Threatened-Endangered Species: None  |
| h.      | Polygon Quality Description: 🛛 Good 📗 Medium 🔲 Poor   |
|         |   |
| TIER 3  | BA SUMMARY:   |
| a.      | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral        |
| b.      | Water quality protection – numerical rank (6 max): 6 Rating: ☐ Good ☐ Medium ☐ Poor         |
| C.      | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor          |
|         |   |
| TIER 3  | BB SUMMARY:   |
| a.      | Zonation and interspersion as indicator of animal habitat:   Valuable   Favorable   Neutral |
| b.      | Stratification as indicator of animal habitat:   Valuable   Neutral                         |
| C.      | Number of dominant plant taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                    |
| d.      | Average coefficient of conservatism: 4.75 Rating: Good Medium Poor                          |
| e.      | Tree canopy as indicator of animal habitat:   |
| f.      | Mature trees as indicator of animal habitat: 🛛 Valuable 🔲 Favorable 🔲 Neutral               |
| g.      | Total hydrophytic taxa observed: 21 Rating: ⊠ Good ☐ Medium ☐ Poor                          |
| h.      | Number of indicator taxa 2 Rating: ☐ Good ☐ Medium ☒ Poor                                   |
|         |   |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W126

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W126                                    | 6                   |                  |                    |                       |             |
|--|---------------------|------------------|--------------------|-----------------------|-------------|
| Ownership (if known):  |                     |                  |                    |                       |             |
| USGS Topographic Quadrang                                    | le(s): Blooming     | ton              |                    |                       |             |
| USGS Watershed map 14-Dig                                    | it HUC: Bean B      | ossom Creek –    | Clear Creek 051    | 20202010080           |             |
|  |                     |                  |                    |                       |             |
| Identify each NWI Polygon with NWI Polygon ID Number         | in the Wetland Site | e (Polygon spec  | fic data)          |                       | T           |
| Cowardin Classification                                      | PFO1A               |                  |                    |                       |             |
| Polygon Size (hectares)                                      | 2.02 (5.00 acres)   |                  |                    |                       |             |
| NIM/ Dalvaan ID Number                                       |                     |                  |                    |                       | T 1         |
| NWI Polygon ID Number Cowardin Classification                |                     |                  |                    |                       |             |
| Polygon Size (hectares)                                      |                     |                  |                    |                       |             |
| 1.2 Site Visit:  Team Members: K. Schroed                    | ler & D. White      |                  |                    |                       |             |
| Agency: INDOT  |                     |                  |                    |                       |             |
| Date assessed: 10/14/2011                                    |                     | Time a           | ssessed: 2:45 p    | om                    |             |
| Weather conditions: 50°F,                                    | Rain, Overcast      |                  |                    |                       |             |
| 1.3 Wetland Size:  |                     |                  | pring, etc.).      |                       |             |
| Size of site under assessment                                |                     | •                | 2.02 hastores (    | F 00 agrag)           |             |
| Size of total wetland complex                                | (all continuous we  | lianu polygons). | 2.02 nectares (    | 5.00 acres)           |             |
| <b>1.4 Site Setting:</b> Degree of isolation from other w    | ration do or wation | d complexes.     |                    |                       |             |
| X The site is connected up                                   |                     | •                | r wetlands         |                       |             |
| The site is only connected                                   |                     |                  |                    |                       |             |
| The site is only connected                                   | •                   |                  | 3                  |                       |             |
| Other wetlands are near                                      |                     |                  |                    |                       |             |
| The wetland site is isola                                    |                     | o, sacriot comic |                    |                       |             |
| The welland site is isola                                    | ieu                 |                  |                    |                       |             |
| (General assessment of adjace site (indicate the % abundance |                     | cover in the are | a within 50 meters | s of the perimeter of | the wetland |
| 100 Native Vegetation - woo                                  | dland               |                  | _ Road / highway   | //railroad bed/parl   | king lot    |
| Native Vegetation - old                                      | field / scrub       |                  | _ Industrial       |                       |             |
| Agricultural- tilled   |                     |                  | _ Residential – si | ingle family          |             |
| Agricultural - pasture                                       |                     |                  | _ Commercial or    | multifamily residenti | ial         |
| Recreation - green space                                     | e, mowed            |                  |                    |                       |             |

| NWI Polygon # (see table on page or |   | Data Reference #           | S5W126                 | InWRAP, TERG May 2000              |
|-------------------------------------|---|----------------------------|------------------------|------------------------------------|
|                                     | •   | Assessment (to be o        | completed on-site f    | or <u>each</u> NWI polygon present |
| Depression                          |   |                            | <b>e):</b><br>podplain | Lacustrine                         |
|                                     | within the river/stream banks)  |                            |                        |                                    |
| 2.2 Presence of Sta                 | _   |                            |                        |                                    |
| If standing                         | ormally present in the polygon<br>water is present, is the water of<br>present in an adjacent | greater than 2 meters in   | depth? No              |                                    |
| 2.3 Apparent Hydro                  | pperiod (check one):  |                            |                        |                                    |
| X Permanently                       |   | Artific                    | cially Flooded         |                                    |
| Seasonally F Saturated (si          | looded<br>urface water seldom present)  | Artific                    | cially Drained         |                                    |
| 2.4 Soil Type: Organic (i           | .e. peat, etc.) X   | Mineral                    | Both Mi                | neral and Organic Present          |
| 2.5 Wetland Comm Floodplain Forest  | unity Type for this NWI poly  | gon (see Key to Wetla      | and Communities        | of Indiana):                       |
| 2.6 Disturbances o                  | f Hydrology (check all that a   | i <b>pply):</b><br>Culvert |                        |                                    |
| Tiles Dams                          |   | Other Hu                   | ıman Disturbances      | to the Hydrology (explain):        |
|                                     | road Embankment   |                            |                        |                                    |
| 2.7 Presence of Inv                 | asive Exotics (Score as: S =  | = Scattered, F = Frequ     | ent, or C = Comm       | on):                               |
| Garlic Musta                        | rd  | Glossy Buckthorn           |                        |                                    |
| Phragmities                         | <u>S</u>  | Reed canary grass          |                        |                                    |
| Purple loose:                       | strife  | Other (list):              |                        |                                    |
| 2.8 Presence of Sp<br>None          | ecial Hydrologic Conditions   | (i.e. seeps, wet slope     | s, floating mat):      |                                    |
|                                     | ecial Community Types:  |                            |                        |                                    |
| Bog                                 | Fen   | We                         | et Sand / Muck Fla     | ts or Mari Seeps                   |
| 2.10 Presence of K                  | nown Federal or Indiana Ra  | re, Threatened or End      | angered Species:       |                                    |
| X None obs                          | erved or known to be present sent (list)  |                            |                        |                                    |
| 2.11 Wetland Polyg                  | on Quality Descriptor (see:   | Wetland Quality Desc       | criptions and chec     | k one):                            |
| X Good                              | Medium  | Po                         | or                     |                                    |

| NWI    | l Po | olyg  | on#      | 126                                 |  |          | Data Re   | efere  | nce#_      | S5W12     | 26         |         |               |          |
|--------|------|-------|----------|-------------------------------------|--|----------|-----------|--------|------------|-----------|------------|---------|---------------|----------|
| Tier   | 3а   | Inc   | dividu   | al Polygon: R                       | apid Hydrolog                                      | y Indi   | icators   | 5      |            |           |            |         |               |          |
| 3a.1 l | Not  | able  | e Featu  | res that influenc                   | e water quality a                                  | nd hyd   | rology:   |        |            |           |            |         |               |          |
| Estin  | nat  | ed h  | erbaced  | ous plant cover (p                  | ercentage) in the                                  | polygor  | n         | Χ      | 100-75     |           | 75-50      |         | 50-25         | <25      |
| Estin  | nat  | ed v  | voody pl | ant foliar cover in                 | the polygon  |          |           |        | 100-75     |           | 75-50      | X       | 50-25         | <25      |
| Amo    | unt  | of c  | dead wo  | ody material on t                   | ne soil surface:<br>nil (<5% cover)                | X        | _scatte   | red (  | 5-15% c    | over)     |            | Freq    | uent (>20%    | % cover) |
| 3a.2 \ | Wa   | ter ( | Quality  | Protection Ques                     | tions:   |          |           |        |            |           |            |         |               |          |
| 1.     | Χ    | Y     | N        |                                     | nd have a significa<br>tially uptake disso         |          |           |        | ative (spe | ecificall | y pereni   | nial a  | nd woody រុ   | olant)   |
| 2.     | X    | Υ     | N        | •                                   | (e.g. municipal or<br>stewater) is <b>not</b> di   |          |           |        | •          | _         |            | inage   | outlet, ind   | ustrial  |
| 3.     |      |       |          | If wetland in que                   | estion is a depress                                | sional w | etland a  | answ   | er 3a, if  | not, ans  | swer 3b    |         |               |          |
| 3a.    |      | Y     | N        |                                     | nd have a shape o<br>r reaches the cent            |          |           |        | the sett   | ling out  | of susp    | ende    | ed materials  | S        |
| 3b.    | X    | Y     | N        |                                     | f the wetland in the water down gradie             |          | cape su   | ich th | nat run-o  | ff is hel | d or filte | ered b  | efore ente    | ring a   |
| 4.     | Χ    | Y     | N        |                                     | nd <b>lack</b> steep slope<br>ng, or areas with se |          |           |        |            |           |            |         |               | %)       |
| 5.     | X    | Υ     | N        |                                     | ational lakes, navion<br>the local watersh         |          | atercou   | rses,  | or wate    | r supply  | / source   | es loca | ated within   | a mile   |
| 6.     | X    | Y     | N        |                                     | ouffer area (>15 m<br>) located upland a           |          |           |        |            |           |            |         |               |          |
|        |      |       |          | Average width o                     | of buffer area (in m                               | neters)  | 20-2      | 5      | Approxi    | mate s    | lope (pe   | ercent  | 1-2           |          |
| 3a.3 l | Flo  | od a  | and Sto  | rmwater Storage                     | e / Attenuation Qu                                 | uestion  | ns:       |        |            |           |            |         |               |          |
| 1.     |      |       |          | If wetland in que                   | estion is a depress                                | sional w | etland a  | answ   | er 1a, if  | not, ans  | swer 1b    |         |               |          |
| 1a.    |      | Y     | N        |                                     | and is there a buff<br>ow into the wetlan          |          | of natu   | ral ve | egetation  | (forest   | ed, old    | field,  | scrub) that   | t will   |
| 1b.    | X    | Υ     | N        |                                     | cant amount of mi<br>ne water leaving th           |          |           | or ve  | egetative  | densit    | y within   | the w   | vetland to r  | educe    |
| 2.     | X    | Υ     | N        | Does the wetlar (tiles, culverts, c | nd <b>lack</b> man-made<br>ditches)?               | structu  | ures tha  | t wou  | ıld speed  | d the flo | w of wa    | ater fr | om the wet    | tland    |
| 3.     | X    | Υ     | N        | Is the flood pote damages)?         | ential high in the su                              | ub-wate  | ershed ir | n whi  | ch the w   | etland i  | s locate   | ed (his | story of floo | od       |
| 4.     | X    | Υ     | N        | Is the wetland lo                   | ocated in a watersl<br>r is bedrock within         |          |           |        |            |           |            | are cla | ayey and      |          |

Is the wetland located in a local watershed which has highly modified runoff conditions due to

existing development (e.g. >50% area in row crop, commercial, or residential use)?

**X Y** 

Ν

5.

| NWI Polygon #                       | 126  | Data Re                      | erence # S5W126  |                               |
|-------------------------------------|--|------------------------------|--|-------------------------------|
| Tier 3b Individu                    | ıal Polygon: Rapid \   | egetation Description        | on   |                               |
| <b>3b.1 Zonation and</b> 1. How man |  | vident in this wetland polyg | on? 1  |                               |
| 1b. If only one                     | e vegetation zone is evide   | ent, which best describes t  | ne site?   |                               |
| X                                   | Polygon composed of a heterogeneous textures   | •                            | n patches, hummocks, or to                                       | ussocks;                      |
|                                     | Polygon composed of a polygon.   | single vegetation type with  | n more or less uniform text                                      | ure across the                |
|                                     | one vegetation zone is pion of these zones?  | resent in the polygon, whi   | ch interspersion diagram m                                       | ost closely represents        |
|                                     | One Interspersion  |                              | Type Two Inters  | spersion                      |
| (                                   |  |                              |  |                               |
| 3b.2 Dominant Pla                   | nt Species: Vegetation :   |                              | Observation Po<br>Photo number(s)<br>(Note: V-mark location on t |                               |
| What % of the polyg                 | gon does this vegetative z   |                              | (110to: V mant location on t                                     | no rvvi polygon,              |
|                                     | =  |                              | 75 – 90%   | X >90%                        |
| Is there notable laye               | ering/stratification in this v   | egetation zone? Yes          |  |                               |
|                                     | ous Species (i.e. covering that forms extensive meaning that forms extensive meaning that forms extensive meaning that the second secon | =                            | area) listed in order of rela                                    | ative abundance. <b>(Mark</b> |
|                                     |  |                              |  |                               |
| -                                   | pecies listed in order of re   | lative abundance.            |  |                               |
| a Rosa palustris                    |  | C                            |  |                               |
| b <u>Liquidambar st</u>             | yraciflua  | d                            |  |                               |
| Dominant <b>Tree</b> Spe            | cies listed in order of rela   | tive abundance.              |  |                               |
| a Fraxinus pensy                    |  | C                            |  |                               |
| b                                   |  | d                            |  |                               |
|                                     |  |                              | X often touching   | More or less closed           |
| Mature trees (>12"                  | dbh) present: X  | yes no                       |  |                               |
| Other remarks (inc                  | lude personal comments   | about what adds to or det    | racts from the quality of this                                   | s wetland site).              |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana)SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants \*arrow arum (Peltandra virginica, N) 6 horsetail, scouring rush spp. (Equisetum) 2 arrow-head spp. (Sagittaria) 4 \*ferns: marsh shield fern spp. (Dryopteris) 7 \*green dragon (Arisaema dracontium) 6 \*cinnamon fern (Osmunda cinnamomea) 9 Jack-in-the-pulpit (Arisaema triphyllum) 4 \*royal fern (Osmunda regalis) 8 pickerel weed (Pontederia cordata, N) 5 sensitive fern (Onoclea sensibilis) 4 \*skunk cabbage (Symplocarpus foetidus) 8 \*other: species (if known) \*water arum (Calla palustris, N) 10 marsh club moss (Selaginella apoda) 4 water plantain (Alisma plantago-aguat.) 2 \*Sphagnum moss spp. (Sphagnum, N) 10 Herbs: dicots - Ivs. opposite/whorled Herbs: Ivs. floating or submergent \*bedstraw spp. (Galium) 6 \*bladderwort spp. (Utricularia, N) 10 beggar's tick spp. (Bidens) 3 coontail (Ceratophyllum demersum, N) 1 blue vervain (Verbena hastata) 3 duckweed spp. (Lemnaceae) 3 boneset (Eupatorium perfoliatum) 4 \*pondweed spp. (Potamogeton) 8 (except 0 for bugleweed spp. (Lycopus) 5 introduced *P. crispus*) 1 clearweed spp. (Pilea) 3 \*water lily (Nymphaea tuberosa, N) 6 cup plant (Silphium perfoliatum) 4 water shield (Brasenia schreberi, N) 4 false nettle (Boehmeria cylindrica) 3 \*yellow spatterdock spp. (Nuphar) 6 \*fen betony (Pedicularis lanceolata) 6 \*gentian spp. (Gentiana & Gentianopsis) 8 Herbs: insectivorous plants giant ragweed (Ambrosia trifida) 0 \*pitcher plant (Sarracenia purpurea,N) 10 Indian hemp (Apocynum cannabinum) 2 \*sundew spp. (Drosera, N) 10 Joe-pye weed spp. (Eupatorium) 5 \*loosestrife spp. (Lysimachia) 6 Herbs: linear-lvs. or leafless ± monocots meadow beauty (Rhexia virginica) 5 \*beak rush spp. (Rhynchospora, N) 10 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 blueflag iris (Iris virginica) 5 moneywort (Lysimachia nummularia) 0 bulrush spp. (Scirpus / Schoenoplectus) 5 monkey flower spp. (Mimulus) 4 \*bur reed spp. (Sparganium) 9 nettle (Urtica pro cera) 1 cat-tail spp. (Typha) 1 purple loosestrife (Lythrum salicaria) 0 \*cotton grass spp. (Eriophorum, N) 10 \*richweed (Collinsonia canadensis) 8 Grasses (family Gramineae) - indicate types & number of species \*St. John's wort spp.(Hypericum/Triandeum)8 a. \*wild rice (Zizania aquatica, N) 10 sunflower spp. (Helianthus) 4 most native perennial grass spp. 4: e.g. \*swamp loosestrife (Decodon verticillatus, N) 8 cut-grass, manna-g, Canada bluejoint, foxtail swamp milkweed (Asclepias incarnata) 4 [Alopecurus]: other toothcup spp. (Ammania & Rotala) 2 introduced grass spp. 0: reed canary \*turtlehead spp. (Chelone) 8 grass [Phalaris], reed [Phragmites], annual virgin's bower (vine) (Clematis virginiana) 3 grasses such as annual foxtail [Setaria] & water puslane (Ludwigia palustris) 3 barnyard grass Echinochloa] winged loosestrife (Lythrum alatum) 5 needle sedge spp. (Eleocharis) sp.1 =2 \*additional=8 Herbs: (vines): dicots - Ivs. alternate or basal nutsedge spp. (Cyperus) 2 and simple \*orchid spp.: species (if known) Amer. bellflower (Campanula americana) 4 rush spp. (Juncus) 4 \*asters: bristly aster (Aster puniceus) 7 sedge spp. (Carex) sp.1=3 \*additional=7 \*flat-topped aster (A. umbellatus) 8 \*spiderlily (Hymenocallis occidentalis) 9 other aster spp. (e.g. New Engl.-, panicled-a) 3 sweet flag (Acorus calamus) 0 \*black-eved Susan (Rudbeckia fulgida) 8 \*3-way sedge (Dulichium arundinaceum) 10 cardinal flower (Lobelia cardinalis) 4 \*twig rush (Cladium mariscoides, N) 10 \*umbrella sedge (Fuirena squarrosa, N) 10 InWrap, Terg revised June 2005 wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

\*oak, Shumard's, sw. chestnut, sw. white 7

sycamore, Amer. (Platanus occidentalis) 3

willow spp. (Salix) sp.1=3; \*additional=7

\*papaw (Asimina triloba) 6

**OTHER** 

\*sugarberry (Celtis laevigata, S) 7

X sweet gum (Liquidambar styraciflua) 4

Herbs: dicots - Ivs. basal or alternate and

**NWI Polygon #** 

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garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4

patula, S. riddellil) 9

ironweed spp. (Vernonia) 4

X lizard's tail (Saururus cernuus) 4

rose mallow spp. (Hibiscus) 4

lobelia spp. (Lobelia) 4

\*goldenrod spp. (Solidago ohioensis. S.

dock spp.: swamp-, water-, pale- (Rumex) 4

\*grass of Parnassus (Parnassia glauca) 10
\*Indian plantain (Cacalia plantaginea) 10

\*moonseed (vine) (Menispermum canadense) 6

smartweed spp.: incl. jumpseed, pinkweed,

(Polygonum) 4 [Except \*for P. arifolium 10]

primrose-willow spp.(Epilobium &Ludwigia) 3

tearthumb, water-pepper, water-sm.

X jewelweed, touch-me-not spp. (Impatiens) 3

\*marsh marigold (Caltha palustris) 7

sneezeweed (Helenium autumnale) 3

\*swamp saxifrage (Saxifraga pa.) 10

wingstem (Actinomeris alternifolia) 3

stinging nettle (Laportea canadensis) 2

\*Virginia bluebells (Mertensia virginica) 6

waterhemp (Amaranthus tuberculatus) 1

cress spp. (Cardamine) 4

hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5
honewort (Cryptotaenia canadensis) 3

meadow rue spp. (Thalictrum) 5
poison ivy (vine) (Rhus radicans) 1
\*queen-of-the-prairie (Filipendula rubra) 9

senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4

\*swamp thistle (Cirsium muticum) 8
 tall coneflower (Rudbeckia laciniata) 3
 \*water hemlock spp. (Cicuta) 7

water nemiock spp. (Cicula) 7
water parsnips (Sium suave) 5

Shrubs - leaves opposite or whorled

bladdernut (Staphylea trifolia) 5
buckthorn spp. (Rhamnus cathar. & frangula) 0

X button bush (Cepha/anthus occidentalis) 5
dogwood, red-osier (Cornus stolonifera) 4

\_ \*dogwood, flue-fruited or silky *Cornus*obliqua) 7

dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2

# **IN-WRAP Summary Sheet**

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W127

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland site name: S5W12  | <u> </u>  |   |  |                          |               |
|---|---|---|--|--------------------------|---------------|
| Ownership (if known):   |   |   |  |                          |               |
| USGS Topographic Quadrang   | le(s): Blooming   | ton   |  |                          |               |
| USGS Watershed map 14-Dig   | jit HUC: Bean B   | lossom Creek –  | Stout Creek 051  | 20202010080              |               |
| Identify each NIVI Delygon with   | in the Wetland Site   | a (Dolygon angoi  | fic data)  |                          |               |
| Identify each NWI Polygon with NWI Polygon ID Number  | 127   | e (Polygon speci<br>  |  |                          |               |
| Cowardin Classification   | PFO1A   |   |  |                          |               |
| Polygon Size (hectares)   | 0.47 (1.16 acres)   |   |  |                          |               |
| NWI Polygon ID Number   |   |   |  |                          |               |
| Cowardin Classification   |   |   |  |                          |               |
| Polygon Size (hectares)   |   |   |  |                          |               |
| 1.2 Site Visit:   |   |   |  |                          |               |
| Team Members: K. Schroed  | ler & D. White  |   |  |                          |               |
| Agency: INDOT   |   |   |  |                          |               |
| Date assessed: 10/14/2011   | <u> </u>  | Time a  | ssessed: 1:30  | om                       |               |
| Weather conditions: 50°F,   | Rain, Overcast  |   | <u></u>  |                          |               |
|   |   |   |  |                          |               |
| Note any unusual weather ever<br>recent heavy rains, an unusuall  |   |   |  | within this wetland      | system (e.g.  |
| Toocht Hoavy Tains, air anaoaan   | y ary season, arre  | opeolally early o   | pinig, cto.).  |                          |               |
| 4.2 Wetland Size  |   |   |  |                          |               |
| <ul><li>1.3 Wetland Size:</li><li>Size of site under assessment</li></ul>   | . 0 47 hasters (1   | 16 cores)   |  |                          |               |
| Size of total wetland complex   |   | •   | 0.47 hectare (1  | 16 acros)                |               |
| Oize of total wetland complex   | (an continuous we   | tiana polygoris).   | 0.47 Hectare (1  | . 10 acres)              |               |
| 1.4 Site Setting:   |   |   |  |                          |               |
| Degree of igalation from other w  | votlands or wotland   | d compleyes:  |  |                          |               |
| Degree of isolation from other v  X The site is connected up  |   | •   | r wetlands   |                          |               |
| X The site is connected up  | stream and downs  | stream with othe  | r wetlands   |                          |               |
| The site is connected up  The site is only connected  | ed upstream with c  | stream with othe  |  |                          |               |
| X The site is connected up The site is only connected The site is only connected.   | estream and downs<br>ed upstream with c<br>ed downstream wit  | stream with othe<br>other wetlands<br>th other wetlands                               | 3  |                          |               |
| X The site is connected up The site is only connected The site is only connected Other wetlands are near  | estream and downs<br>ed upstream with c<br>ed downstream with<br>by (within 0.25 miles  | stream with othe<br>other wetlands<br>th other wetlands                               | 3  |                          |               |
| X The site is connected up The site is only connected The site is only connected Other wetlands are near The wetland site is isola  | estream and downs<br>ed upstream with o<br>ed downstream wit<br>by (within 0.25 mil<br>ted  | stream with othe<br>other wetlands<br>th other wetlands<br>e) but not conne           | s<br>cted  |                          |               |
| X The site is connected up The site is only connected The site is only connected Other wetlands are near  | estream and downs<br>ed upstream with o<br>ed downstream with<br>by (within 0.25 mil<br>ted<br>nt land use / land                           | stream with othe<br>other wetlands<br>th other wetlands<br>e) but not conne           | s<br>cted  | s of the perimeter o     | f the wetland |
| X The site is connected up The site is only connected The site is only connected Other wetlands are near The wetland site is isola  (General assessment of adjace   | estream and downs<br>ed upstream with of<br>ed downstream with<br>by (within 0.25 mile<br>ted<br>nt land use / land<br>of each type):       | stream with othe<br>other wetlands<br>th other wetlands<br>e) but not conne           | s<br>octed<br>a within 50 meters                                   | s of the perimeter o     |               |
| X The site is connected up The site is only connected The site is only connected Other wetlands are near The wetland site is isola  (General assessment of adjaces site (indicate the % abundance)  | estream and downs ed upstream with c ed downstream wit by (within 0.25 mil ted  nt land use / land of each type): dland                     | stream with other other wetlands th other wetlands le) but not connectors in the area | s<br>octed<br>a within 50 meters                                   | ·                        |               |
| The site is connected up The site is only connected The site is only connected Other wetlands are near The wetland site is isola  (General assessment of adjace site (indicate the % abundance  75 Native Vegetation - woo  | estream and downs ed upstream with c ed downstream wit by (within 0.25 mil ted  nt land use / land of each type): dland                     | stream with other other wetlands th other wetlands le) but not connectors in the area | cted a within 50 meters Book Road / highway                        | · / / railroad bed / par |               |
| X The site is connected up The site is only connected The site is only connected Other wetlands are near The wetland site is isola  (General assessment of adjace site (indicate the % abundance  75 Native Vegetation - woo Native Vegetation - old for                      | estream and downs ed upstream with c ed downstream wit by (within 0.25 mil ted  nt land use / land of each type): dland                     | stream with other other wetlands th other wetlands le) but not connectors in the area | cted a within 50 meters Road / highway Industrial Residential – si | · / / railroad bed / par | king lot      |
| X The site is connected up The site is only connected The site is only connected Other wetlands are near The wetland site is isolar (General assessment of adjace site (indicate the % abundance  75 Native Vegetation - woo Native Vegetation - old for Agricultural- tilled | estream and downs ed upstream with o ed downstream with by (within 0.25 mil ted  Int land use / land of each type):  Idland  Idland  Idland | stream with other other wetlands th other wetlands le) but not connectors in the area | cted a within 50 meters Boad / highway Industrial Residential – si | / / railroad bed / par   | king lot      |

| NWI Polygon #   | 127  | Data Reference #         | S5W127              | InWRAP, TERG May 2000              |
|---|--|--------------------------|---------------------|------------------------------------|
| (see table on page or<br>Tier 2 Individual<br>in the wetland) | •  | Assessment (to be o      | completed on-site f | or <u>each</u> NWI polygon present |
|   | orphic Setting and Surface.                          |                          | •                   |                                    |
| Depression  | nal Slope within the river/stream banks              |                          | oodplain            | Lacustrine                         |
| 2.2 Presence of Sta   |  | 1                        |                     |                                    |
| Is standing water no  | ormally present in the polygor                       | n? Yes                   |                     |                                    |
| If standing v   | water is present, is the water present in an adjacen | greater than 2 meters in | n depth? No         | <u> </u>                           |
| 2.3 Apparent Hydro  | period (check one):                                  |                          |                     |                                    |
| Permanently   |  | Artific                  | cially Flooded      |                                    |
| X Seasonally F Saturated (st                                  | looded<br>urface water seldom present)               | Artific                  | cially Drained      |                                    |
| 2.4 Soil Type:  |  |                          |                     |                                    |
| Organic (i  | .e. peat, etc.) X                                    | Mineral                  | Both Mi             | neral and Organic Present          |
| 2.5 Wetland Comm Floodplain Forest                            | unity Type for this NWI pol                          | ygon (see Key to Wetla   | and Communities     | of Indiana):                       |
| 2.6 Disturbances of   | f Hydrology (check all that                          | apply):                  |                     |                                    |
| X Ditching  |  | Culvert                  |                     |                                    |
| Tiles   |  | Other Hu                 | uman Disturbances   | s to the Hydrology (explain):      |
| Dams  |  |                          |                     | , 0, 1                             |
| X Road or Raili   | oad Embankment                                       |                          |                     |                                    |
| 2.7 Presence of Inv   | asive Exotics (Score as: S                           | = Scattered, F = Frequ   | ent, or C = Comm    | on):                               |
| Garlic Musta  | rd   | Glossy Buckthorn         |                     |                                    |
| Phragmities   |  | Reed canary grass        |                     |                                    |
| Purple looses   | strife   | Other (list):            |                     |                                    |
| 2.8 Presence of Sponone                                       | ecial Hydrologic Condition                           | s (i.e. seeps, wet slope | es, floating mat):  |                                    |
| TNOTIG  |  |                          |                     |                                    |
| 2.9 Presence of Spe   | ecial Community Types:                               |                          |                     |                                    |
| Bog   | Fen  | We                       | et Sand / Muck Fla  | ts or Mari Seeps                   |
| 2.10 Presence of K  | nown Federal or Indiana Ra                           | are, Threatened or End   | angered Species:    | :                                  |
|   | erved or known to be present                         |                          |                     |                                    |
| RTES Pre  | sent (list)  |                          |                     |                                    |
| 2.11 Wetland Polyg  | on Quality Descriptor (see                           | : Wetland Quality Desc   | criptions and chec  | ck one):                           |
| X Good  | Medium   | Po                       | oor                 |                                    |

| NWI    | Po   | olyg | jon  | #     | 127 Data Reference # S5W127   |
|--------|------|------|------|-------|---|
| Tier   | 3a   | In   | div  | idu   | al Polygon: Rapid Hydrology Indicators  |
| 3a.1 I | Not  | abl  | e F  | eatu  | res that influence water quality and hydrology:   |
| Estin  | nate | ed l | nerb | ace   | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |
| Estin  | nate | ed v | woo  | dy p  | ant foliar cover in the polygon 100-75 75-50 _X _50-25 <25  |
| Amo    | unt  | of ( | dea  | d wo  | ody material on the soil surface: nil (<5% cover) x scattered (5-15% cover) Frequent (>20% cover)   |
| 3a.2 \ | Nat  | ter  | Qua  | ality | Protection Questions:   |
| 1.     | Χ    | Υ    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.    | Χ    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.     |      | Y    | X    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.     | Χ    | Y    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.     | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|        |      |      |      |       | Average width of buffer area (in meters) 20 Approximate slope (percent) 1-2   |
| 3a.3 I | Floo | od a | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.    | Χ    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.     | Χ    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.     | Χ    | Y    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

5.

**X Y** 

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

| NWI Polygon #  | 127  | Data Reference #                 | S5W127  |                  |
|--|--|----------------------------------|---|------------------|
| Tier 3b Individual Polygon: Rapid Vegetation Description |  |                                  |   |                  |
| <b>3b.1 Zonation and</b> 1. How many                     | Interspersion: / vegetation zones are evident in t   | his wetland polygon? 1           |   |                  |
| 1b. If only one  | e vegetation zone is evident, which  | best describes the site?         |   |                  |
| X  | Polygon composed of a mosaic of heterogeneous textures across the  | •                                | hummocks, or tussocks                                 | 3;               |
|  | Polygon composed of a single ve  | egetation type with more or le   | ess uniform texture acro                              | oss the          |
|  | polygon.   |                                  |   |                  |
| the distributi   | one vegetation zone is present in on of these zones?   | the polygon, which intersper     | rsion diagram most clos                               | sely represents  |
| Туре   | One Interspersion  | 7                                | Type Two Interspersion                                | on               |
| (  |  |                                  |   |                  |
| 3b.2 Dominant Plan                                       | nt Species: Vegetation zone A  |                                  | Observation Point #1 number(s)ark location on the NWI | l polygon)       |
| What % of the polyg                                      | on does this vegetative zone occu  |                                  |   |                  |
| 10 – 25%   | 25 – 50 %  | 50 – 75%                         | 75 – 90%  | X >90%           |
| Is there notable layer                                   | ering/stratification in this vegetation  | r zone? Yes                      |   |                  |
|  | ous Species (i.e. covering more to the street of the street of the street out to the street of the s |                                  | in order of relative ab                               | undance. (Mark   |
| a Lysimachia nur   | mmularia   | d                                |   |                  |
| b Carex sp.  |  | e                                |   |                  |
| С  |  | f                                |   |                  |
| Dominant <b>Shrub</b> So                                 | pecies listed in order of relative abo   | ındance                          |   |                  |
| a Rosa palustris   |  |                                  |   |                  |
| b Lindera benzoii  | n  | ٦                                |   |                  |
|  |  |                                  |   |                  |
| •  | cies listed in order of relative abur  |                                  |   |                  |
| a Acer rubrum  | trio   |                                  |   | _                |
| b Quercus palust   |  | <u> </u>                         | touching X Mor  | e or less closed |
| Tree & Sinds earlop                                      | y 1111 30parato, 30  | dentitedening often              | todoming <u>X</u> Wor                                 | c or less diosed |
| Mature trees (>12" dbh) present: X yes no                |  |                                  |   |                  |
| Other remarks (inc                                       | lude personal comments about wh  | aat adds to or detracts from the | he quality of this wetlar                             | nd site).        |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 X sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aquat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 X \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 1 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 **Herbs: insectivorous plants** \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 X moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7

\*spiderlily (Hymenocallis occidentalis) 9

\*twig rush (Cladium mariscoides, N) 10

\*yellow-eyed grass (Xyris torta, N) 9

\*3-way sedge (Dulichium arundinaceum) 10

\*umbrella sedge (Fuirena squarrosa, N) 10 wild hyacinth (Camassia scilloides) 5

sweet flag (Acorus calamus) 0

InWrap, Terg revised June 2005

\*asters: bristly aster (Aster puniceus) 7

\*black-eyed Susan (Rudbeckia fulgida) 8

other aster spp. (e.g. New Engl.-, panicled-a) 3

\*flat-topped aster (A. umbellatus) 8

cardinal flower (Lobelia cardinalis) 4

#### Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed

**NWI Polygon #** 

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garlic mustard (Alliaria petio/ata) 0 \_ golden ragwort (Senecio aureus) 4

patula, S. riddellil) 9

ironweed spp. (Vernonia) 4

X lizard's tail (Saururus cernuus) 4

rose mallow spp. (Hibiscus) 4

lobelia spp. (Lobelia) 4

\_\_ \*goldenrod spp. (Solidago ohioensis, S.

dock spp.: swamp-, water-, pale- (Rumex) 4

\*grass of Parnassus (Parnassia glauca) 10 \*Indian plantain (Cacalia plantaginea) 10

primrose-willow spp.(Epilobium &Ludwigia) 3

tearthumb, water-pepper, water-sm.

X jewelweed, touch-me-not spp. (Impatiens) 3

\*marsh marigold (Caltha palustris) 7

sneezeweed (Helenium autumnale) 3

\*swamp saxifrage (Saxifraga pa.) 10

wingstem (Actinomeris alternifolia) 3

stinging nettle (Laportea canadensis) 2

\*Virginia bluebells (Mertensia virginica) 6

waterhemp (Amaranthus tuberculatus) 1

cress spp. (Cardamine) 4

|   | and or dooping lowed                           |
|---|--|
|   | aven spp.: rough a., white a. (Geum) 2         |
|   | *buttercup spp: e.g. cursed b., hooked b.,     |
|   | swamp b. (Ranunculus) 6                        |
|   | chervil (Chaerophyllum procumbens) 3           |
|   | *cowbane (Oxypolis rigidior) 7                 |
|   | *great angelica (Angelica atropurpurea) 6      |
|   | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 |
|   | honewort (Cryptotaenia canadensis) 3           |
|   | meadow rue spp. (Thalictrum) 5                 |
|   | poison ivy (vine) (Rhus radicans) 1            |
|   | *queen-of-the-prairie (Filipendula rubra) 9    |
|   | senna spp. (Cassia) 4                          |
| X | swamp agrimony (Agrimonia parviflora) 4        |
|   | *swamp thistle (Cirsium muticum) 8             |
|   | tall coneflower (Rudbeckia laciniata) 3        |
|   | *water hemlock spp. (Cicuta) 7                 |
|   | water parsnips (Sium suave) 5                  |

#### Shrubs - leaves opposite or whorled

| 450 | iouvoo oppoono oi milonou                     |
|-----|---|
|     | bladdernut (Staphylea trifolia) 5             |
|     | buckthorn spp. (Rhamnus cathar. & frangula) 0 |
|     | button bush (Cepha/anthus occidentalis) 5     |
|     | dogwood, red-osier (Cornus stolonifera) 4     |
|     | *dogwood, blue-fruited or silky Cornus        |
|     | obliqua) 7                                    |
|     | dogwood, gray (C. racemosa) 2                 |
|     | elderherry (Sambucus) 2                       |

|   | *alder, speckled (Alnus rugosa) 9          |
|---|--|
|   | birch, river (Betula nigra) 2              |
|   | black gum (Nyssa sylvatica) 5              |
|   | cottonwood, eastern (Populus deltoides) 1  |
|   | *cottonwood, swamp (P. heterophylla, SW) 8 |
| X | elm, Amer. (Ulmus americana) 3             |
|   | hackberry (Celtis occidentalis) 3          |

ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 \*oak, Shumard's, sw. chestnut, sw. white 7

\*papaw (Asimina triloba) 6 \*sugarberry (Celtis laevigata, S) 7

X sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; \*additional=7

**OTHER** Solidago sp.

# **IN-WRAP Summary Sheet**

| Date Re | eport Generated: 4/30/2012  |
|---------|---|
| Wetland | d site name: S5W128   |
| Data Re | eference #: 128a  |
| Date of | Site Visit: 4/27/2012   |
| NWI pol | lygons in Site (quadrangle and NWI id. numbers: Modesto                                       |
|         |   |
| TIER 1  | SUMMARY:  |
| a.      | Total wetland area (hectares): 1.07 (2.65 acres) Total Area Potentially Impacted              |
| b.      | Wetland size and connectivity – contribution to animal habitat:                               |
|         | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |
| C.      | Surrounding land use – numerical rank (max. = 1): 0.50  |
| d.      | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                    |
| TIER 2  | 2 SUMMARY: NWI Polygon Id. 128a   |
| a.      | Indiana Wetland community type: Floodplain Forest   |
| b.      | Standing water – contribution to animal habitat:   Valuable  Favorable  Neutral               |
| C.      | Disturbances to site: Road/Railroad Embankment  |
| d.      | Exotic species rating:  |
| e.      | Special Hydrologic Conditions Observed: None  |
| f.      | Special Community Type: None  |
| g.      | Rare-Threatened-Endangered Species: None  |
| h.      | Polygon Quality Description:  |
| TIED 1  | BA SUMMARY:   |
|         |   |
| a.      |   |
| b.      | Water quality protection – numerical rank (6 max): 5 Rating: ☐ Good ☐ Medium ☐ Poor           |
| C.      | Flood and storm water storage – numerical rank (5 max): 4 Rating: Good Medium Poor            |
| TIER 3  | BB SUMMARY:   |
| a.      | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.      | Stratification as indicator of animal habitat: 🛛 Valuable 🔲 Neutral                           |
| C.      | Number of dominant plant taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                      |
| d.      | Average coefficient of conservatism: 1.75 Rating: Good Medium Poor                            |
| e.      | Tree canopy as indicator of animal habitat: 🛛 Valuable 🔲 Neutral                              |
| f.      | Mature trees as indicator of animal habitat: ⊠ Valuable ☐ Favorable ☐ Neutral                 |
| g.      | Total hydrophytic taxa observed: 12 Rating: ☐ Good ☐ Medium ☒ Poor                            |
| h.      | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                     |

Data Reference # S5W128

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W12  | 8  |  |  |                                    |                  |
|---|--|--|--|------------------------------------|------------------|
| Ownership (if known):   |  |  |  |                                    |                  |
| USGS Topographic Quadrang   | gle(s): Modesto  |  |  |                                    |                  |
| USGS Watershed map 14-Dig   | git HUC: Bryant (  | Creek (Morgan)   | 0512020118004  | 0                                  |                  |
|   |  |  |  |                                    |                  |
| Identify each NWI Polygon with NWI Polygon ID Number  | nin the Wetland Site   | e (Polygon spec<br>I   | ific data)   |                                    |                  |
| Cowardin Classification   | PFO1A  |  |  |                                    |                  |
| Polygon Size (hectares)   | 1.07 (2.65 acres)  |  |  |                                    |                  |
| NWI Polygon ID Number   |  | 1  |  |                                    |                  |
| Cowardin Classification   |  |  |  |                                    |                  |
| Polygon Size (hectares)   |  |  |  |                                    |                  |
| 1.2 Site Visit:  Team Members: K. Schroed Agency: INDOT   | der & D. White   |  |  |                                    |                  |
| Date assessed: 4/27/2012  |  | Time   | assessed: 10:00  | am                                 |                  |
| <u></u>   |  |  | 10.00  | am                                 |                  |
| Weather conditions: 50 F,   | railly Cloudy  |  |  |                                    |                  |
| Note any unusual weather eve  |  |  |  | within this wetla                  | nd system (e.g.  |
| Note any unusual weather ever recent heavy rains, an unusual  1.3 Wetland Size:   |  |  |  | within this wetla                  | nd system (e.g.  |
| recent heavy rains, an unusual  | ly dry season, an e  | especially early s   |  | within this wetla                  | nd system (e.g.  |
| 1.3 Wetland Size:   | ly dry season, an e  | especially early s   | spring, etc.):   |                                    | nd system (e.g.  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon the site is only connected on the site is only connected  | t: 1.07 hectares () (all continuous wellands or wetlands pstream and downsted upstream with continuous wellands are downstream with continuous wellands or wetlands are downstream with continuous wellands are downstream with continuous wellands are downstream with continuous wellands.   | especially early seconds (2.65 acres)  Itland polygons):  d complexes: stream with other other wetlands  | spring, etc.):  1.07 hectares (2 er wetlands                                       |                                    | nd system (e.g.  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other was to be a connected up to the site is connected up to the site is only connected.   | t: 1.07 hectares () (all continuous wellands or wetlands pstream and downsted upstream with continuous wellands are downstream with continuous wellands or wetlands are downstream with continuous wellands are downstream with continuous wellands are downstream with continuous wellands.   | especially early seconds (2.65 acres)  Itland polygons):  d complexes: stream with other other wetlands  | spring, etc.):  1.07 hectares (2 er wetlands                                       |                                    | nd system (e.g.  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon the site is only connected on the site is only connected  | t:1.07 hectares (:   | especially early seconds (2.65 acres)  Itland polygons):  d complexes: stream with other other wetlands  | spring, etc.):  1.07 hectares (2 er wetlands                                       |                                    | nd system (e.g.  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon the site is only connected with the site is only connected to the site is only connecte | t: 1.07 hectares (: (all continuous wetlands or wetlands pstream and downs red upstream with cored downstream with the cored to the cor | especially early section (2.65 acres)  Itland polygons):  It d complexes:  It stream with other  It other wetlands  It other wetlands  It other wetlands             | 1.07 hectares (2 er wetlands s ected   | 2.65 acres)                        |                  |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected to the site is only connected  | t: 1.07 hectares (: (all continuous wetlands or wetlands pstream and downs red upstream with cored downstream with the cored within 0.25 mill atted the core and use / land of each type):   | especially early section (2.65 acres)  Itland polygons):  It d complexes:  It stream with other  It other wetlands  It other wetlands  It other wetlands             | 1.07 hectares (2 er wetlands s ected   | of the perimete                    | r of the wetland |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is connected upon The site is only connected to  | t: 1.07 hectares (2) (all continuous were wetlands or wetlands pstream and downs red downstream with cored downstream with rby (within 0.25 millated ent land use / land of each type):  | especially early seconds (2.65 acres)  Itland polygons):  d complexes: stream with other other wetlands th other wetlands th other wetlands the) but not connections | 1.07 hectares (2 er wetlands sected a within 50 meters                             | of the perimete                    | r of the wetland |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected to the site is only connected.  X The site is only connected to the wetlands are near the wetland site is isolated (General assessment of adjaces site (indicate the % abundance to the site is only connected.)   | t: 1.07 hectares (2) (all continuous were wetlands or wetlands pstream and downs red downstream with cored downstream with rby (within 0.25 millated ent land use / land of each type):  | especially early seconds (2.65 acres)  Itland polygons):  d complexes: stream with other other wetlands th other wetlands th other wetlands the) but not connections | 1.07 hectares (2) er wetlands sected a within 50 meters Road / highway             | of the perimete                    | r of the wetland |
| 1.3 Wetland Size: Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected upon The site is only connected.  X The site is only connected upon The wetlands are near The wetland site is isolated (General assessment of adjaces site (indicate the % abundances)  Native Vegetation - wood Native Vegetation - old   | t: 1.07 hectares (2) (all continuous were wetlands or wetlands pstream and downs red downstream with cored downstream with rby (within 0.25 millated ent land use / land of each type):  | especially early seconds (2.65 acres)  Itland polygons):  d complexes: stream with other other wetlands th other wetlands th other wetlands the) but not connections | 1.07 hectares (2 2 er wetlands sected a within 50 meters Road / highway Industrial | of the perimete / railroad bed / p | r of the wetland |

| NWI Polygon # (see table on page or | 128a<br>ne)   | Data Reference #         | S5W128                 | InWRAP, TERG May 2000              |
|-------------------------------------|---|--------------------------|------------------------|------------------------------------|
| Tier 2 Individual in the wetland)   | Polygon: Preliminary  | Assessment (to be        | completed on-site f    | or <u>each</u> NWI polygon present |
| X Depression                        | orphic Setting and Surface.  onal Slope within the river/stream banks                             | e Flo                    | <b>e):</b><br>podplain | Lacustrine                         |
| 2.2 Presence of Sta                 | anding Water:   |                          |                        |                                    |
| If standing v                       | ormally present in the polygon<br>water is present, is the water<br>ormally present in an adjacer | greater than 2 meters in | depth? No              |                                    |
| 2.3 Apparent Hydro                  | pperiod (check one):  |                          |                        |                                    |
| X Permanently                       |   | Artific                  | cially Flooded         |                                    |
| Seasonally F Saturated (st          | looded<br>urface water seldom present)  | Artific                  | cially Drained         |                                    |
| 2.4 Soil Type: Organic (i           | .e. peat, etc.) X   | Mineral                  | Both Mi                | neral and Organic Present          |
| 2.5 Wetland Comm Floodplain Forest  | unity Type for this NWI pol   | ygon (see Key to Wetla   | and Communities        | of Indiana):                       |
|                                     | f Hydrology (check all that   | apply):<br>Culvert       |                        |                                    |
|                                     |   |                          | unan Diatumbanasa      | to the Underland (and air).        |
| Tiles<br>Dams                       |   | Other Hu                 | iman disturbances      | to the Hydrology (explain):        |
| X Road or Rail                      | road Embankment   |                          |                        |                                    |
| 2.7 Presence of Inv                 | asive Exotics (Score as: S  | = Scattered, F = Frequ   | ent, or C = Comm       | on):                               |
| Garlic Musta                        | rd  | Glossy Buckthorn         |                        |                                    |
| Phragmities                         | <u>_S</u>   | Reed canary grass        |                        |                                    |
| Purple looses                       | strife  | Other (list):            |                        |                                    |
| 2.8 Presence of Sp                  | ecial Hydrologic Conditions   | s (i.e. seeps, wet slope | s, floating mat):      |                                    |
| 2.9 Presence of Sp                  | ecial Community Types:  | We                       | et Sand / Muck Fla     | ts or Mari Seeps                   |
| 2.10 Presence of K                  | nown Federal or Indiana Ra  | re, Threatened or End    | angered Species:       |                                    |
| X None obs                          | erved or known to be present  |                          |                        |                                    |
| RTES Pre                            | ·   |                          |                        |                                    |
| 2.11 Wetland Polyg                  | on Quality Descriptor (see  | Wetland Quality Desc     | criptions and chec     | k one):                            |
| X Good                              | Medium  | Po                       | or                     |                                    |

| NWI Polygon # |      | #   | 128a Data Reference # S5W128 |       |   |          |  |  |  |  |
|---------------|------|-----|------------------------------|-------|---|----------|--|--|--|--|
| Tier          | 3a   | In  | div                          | 'idu  | al Polygon: Rapid Hydrology Indicators  |          |  |  |  |  |
| 3a.1 I        | Not  | ab  | le F                         | eatu  | es that influence water quality and hydrology:  |          |  |  |  |  |
| Estin         | nate | ed  | herk                         | oace  | us plant cover (percentage) in the polygon 100-75 75-50 50-25 _X <2   | 25       |  |  |  |  |
| Estin         | nate | ed  | woo                          | dy p  | ant foliar cover in the polygon 100-75 _X_ 75-50 50-25 <2   | 25       |  |  |  |  |
| Amo           | unt  | of  | dea                          | d wo  | ody material on the soil surface: nil (<5% cover) scattered (5-15% cover)X Frequent (>20% cover)  | r)       |  |  |  |  |
| 3a.2 \        | Nat  | ter | Qua                          | ality | Protection Questions:   |          |  |  |  |  |
| 1.            | X    | Y   |                              | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |          |  |  |  |  |
| 2.            |      | Υ   | X                            | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |          |  |  |  |  |
| 3.            |      |     |                              |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |          |  |  |  |  |
| 3a.           | X    | Y   |                              | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |          |  |  |  |  |
| 3b.           |      | Y   |                              | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |          |  |  |  |  |
| 4.            | X    | Y   |                              | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |          |  |  |  |  |
| 5.            | X    | Y   |                              | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   | <b>;</b> |  |  |  |  |
| 6.            | Χ    | Y   |                              | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |          |  |  |  |  |
|               |      |     |                              |       | Average width of buffer area (in meters) 10-20 Approximate slope (percent) 1-2  |          |  |  |  |  |
| 3a.3 I        | Flo  | od  | and                          | l Sto | mwater Storage / Attenuation Questions:   |          |  |  |  |  |
| 1.            |      |     |                              |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |          |  |  |  |  |
| 1a.           | X    | Y   |                              | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |          |  |  |  |  |
| 1b.           |      | Υ   |                              | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |          |  |  |  |  |
| 2.            | X    | Y   |                              | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |          |  |  |  |  |
| 3.            | X    | Y   |                              | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |          |  |  |  |  |
| 4.            |      | Y   | X                            | N     | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |          |  |  |  |  |

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

5.

**X Y** 

| NWI Polygon #                        | 128a Data Reference # S5W128                              |                                |  |  |  |  |
|--------------------------------------|---|--------------------------------|--|--|--|--|
| Tier 3b Individu                     | ıal Polygon: Rapid Veget                                  | ation Description              |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion:<br>y vegetation zones are evident i        | n this wetland polygon? 1      |  |  |  |  |
| 1b. If only one                      | e vegetation zone is evident, wh                          | ich best describes the site?   |  |  |  |  |
| X                                    | Polygon composed of a mosai heterogeneous textures across | •                              | hummocks, or tussocks;   |  |  |  |
|                                      | Polygon composed of a single polygon.                     | vegetation type with more or   | less uniform texture across the                                  |  |  |  |
|                                      | one vegetation zone is present ion of these zones?        | in the polygon, which interspe | ersion diagram most closely represents                           |  |  |  |
| Туре                                 | e One Interspersion                                       |                                | Type Two Interspersion   |  |  |  |
| (                                    |   |                                |  |  |  |  |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone A                             | Photo                          | Observation Point #1 number(s) nark location on the NWI polygon) |  |  |  |
| What % of the polyg                  | gon does this vegetative zone or                          |                                | 1 73 /   |  |  |  |
| X 10 – 25%                           | 25 – 50 %   | 50 – 75%                       | 75 – 90% >90%  |  |  |  |
| Is there notable laye                | ering/stratification in this vegetat                      | ion zone? Yes                  |  |  |  |  |
|                                      |   |                                | d in order of relative abundance. (Mark                          |  |  |  |
| a <i>Lysimachia nui</i>              | es that forms extensive monocul                           | turai patches).<br>d           |  |  |  |  |
| b                                    | Timalana  | e                              |  |  |  |  |
| c                                    |   | f                              |  |  |  |  |
|                                      |   |                                |  |  |  |  |
| Dominant <b>Shrub</b> Sp             | pecies listed in order of relative a                      | abundance.                     |  |  |  |  |
| a Acer negundo                       |   |                                |  |  |  |  |
| b                                    |   | d                              |  |  |  |  |
| Dominant Tree Coa                    | aine lieted in audem of valetime of                       | do.a.a                         |  |  |  |  |
| a Fraxinus pensy                     | cies listed in order of relative ab                       |                                |  |  |  |  |
| b Platanus occid                     |   |                                |  |  |  |  |
|                                      |   | <del></del>                    | en touching More or less closed                                  |  |  |  |
|                                      | dbh) present: X yes                                       | no                             | <u> </u>   |  |  |  |
| Other remarks (inc                   | lude personal comments about                              | what adds to or detracts from  | the quality of this wetland site).                               |  |  |  |

| NWI Polygon # | 1292          | Data Reference # | CE/M420 |  |
|---------------|---------------|------------------|---------|--|
| NWI Polygon # | 1 <b>2</b> 8a | Data Reference # | 33W128  |  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \*= species with high conservationism

| Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 *ferns: marsh shield fern spp. (Dryopteris) 7 | Herbs: wide-leafed monocots  *arrow arum (Peltandra virginica, N) 6           |
|--|---|
| *cinnamon fern (Osmunda cinnamomea) 9  | arrow-head spp. (Sagittaria) 4 *green dragon (Arisaema dracontium) 6          |
| *royal fern (Osmunda regalis) 8  | Jack-in-the-pulpit (Arisaema triphyllum) 4                                    |
| sensitive fern (Onoclea sensibilis) 4  | pickerel weed (Pontederia cordata, N) 5                                       |
| *other: species (if known) marsh club moss (Selaginella apoda) 4   | *skunk cabbage (Symplocarpus foetidus) 8                                      |
| *Sphagnum moss spp. (Sphagnum, N) 10   | *water arum (Calla palustris, N) 10 water plantain (Alisma plantago-aquat.) 2 |
| Herbs: Ivs. floating or submergent   | Herbs: dicots - Ivs. opposite/whorled   |
| *bladderwort spp. (Utricularia, N) 10  | *bedstraw spp. (Galium) 6   |
| coontail (Ceratophyllum demersum, N) 1   | beggar's tick spp. (Bidens) 3   |
| duckweed spp. (Lemnaceae) 3  | blue vervain (Verbena hastata) 3  |
| *pondweed spp. (Potamogeton) 8 (except 0 for   | boneset (Eupatorium perfoliatum) 4  |
| introduced <i>P. crispus</i> )   | bugleweed spp. (Lycopus) 5  |
| *water lily (Nymphaea tuberosa, N) 6   | clearweed spp. (Pilea) 3  |
| water shield (Brasenia schreberi, N) 4   | cup plant (Silphium perfoliatum) 4  |
| *yellow spatterdock spp. (Nuphar) 6  | false nettle (Boehmeria cylindrica) 3   |
| Herbs: insectivorous plants  | *fen betony (Pedicularis lanceolata) 6  |
| *pitcher plant (Sarracenia purpurea,N) 10  | *gentian spp. (Gentiana & Gentianopsis) 8                                     |
| *sundew spp. (Drosera, N) 10   | giant ragweed (Ambrosia trifida) 0  |
|  | Indian hemp (Apocynum cannabinum) 2   |
| Herbs: linear-lvs. or leafless ± monocots  | Joe-pye weed spp. (Eupatorium) 5  |
| *beak rush spp. (Rhynchospora, N) 10   | *loosestrife spp. (Lysimachia) 6<br>meadow beauty (Rhexia virginica) 5        |
| blueflag iris (Iris virginica) 5   | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5                             |
| bulrush spp. (Scirpus / Schoenoplectus) 5  | <b>X</b> moneywort (Lysimachia nummularia) 0                                  |
| *bur reed spp. (Sparganium) 9 cat-tail spp. (Typha) 1  | monkey flower spp. (Mimulus) 4  |
| *cotton grass spp. ( <i>Friophorum,</i> N) 10  | nettle (Urtica pro cera) 1  |
|  | purple loosestrife (Lythrum salicaria) 0                                      |
| Grasses (family <i>Gramineae</i> ) - indicate types & number of species  | *richweed (Collinsonia canadensis) 8  |
| a. *wild rice (Zizania aquatica, N) 10   | *St. John's wort spp.(Hypericum/Triandeum)8                                   |
| b. most native perennial grass spp. 4: e.g.  | sunflower spp. (Helianthus) 4   |
| cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other  | *swamp loosestrife (Decodon verticillatus, N) 8                               |
| 1 c. introduced grass spp. 0: reed canary  | swamp milkweed (Asclepias incarnata) 4  |
| grass [Phalaris], reed [Phragmites], annual  | toothcup spp. (Ammania & Rotala) 2  |
| grasses such as annual foxtail [Setaria] &   | *turtlehead spp. (Chelone) 8  |
| barnyard grass <i>Echinochloa</i> ]  | virgin's bower (vine) (Clematis virginiana) 3                                 |
| needle sedge spp. (Eleocharis) sp.1 =2   | water puslane (Ludwigia palustris) 3  |
| *additional=8  | winged loosestrife (Lythrum alatum) 5   |
| nutsedge spp. (Cyperus) 2  | Herbs: (vines): dicots - lvs. alternate or basal                              |
| *orchid spp.: species (if known)   | and simple  |
| rush spp. (Juncus) 4   | Amer. bellflower (Campanula americana) 4                                      |
| 2 sedge spp. (Carex) sp.1=3 *additional=7  | *asters: bristly aster (Aster puniceus) 7                                     |
| *spiderlily (Hymenocallis occidentalis) 9  | *flat-topped aster (A. umbellatus) 8  |
| sweet flag (Acorus calamus) 0  | other aster spp. (e.g. New Engl, panicled-a) 3                                |
| *3-way sedge (Dulichium arundinaceum) 10 *twig rush (Cladium mariscoides, N) 10                                  | *black-eyed Susan (Rudbeckia fulgida) 8                                       |
| *umbrella sedge (Fuirena squarrosa, N) 10  | cardinal flower (Lobelia cardinalis) 4  |
| wild hyacinth (Camassia scilloides) 5  | InWrap, Terg revised June 2005  |
| *yellow-eyed grass ( <i>Xyris torta</i> , N) 9   |   |

|          | cross ann (Cardamina) 4   | Shrubs - Ivs. alternate  |
|----------|---|--|
|          | cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4   | *cranberry spp. (Vaccinium, N) 10  |
|          |   | *dwarf birch (Betula pumila, N) 10   |
|          | garlic mustard (Alliaria petio/ata) 0   |  |
|          | golden ragwort (Senecio aureus) 4   | *high bush blueberry (V. corymbosum, N) 9  |
|          | *goldenrod spp. (Solidago ohioensis, S.   | *leatherleaf (Chamaedaphne calycul., N) 10   |
|          | patula, S. riddellil) 9   | meadowsweet & hardhack spp.(Spiraea) 4   |
|          | *grass of Parnassus (Parnassia glauca) 10   | *ninebark (Physocarpus opulifoius) 7   |
|          | *Indian plantain (Cacalia plantaginea) 10   | *shrubby cinquefoil (Potentilla fruticosa) 9   |
|          | ironweed spp. (Vernonia) 4  | spice bush (Lindera benzoin) 5   |
| <u> </u> | jewelweed, touch-me-not spp. (Impatiens) 3  | *swamp dewberry (Rubus hispidus) 6   |
|          | lizard's tail (Saururus cernuus) 4  | *swamp holly & winterberry (/lex spp.) 7   |
|          | lobelia spp. (Lobelia) 4  | swamp rose (Rosa palustris) 5  |
|          | *marsh marigold (Caltha palustris) 7  |  |
|          | *moonseed (vine) (Menispermum canadense) 6  | Trees - Ivs. needle shaped   |
|          | primrose-willow spp.(Epilobium &Ludwigia) 3   | *tamarack (Larix laricina, N) 10   |
|          | rose mallow spp. (Hibiscus) 4   | Trees - Ivs. compound  |
|          | smartweed spp.: incl. jumpseed, pinkweed,   | *ash, black (Fraxinus nigra) 7   |
|          | tearthumb, water-pepper, water-sm.  | x ash, green (Fraxinus pensylvanica) 3   |
|          | (Polygonum) 4 [Except *for P. arifolium 10]   |  |
|          | sneezeweed (Helenium autumnale) 3   | *ash, pumpkin (Fraxinus tomentosa, SW) 8   |
| X        | stinging nettle (Laportea canadensis) 2   | <u>X</u> boxelder (Acer negundo) 1   |
|          | *swamp saxifrage (Saxifraga pa.) 10   | hickory, bitternut (Carya cordiformis) 5   |
|          | *Virginia bluebells (Mertensia virginica) 6   | *hickory, shell bark (Carya laciniosa) 8   |
|          | waterhemp (Amaranthus tuberculatus) 1   | honey locust (Gleditsia triacanthos) 1   |
|          | wingstem (Actinomeris alternifolia) 3   | *poison sumac (Rhus vernix) 10   |
|          | dicots - Ivs. basal or alternate and und or deeply lobed aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 *cowbane (Oxypolis rigidior) 7 *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1 *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3 *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | x red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate     *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 X sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrubs   | bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7   | OTHER  |
|          | dogwood, gray (C. racemosa) 2<br>elderberry (Sambucus) 2  |  |
|          | Glucibelly (Jailibucus) 2   | InWrap, Terg revised June 20   |

| Date Re | eport Generated: 4/28/2012  |  |  |  |  |  |
|---------|---|--|--|--|--|--|
| Wetland | site name: S5W145   |  |  |  |  |  |
| Data Re | eference #: 145   |  |  |  |  |  |
| Date of | Site Visit: 4/26/12   |  |  |  |  |  |
| NWI pol | lygons in Site (quadrangle and NWI id. numbers: Modesto                                       |  |  |  |  |  |
|         |   |  |  |  |  |  |
| TIER 1  | SUMMARY:  |  |  |  |  |  |
| a.      | Total wetland area (hectares):02 (0.06 acres)   |  |  |  |  |  |
| b.      | Wetland size and connectivity – contribution to animal habitat:                               |  |  |  |  |  |
|         | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |  |  |  |  |  |
| C.      | Surrounding land use – numerical rank (max. = 1): 0.6   |  |  |  |  |  |
| d.      | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                    |  |  |  |  |  |
| TIER 2  | SUMMARY: NWI Polygon Id. 145  |  |  |  |  |  |
| a.      | Indiana Wetland community type: Wet Meadow  |  |  |  |  |  |
| b.      | Standing water – contribution to animal habitat:   Valuable  Favorable  Neutral               |  |  |  |  |  |
| C.      | Disturbances to site: Road embankment   |  |  |  |  |  |
| d.      | Exotic species rating: Good Medium Poor   |  |  |  |  |  |
| e.      | Special Hydrologic Conditions Observed: None  |  |  |  |  |  |
| f.      | Special Community Type: None  |  |  |  |  |  |
| g.      | Rare-Threatened-Endangered Species: None  |  |  |  |  |  |
| h.      | Polygon Quality Description: Good Medium Poor   |  |  |  |  |  |
| TIED 2  | BA SUMMARY:   |  |  |  |  |  |
|         |   |  |  |  |  |  |
| a.      | Dead woody material as indicator of animal habitat:   |  |  |  |  |  |
| b.      | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☐ Medium ☐ Poor           |  |  |  |  |  |
| C.      | . Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor          |  |  |  |  |  |
| TIER 3  | BB SUMMARY:   |  |  |  |  |  |
| a.      | . Zonation and interspersion as indicator of animal habitat: 🗵 Valuable 🔲 Favorable 🔲 Neutral |  |  |  |  |  |
| b.      | Stratification as indicator of animal habitat:   Valuable   Neutral                           |  |  |  |  |  |
| C.      | Number of dominant plant taxa observed: 5 Rating: ☐ Good ☒ Medium ☐ Poor                      |  |  |  |  |  |
| d.      | Average coefficient of conservatism: 4.2 Rating: Good Medium Poor                             |  |  |  |  |  |
| e.      | Tree canopy as indicator of animal habitat:   Valuable   Neutral                              |  |  |  |  |  |
| f.      | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral                 |  |  |  |  |  |
| g.      | Total hydrophytic taxa observed: 9 Rating: ☐ Good ☐ Medium ☒ Poor                             |  |  |  |  |  |
| h.      | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                     |  |  |  |  |  |

Data Reference # S5W145

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetla                                   | and site name: S5W14   | 5  |  |                         |                       |         |
|---|--|--|--|-------------------------|-----------------------|---------|
| Ownership (if known):                   |  |  |  |                         |                       |         |
| USGS Topographic Quadrangle(s): Modesto |  |  |  |                         |                       |         |
| USG                                     | S Watershed map 14-Dig   | jit HUC: Buck C  | reek (512020100  | 60)                     |                       |         |
| Identif                                 | y each NWI Polygon with  | in the Wetland Site  | e (Polygon specif  | ic data)                |                       |         |
|   | Polygon ID Number  | 145  | (  |                         |                       |         |
|   | ardin Classification   | PEM  |  |                         |                       |         |
| Polyg                                   | on Size (hectares)   | 0.02 (0.06 acres)  |  |                         |                       |         |
| NWI                                     | Polygon ID Number  |  |  |                         |                       |         |
|   | ardin Classification   |  |  |                         |                       |         |
| Polyg                                   | on Size (hectares)   |  |  |                         |                       |         |
| Tean                                    | <b>te Visit:</b><br>n Members: <u>K. Schroed</u><br>ncy: INDOT   | der & D. White   |  |                         |                       |         |
| _                                       | assessed: 4/26/2012  |  | Time a   | ssessed: 1:30 pm        |                       |         |
|   |  | 0  | Tillle a   | 33e33eu. <u>1.50 pm</u> |                       |         |
| wea                                     | ther conditions: 70 F,   | Sunny  |  |                         |                       |         |
| 1.3 W                                   | theavy rains, an unusualletland Size:  |  |  | oring, etc.):           |                       |         |
| Size                                    | of site under assessment   | : 0.02 hectares (  | 0.06 acres)  |                         |                       |         |
| Size                                    | of total wetland complex   | (all continuous we   | tland polygons):   | 0.02 hectares (0.06     | 3 acres)              |         |
|   | te Setting: e of isolation from other w The site is connected up The site is only connecte The site is only connecte Other wetlands are near | estream and downs<br>ed upstream with o<br>ed downstream with<br>by (within 0.25 miles | stream with other<br>other wetlands<br>th other wetlands |                         |                       |         |
| •                                       | ral assessment of adjace ndicate the % abundance   |  | cover in the area  | within 50 meters of     | the perimeter of the  | wetland |
| 25                                      | Native Vegetation - woo  | dland  | 25   | Road / highway / ra     | ailroad bed / parking | lot     |
|   | Native Vegetation - old f  | ield / scrub   |  | Industrial              |                       |         |
|   | Agricultural- tilled   |  |  | Residential – singl     | e family              |         |
|   | Agricultural - pasture   |  |  | Commercial or mu        | Itifamily residential |         |
| 50                                      | Recreation - green space, mowed  |  |  |                         |                       |         |

|                    | Polygon #<br>able on page o | <u>145</u><br>one) |   | _ Data Reference #               | S5W145                 | InWRAP, TERG May 2000         |
|--------------------|-----------------------------|--------------------|---|----------------------------------|------------------------|-------------------------------|
|                    | 2 Individua<br>wetland)     | al Polygon:        | Preliminary A                             | <b>Assessment</b> (to be o       | completed on-site      | for each NWI polygon present  |
| 2.1 W              | etland Geon                 | -                  | ng and Surface. V<br>X Slope              | Vater Flow (check on             | <b>e):</b><br>podplain | Lacustrine                    |
|                    | Riverine                    | (within the riv    | er/stream banks)                          |                                  | _                      |                               |
| 2.2 Pr             | resence of S                | tanding Wate       | r:  |                                  |                        |                               |
| ls sta             | anding water                | normally prese     | ent in the polygon                        | ? <u>No</u>                      |                        |                               |
| ls sta             | -                           | •                  | ent, is the water g<br>ent in an adjacent | reater than 2 meters in polygon? | depth? No              |                               |
| 2.3 A <sub> </sub> | pparent Hyd                 | roperiod (che      | eck one):                                 |                                  |                        |                               |
|                    | Permanentl                  | •                  |   | Artific                          | cially Flooded         |                               |
| <u>X</u>           | Seasonally<br>Saturated (s  |                    | seldom present)                           | Artific                          | cially Drained         |                               |
|                    | oil Type:                   | _                  |   |                                  |                        |                               |
| X                  | Organic                     | (i.e. peat, etc.   |   | Mineral<br>—                     | Both M                 | lineral and Organic Present   |
| 2.5 W              | etland Comr                 | munity Type f      | or this NWI poly                          | gon (see Key to Wetla            | and Communitie         | s of Indiana):                |
|                    | meadow                      |                    | o po.y,                                   | yo (000 1.0) to 110              |                        | o or manamay.                 |
|                    |                             |                    |   |                                  |                        |                               |
| 2.6 Di             |                             | of Hydrology       | (check all that a                         |                                  |                        |                               |
|                    | Ditching                    |                    |   | Culvert                          |                        |                               |
|                    | Tiles<br>Dams               |                    |   | Other Hu                         | ıman Disturbance       | s to the Hydrology (explain): |
| X                  | _                           | ilroad Embanl      | rment                                     |                                  |                        |                               |
|                    | -                           |                    |   |                                  |                        |                               |
| 2.7 Pı             | resence of In               | vasive Exoti       | cs (Score as: S =                         | Scattered, F = Frequ             | ent, or C = Comr       | mon):                         |
| F                  | Garlic Must                 | ard                | (   | Glossy Buckthorn                 |                        |                               |
|                    | Phragmities                 |                    |   | Reed canary grass                |                        |                               |
|                    | Purple loos                 | estrife            | (   | Other (list):                    |                        |                               |
| 2.8 Pr             | resence of S                | pecial Hydrol      | ogic Conditions                           | (i.e. seeps, wet slope           | es, floating mat):     |                               |
| Non                | е                           |                    |   |                                  |                        |                               |
| 0 0 D              |                             |                    |   |                                  |                        |                               |
| 2.9 PI             |                             | pecial Comm        |   | \\/                              | ot Sand / Muck El      | ate or Mari Soons             |
|                    | Bog                         |                    | Fen                                       |                                  | et Sand / Muck Fi      | ats or Mari Seeps             |
| 2.10 F             | Presence of                 | Known Feder        | al or Indiana Rar                         | e, Threatened or End             | angered Species        | 3:                            |
| Х                  | None ob                     | served or kno      | wn to be present                          |                                  |                        |                               |
|                    |                             | resent (list)      |   |                                  |                        |                               |
| 2 11 \             | Netland Poly                | raon Quality       | Descriptor (see:                          | Wetland Quality Desc             | erintions and cha      | eck one):                     |
|                    | Good                        | X                  | Medium                                    | Po                               | -                      |                               |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

Is the wetland located in a local watershed which has highly modified runoff conditions due to

existing development (e.g. >50% area in row crop, commercial, or residential use)?

impermeable, or is bedrock within two feet of the top of the soil profile?

damages)?

Χ

Ν

X Y

4.

5.

| NWI Polygon #                                 | 145   | Data Reference # S5W145  |
|---|---|--|
| Tier 3b Individu                              | ıal Polygon: Rapid V                                  | egetation Description  |
| <b>3b.1 Zonation and</b> 1. How man           | -   | dent in this wetland polygon? _1   |
| 1b. If only on                                | e vegetation zone is evider                           | nt, which best describes the site?   |
| X   | Polygon composed of a neterogeneous textures          | mosaic of small vegetation patches, hummocks, or tussocks; across the polygon.               |
|   | Polygon composed of a spolygon.                       | single vegetation type with more or less uniform texture across the                          |
| <ol><li>If more than</li></ol>                |   | esent in the polygon, which interspersion diagram most closely represents                    |
| the distribut                                 | ion of these zones?                                   |  |
| Тур   | e One Interspersion                                   | Type Two Interspersion   |
|   |   |  |
| 3b.2 Dominant Pla                             | nt Species: Vegetation z                              | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)              |
| What % of the poly                            | gon does this vegetative zo                           |  |
| 10 – 25%                                      |   | 50 – 75% 75 – 90% >90%   |
|   | ering/stratification in this ve                       |  |
| Dominant <b>Herbace</b> with an * any species | ous Species (i.e. covering es that forms extensive mo | more than 10% of the area) listed in order of relative abundance. (Mark nocultural patches). |
| a Polygonum pe                                | nsylvanicum   | d <i>Impatiens sp.</i>   |
| b Carex sp.                                   | t.  | e  |
| c Polygonum pe                                | rsicaria  | f  |
| Dominant Chruh C                              | againg ligted in order of rel                         | ativo abundance  |
| 0-1'  | pecies listed in order of rela                        |  |
|   |   |  |
|   |   | a  |
| Dominant <b>Tree</b> Spe                      | ecies listed in order of relat                        | ve abundance.  |
| •   |   |  |
| I.  |   |  |
| Tree & shrub canop                            | oy: X nil sep   | parate, seldom touching often touching More or less closed                                   |
|   | dbh) present:   |  |
| Other remarks (inc                            | clude personal comments a                             | about what adds to or detracts from the quality of this wetland site).                       |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| (N = northern Indiana) $SW = southwestern Indiana$ numb                                | ers = C-coefficients ^= species with high conservationism                            |
|--|--|
| Herbs: non-seed plants   |  |
| horsetail, scouring rush spp. (Equisetum) 2  | Herbs: wide-leafed monocots  |
| *ferns: marsh shield fern spp. ( <i>Dryopteris</i> ) 7                                 | *arrow arum (Peltandra virginica, N) 6   |
| *cinnamon fern (Osmunda cinnamomea) 9  | arrow-head spp. (Sagittaria) 4   |
| *royal fern (Osmunda regalis) 8  | *green dragon (Arisaema dracontium) 6  |
| sensitive fern (Onoclea sensibilis) 4  | Jack-in-the-pulpit (Arisaema triphyllum) 4   |
| *other: species (if known)   | pickerel weed (Pontederia cordata, N) 5  |
| marsh club moss (Selaginella apoda) 4  | *skunk cabbage (Symplocarpus foetidus) 8   |
| *Sphagnum moss spp. (Sphagnum, N) 10   | *water arum (Calla palustris, N) 10  |
| Spriagram moss spp. (Spriagram, N) 10  | water plantain (Alisma plantago-aquat.) 2  |
| Herbs: Ivs. floating or submergent   | water plantain (7 inorna plantage aquat.) 2  |
| *bladderwort spp. (Utricularia, N) 10  | Herbs: dicots - Ivs. opposite/whorled  |
| coontail (Ceratophyllum demersum, N) 1   | *bedstraw spp. (Galium) 6  |
| duckweed spp. (Lemnaceae) 3  | beggar's tick spp. (Bidens) 3  |
| *pondweed spp. (Potamogeton) 8 (except 0 for   | blue vervain (Verbena hastata) 3   |
| introduced <i>P. crispus</i> )   | boneset (Eupatorium perfoliatum) 4   |
| *water lily (Nymphaea tuberosa, N) 6   | bugleweed spp. (Lycopus) 5   |
| water shield (Brasenia schreberi, N) 4   | clearweed spp. (Pilea) 3   |
| *yellow spatterdock spp. (Nuphar) 6  | cup plant (Silphium perfoliatum) 4   |
| your spanishasin spp. (Hapman) s   | false nettle (Boehmeria cylindrica) 3  |
| Herbs: insectivorous plants  | *fen betony (Pedicularis lanceolata) 6   |
| *pitcher plant <i>(Sarracenia purpurea,N) 10</i>                                       | *gentian spp. (Gentiana & Gentianopsis) 8  |
| *sundew spp. (Drosera, N) 10   | giant ragweed (Ambrosia trifida) 0   |
|  | Indian harm (Anagymy agamahinym) 2   |
| Herbs: linear-lvs. or leafless ± monocots  | Joe-pye weed spp. (Eupatorium) 5  *loosestrife spp. (Lysimachia) 6                   |
| *beak rush spp. (Rhynchospora, N) 10   | *loosestrife spp. (Lysimachia) 6   |
| blueflag iris (Iris virginica) 5   | 1003C3tiffC 3pp: (Lyairidariid) 0  |
| bulrush spp. (Scirpus / Schoenoplectus) 5  | meadow beauty (Rhexia virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 |
| *bur reed spp. (Sparganium) 9  | <b>X</b> moneywort (Lysimachia nummularia) 0   |
| cat-tail spp. <i>(Typha)</i> 1   |  |
| *cotton grass spp. (Eriophorum, N) 10  | monkey flower spp. (Mimulus) 4   |
| Grasses (family Gramineae) - indicate types & number of species                        | nettle (Urtica pro cera) 1   |
| a. *wild rice (Zizania aquatica, N) 10   | purple loosestrife (Lythrum salicaria) 0   |
| b. most native perennial grass spp. 4: e.g.  | *richweed (Collinsonia canadensis) 8   |
|  | *St. John's wort spp.(Hypericum/Triandeum)8  |
| cut-grass, manna-g, Canada bluejoint, foxtail [Alopecurus]; other                      | sunflower spp. (Helianthus) 4  |
|  | *swamp loosestrife (Decodon verticillatus, N) 8                                      |
| g. a.c. opp. o   | swamp milkweed (Asclepias incarnata) 4   |
| grass [Phalaris], reed [Phragmites], annual grasses such as annual foxtail [Setaria] & | toothcup spp. (Ammania & Rotala) 2   |
| barnyard grass <i>Echinochloa</i> ]  | *turtlehead spp. (Chelone) 8   |
| needle sedge spp. (Eleocharis) sp.1 =2   | virgin's bower (vine) (Clematis virginiana) 3  |
| *additional=8  | water puslane (Ludwigia palustris) 3   |
| nutsedge spp. <i>(Cyperus)</i> 2   | winged loosestrife (Lythrum alatum) 5  |
|  | Harba (Alara) Parta karakanata arkaral   |
| *orchid spp.: species (if known) rush spp. (Juncus) 4                                  | Herbs: (vines): dicots - Ivs. alternate or basal                                     |
|  | and simple   |
| sedge spp. (Carex) sp.1=3 *additional=7  | Amer. beliflower (Campanula americana) 4   |
| *spiderlily (Hymenocallis occidentalis) 9  | *asters: bristly aster (Aster puniceus) 7  |
| sweet flag (Acorus calamus) 0  | *flat-topped aster (A. umbellatus) 8   |
| *3-way sedge (Dulichium arundinaceum) 10   | other aster spp. (e.g. New Engl, panicled-a) 3                                       |
| *twig rush (Cladium mariscoides, N) 10   | *black-eyed Susan (Rudbeckia fulgida) 8  |
| *umbrella sedge (Fuirena squarrosa, N) 10  | cardinal flower (Lobelia cardinalis) 4   |
| wild hyacinth (Camassia scilloides) 5  | InWran Torg ravised June 2005  |
| *yellow-eyed grass (Xyris torta, N) 9  | InWrap, Terg revised June 2005   |

| garlic mustard golden ragwo *golden ragwo *goldenrod sp patula, *grass of Parr *Indian planta ironweed spp.  X jewelweed, to lizard's tail (Sc lobelia spp. (L   | amp-, water-, pale- (Rumex) 4 I (Alliaria petio/ata) 0 It (Senecio aureus) 4 Ip. (Solidago ohioensis, S. Is. riddellil) 9 Inassus (Parnassia glauca) 10 In (Cacalia plantaginea) 10 In (Vernonia) 4 In (Usernonia) 4 In (Impatiens) 3 In (Impatiens) 3 In (Impatiens) 4   | *dwa *high *leati meac *ninei *shru spice *swa *swa                                       | alternate  aberry spp. (Vaccinium, N) 10  arf birch (Betula pumila, N) 10  a bush blueberry (V. corymbosum, N) 9  herleaf (Chamaedaphne calycul., N) 10  dowsweet & hardhack spp.(Spiraea) 4  bark (Physocarpus opulifoius) 7  ubby cinquefoil (Potentilla fruticosa) 9  e bush (Lindera benzoin) 5  amp dewberry (Rubus hispidus) 6  amp holly & winterberry (/lex spp.) 7  amp rose (Rosa palustris) 5   |
|--|---|---|--|
| *moonseed (v primrose-willo rose mallow s 2 smartwer tearthum (Polygon sneezeweed of stinging nettle *swamp saxifi *Virginia bluel waterhemp (A)   | cine) (Menispermum canadense) 6 w spp.(Epilobium &Ludwigia) 3 pp. (Hibiscus) 4 ed spp.: incl. jumpseed, pinkweed, b, water-pepper, water-sm. um) 4 [Except *for P. arifolium 10] (Helenium autumnale) 3 (Laportea canadensis) 2 rage (Saxifraga pa.) 10 pells (Mertensia virginica) 6 umaranthus tuberculatus) 1 tinomeris alternifolia) 3  | *tam.  Trees - Ivs. c  *ash. ash, boxe hicko *hicko hone                                  | needle shaped arack (Larix laricina, N) 10  compound , black (Fraxinus nigra) 7 green (Fraxinus pensylvanica) 3 , pumpkin (Fraxinus tomentosa, SW) 8 elder (Acer negundo) 1 bry, bitternut (Carya cordiformis) 5 brory, shell bark (Carya laciniosa) 8 ey locust (Gleditsia triacanthos) 1 bron sumac (Rhus vernix) 10   |
| aven spp.: rouse swamp be chervil (Chaeles some compound or deeply aven spp.: rouse swamp be chervil (Chaeles some compound of the compound of the senne spp. (Compound of the sentence spp. | agh a., white a. (Geum) 2 b: e.g. cursed b., hooked b., c. (Ranunculus) 6 rophyllum procumbens) 3 sypolis rigidior) 7 a (Angelica atropurpurea) 6 . nut spp. (Amphicarpaea&Apios) 5 reptotaenia canadensis) 3 spp. (Thalictrum) 5 ne) (Rhus radicans) 1 -prairie (Filipendula rubra) 9 bassia) 4 cony (Agrimonia parviflora) 4 e (Cirsium muticum) 8 or (Rudbeckia laciniata) 3 ck spp. (Cicuta) 7 s (Sium suave) 5 | red n silvel  Trees - Ivs. stands birch black cotto to stond ironw oak, stands sweet syca | simple and opposite maple (Acer rubrum) 5 r maple (A. saccharinum) 1 simple and alternate er, speckled (Alnus rugosa) 9 n, river (Betula nigra) 2 k gum (Nyssa sylvatica) 5 enwood, eastern (Populus deltoides) 1 enwood, swamp (P. heterophylla, SW) 8 Amer. (Ulmus americana) 3 berry (Celtis occidentalis) 3 evood (Carpinus caroliniana) 5 pin or white (Quercus) 4 n, Shumard's, sw. chestnut, sw. white 7 eaw (Asimina triloba) 6 arberry (Celtis laevigata, S) 7 et gum (Liquidambar styraciflua) 4 more, Amer. (Platanus occidentalis) 3 ev spp. (Salix) sp.1=3; *additional=7 |
| bladdernut (S buckthorn spp button bush (i) dogwood, red *dogwood, blu obliqua   | taphylea trifolia) 5  o. (Rhamnus cathar. & frangula) 0 Cepha/anthus occidentalis) 5  -osier (Cornus stolonifera) 4 ue-fruited or silky Cornus 1 7 y (C. racemosa) 2  |   | InWrap, Terg revised June 200  |

| Date Re | eport Generated: 4/28/2012  |
|---------|---|
| Wetland | site name: S5W146   |
| Data Re | eference #: 146   |
| Date of | Site Visit: 4/26/12   |
| NWI pol | ygons in Site (quadrangle and NWI id. numbers: Bloomington                                    |
|         |   |
| TIER 1  | SUMMARY:  |
| a.      | Total wetland area (hectares):06 (0.14 acres)   |
| b.      | Wetland size and connectivity – contribution to animal habitat:                               |
|         | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |
| C.      | Surrounding land use – numerical rank (max. = 1): 0.5   |
| d.      | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                    |
|         |   |
| TIER 2  | P. SUMMARY: NWI Polygon Id. 146   |
| a.      | Indiana Wetland community type: Floodplain Forest   |
| b.      | Standing water – contribution to animal habitat:   Valuable  Favorable  Neutral               |
| C.      | Disturbances to site: Road embankment   |
| d.      | Exotic species rating: Good Medium Poor   |
| e.      | Special Hydrologic Conditions Observed: None  |
| f.      | Special Community Type: None  |
| g.      | Rare-Threatened-Endangered Species: None  |
| h.      | Polygon Quality Description: Good Medium Poor   |
|         |   |
| TIER 3  | BA SUMMARY:   |
| a.      | Dead woody material as indicator of animal habitat:   Valuable  Favorable  Neutral            |
| b.      | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☑ Medium ☐ Poor           |
| C.      | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor            |
|         |   |
| TIER 3  | BB SUMMARY:   |
| a.      | Zonation and interspersion as indicator of animal habitat:     Valuable   Favorable   Neutral |
| b.      | Stratification as indicator of animal habitat:   Valuable   Neutral                           |
| C.      | Number of dominant plant taxa observed: 5 Rating:   Good   Medium  Poor                       |
| d.      | Average coefficient of conservatism: 3 Rating: Good Medium Poor                               |
| e.      | Tree canopy as indicator of animal habitat:   |
| f.      | Mature trees as indicator of animal habitat: 🛛 Valuable 🔲 Favorable 🔲 Neutral                 |
| g.      | Total hydrophytic taxa observed: 8 Rating: ☐ Good ☐ Medium ☒ Poor                             |
| h.      | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                     |
|         |   |

Data Reference # S5W146

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W146  | 6                   |                                |        |                   |                       |              |  |
|--|---------------------|--------------------------------|--------|-------------------|-----------------------|--------------|--|
| Ownership (if known):  |                     |                                |        |                   |                       |              |  |
| USGS Topographic Quadrangle(s): Bloomington                        |                     |                                |        |                   |                       |              |  |
| USGS Watershed map 14-Digit HUC: Beanblossom Creek (5122022010060) |                     |                                |        |                   |                       |              |  |
| _  |                     |                                |        |                   |                       |              |  |
| Identify each NWI Polygon within NWI Polygon ID Number             | in the Wetland Site | e (Polygon s <sub>i</sub><br>I | pecifi | c data)<br>T      |                       |              |  |
| Cowardin Classification  | PFO                 |                                |        |                   |                       |              |  |
| Polygon Size (hectares)  | 0.06 (0.14 acres)   |                                |        |                   |                       |              |  |
|  |                     |                                |        |                   | 1                     |              |  |
| NWI Polygon ID Number  |                     |                                |        |                   |                       |              |  |
| Cowardin Classification  |                     |                                |        |                   |                       |              |  |
| Polygon Size (hectares)  |                     |                                |        |                   |                       |              |  |
| 1.2 Site Visit:  |                     |                                |        |                   |                       |              |  |
| Team Members: K. Schroed   | ler & D. White      |                                |        |                   |                       |              |  |
| Agency: INDOT  |                     |                                |        |                   |                       |              |  |
| Date assessed: 4/26/2012   |                     | Tir                            | ne as  | sessed: _3:30 pr  | m                     |              |  |
| Weather conditions: 70 F,  | Sunny               | _                              |        |                   |                       |              |  |
|  |                     |                                |        |                   |                       |              |  |
| Note any unusual weather ever                                      |                     |                                |        |                   | vithin this wetland   | system (e.g. |  |
| recent heavy rains, an unusually                                   | y dry season, an e  | specially ea                   | rıy sp | ring, etc.):      |                       |              |  |
|  |                     |                                |        |                   |                       |              |  |
| 1.3 Wetland Size:  |                     |                                |        |                   |                       |              |  |
| Size of site under assessment                                      | 0.06 hectares (     | 0.14 acres)                    |        |                   |                       |              |  |
| Size of total wetland complex                                      | (all continuous we  | tland polygo                   | ns):   | 0.06 hectares (0  | .14 acres)            |              |  |
| 1.4 Site Setting:  |                     |                                |        |                   |                       |              |  |
| Degree of isolation from other w                                   | vetlands or wetland | d complexes                    | s:     |                   |                       |              |  |
| The site is connected up   | stream and downs    | stream with o                  | other  | wetlands          |                       |              |  |
| The site is only connected   | ed upstream with o  | other wetland                  | ds     |                   |                       |              |  |
| The site is only connected   | ed downstream wit   | th other wetla                 | ands   |                   |                       |              |  |
| X Other wetlands are near  |                     |                                |        | ted               |                       |              |  |
| The wetland site is isolar   |                     | ,                              |        |                   |                       |              |  |
| The welland site is isola  | ieu                 |                                |        |                   |                       |              |  |
| (General assessment of adjace site (indicate the % abundance       |                     | cover in the                   | area   | within 50 meters  | of the perimeter of   | the wetland  |  |
| 50 Native Vegetation - woo   | dland               | _ 5                            | 50     | Road / highway    | / railroad bed / parl | king lot     |  |
| Native Vegetation - old f  | ield / scrub        |                                |        | Industrial        |                       |              |  |
| Agricultural- tilled   |                     |                                |        | Residential – sin | gle family            |              |  |
| Agricultural - pasture   |                     |                                |        | Commercial or m   | nultifamily residenti | ial          |  |
| Recreation - green space, mowed                                    |                     |                                |        |                   |                       |              |  |
|  |                     |                                |        |                   |                       |              |  |

| NWI Polygon # 146 (see table on page one)   |                       | Data Reference #     | S5W146                         | InWRAP, TERG May 2000               |
|---|-----------------------|----------------------|--------------------------------|-------------------------------------|
| <b>Tier 2 Individual Polygon:</b> in the wetland)   | Preliminary As        | ssessment (to be o   | ompleted on-site               | for <u>each</u> NWI polygon present |
| 2.1 Wetland Geomorphic Setting  X Depressional Riverine (within the rive  | Slope                 |                      | <b>e):</b><br>odplain          | Lacustrine                          |
| 2.2 Presence of Standing Water  | :                     |                      |                                |                                     |
| Is standing water normally preserved.  • If standing water is preserved.  Is standing water normally preserved. | ent, is the water gre |                      | depth? No                      |                                     |
| 2.3 Apparent Hydroperiod (chec  | ck one):              |                      |                                |                                     |
| X Seasonally Flooded Saturated (surface water s   | eldom present)        |                      | ially Flooded<br>ially Drained |                                     |
| 2.4 Soil Type: Organic (i.e. peat, etc.)  | Х                     | Mineral              | Both M                         | ineral and Organic Present          |
| 2.5 Wetland Community Type for Floodplain forest  | or this NWI polygo    | on (see Key to Wetla | and Communities                | s of Indiana):                      |
| 2.6 Disturbances of Hydrology (   | check all that app    | olv):                |                                |                                     |
| Ditching  | ` .                   | Culvert              |                                |                                     |
| Tiles<br>Dams   |                       | Other Hu             | man Disturbance                | s to the Hydrology (explain):       |
| X Road or Railroad Embankı  | ment                  |                      |                                |                                     |
| 2.7 Presence of Invasive Exotic   | s (Score as: S = S    | cattered, F = Freque | ent, or C = Comn               | non):                               |
| Garlic Mustard  | GI                    | ossy Buckthorn       |                                |                                     |
| Phragmities   |                       | eed canary grass     |                                |                                     |
| Purple loosestrife  | Ot                    | her (list):          |                                |                                     |
| 2.8 Presence of Special Hydrolo None  | ogic Conditions (i    | e. seeps, wet slope  | s, floating mat):              |                                     |
| 2.9 Presence of Special Commu   | inity Types: Fen      | We                   | et Sand / Muck Fla             | ats or Mari Seeps                   |
| 2.10 Presence of Known Federa   | ıl or Indiana Rare.   | Threatened or Enda   | angered Species                | :                                   |
| X None observed or know RTES Present (list)   |                       |                      |                                |                                     |
| 2.11 Wetland Polygon Quality D Good X   | escriptor (see: W     | etland Quality Desc  | -                              | ck one):                            |

| NWI    | Ро  | lyg  | on : | # _    | 146 Data Reference # S5W146   |  |  |  |
|--------|-----|------|------|--------|---|--|--|--|
| Tier 3 | 3a  | Inc  | ivit | idua   | al Polygon: Rapid Hydrology Indicators  |  |  |  |
| 3a.1 N | ota | able | e Fe | atur   | res that influence water quality and hydrology:   |  |  |  |
| Estim  | ate | ed h | erb  | aceo   | ous plant cover (percentage) in the polygon 100-75 75-50 _X 50-25 <25   |  |  |  |
| Estim  | ate | ed w | 000  | dy pla | ant foliar cover in the polygon 100-75 _X _75-50 50-25 <25  |  |  |  |
| Amou   | ınt | of c | lead | ow b   | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |  |  |  |
| 3a.2 W | /at | er ( | Qua  | lity l | Protection Questions:   |  |  |  |
| 1.     | X   | Υ    |      | N      | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |  |  |  |
| 2.     | Χ   | Υ    |      | N      | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |  |  |  |
| 3.     |     |      |      |        | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |  |  |  |
| 3a.    |     | Υ    |      | N      | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |  |  |  |
| 3b.    |     | Υ    | Χ    | N      | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |  |  |  |
| 4.     | Χ   | Y    |      | N      | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |  |  |  |
| 5.     |     | Υ    | Χ    | N      | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |  |  |  |
| 6.     |     | Y    | X    | N      | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |  |  |  |
|        |     |      |      |        | Average width of buffer area (in meters) Approximate slope (percent)  |  |  |  |
| 3a.3 F | loc | od a | nd   | Stor   | mwater Storage / Attenuation Questions:   |  |  |  |
| 1.     |     |      |      |        | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |  |  |  |
| 1a.    |     | Y    |      | N      | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |  |  |  |
| 1b.    | Χ   | Υ    |      | N      | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |  |  |  |
| 2.     |     | Υ    | Χ    | N      | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |  |  |  |
| 3.     | Χ   | Υ    |      | N      | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |  |  |  |
| 4.     |     | Υ    | Χ    | N      | Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?  |  |  |  |
| 5.     | Χ   | Υ    |      | N      | Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?                                   |  |  |  |

5.

| NWI Polygon #  | 146   | Data Reference # S5W146   |  |  |  |  |
|--|---|---|--|--|--|--|
| Tier 3b Individu   | ıal Polygon: Rapid Veç                      | getation Description  |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How man  | Interspersion: y vegetation zones are evide | nt in this wetland polygon? _1  |  |  |  |  |
| 1b. If only on   | e vegetation zone is evident,               | which best describes the site?  |  |  |  |  |
| <ul> <li>X Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks;</li> <li>heterogeneous textures across the polygon.</li> </ul> |   |   |  |  |  |  |
|  | Polygon composed of a sin                   | gle vegetation type with more or less uniform texture across the                            |  |  |  |  |
|  | polygon.                                    |   |  |  |  |  |
| the distribut  | tion of these zones?                        | ent in the polygon, which interspersion diagram most closely represents                     |  |  |  |  |
| Тур  | e One Interspersion                         | Type Two Interspersion  |  |  |  |  |
|  |   |   |  |  |  |  |
| 3b.2 Dominant Pla  | nnt Species: Vegetation zon                 | Photo number(s)  (Note: V-mark location on the NWI polygon)                                 |  |  |  |  |
| What % of the poly   | gon does this vegetative zone               | ,   |  |  |  |  |
| 10 – 25%   | <u>25 – 50 %</u>                            | 50 – 75% X 75 – 90% >90%  |  |  |  |  |
| Is there notable lay   | ering/stratification in this vege           | etation zone? No  |  |  |  |  |
|  | es that forms extensive mono                | nore than 10% of the area) listed in order of relative abundance. (Mark ocultural patches). |  |  |  |  |
| b  |   | е   |  |  |  |  |
| C  |   | f   |  |  |  |  |
|  | pecies listed in order of relative          | ve abundance.   |  |  |  |  |
| a Fraxinus penn  |   | c   |  |  |  |  |
| b Ulmus america  | ana   | d   |  |  |  |  |
| Dominant <b>Tree</b> Spe   | ecies listed in order of relative           | abundance.  |  |  |  |  |
| a Acer rubrum  |   | c   |  |  |  |  |
| b Quercus bicolo   |   | d   |  |  |  |  |
| Tree & shrub canop   | oy: nil separa                              | te, seldom touching often touching _X_ More or less closed                                  |  |  |  |  |
| Mature trees (>12"   | dbh) present: X y                           | es no   |  |  |  |  |
| Other remarks (inc   | clude personal comments abo                 | out what adds to or detracts from the quality of this wetland site).                        |  |  |  |  |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| (N = northern Indiana | SW = southwestern Indiana                             | numbers = C-coefficients *= species with high conservationism |
|-----------------------|---|---|
| Herbs: non-seed       | l plants  |   |
|                       | scouring rush spp. (Equisetum) 2                      | Herbs: wide-leafed monocots                                   |
|                       | arsh shield fern spp. (Dryopteris) 7                  | *arrow arum (Peltandra virginica, N) 6                        |
|                       | on fern (Osmunda cinnamomea) 9                        | arrow-head spp. (Sagittaria) 4                                |
|                       | n (Osmunda regalis) 8                                 | *green dragon (Arisaema dracontium) 6                         |
|                       | fern (Onoclea sensibilis) 4                           | Jack-in-the-pulpit (Arisaema triphyllum) 4                    |
|                       | pecies (if known)                                     | pickerel weed (Pontederia cordata, N) 5                       |
|                       | ub moss (Selaginella apoda) 4                         | *skunk cabbage (Symplocarpus foetidus) 8                      |
|                       | um moss spp. <i>(Sphagnum,</i> N) 10                  | *water arum (Calla palustris, N) 10                           |
|                       | а осо орр. (ора.gа,)                                  | water plantain (Alisma plantago-aquat.) 2                     |
| Herbs: Ivs. floati    | ing or submergent                                     |   |
| *bladderv             | wort spp. <i>(Utricularia,</i> N) 10                  | Herbs: dicots - Ivs. opposite/whorled                         |
| coontail (            | (Ceratophyllum demersum, N) 1                         | *bedstraw spp. (Galium) 6                                     |
| duckwee               | d spp. <i>(Lemnaceae)</i> 3                           | beggar's tick spp. (Bidens) 3                                 |
| *pondwe               | ed spp. (Potamogeton) 8 (except 0                     | for blue vervain (Verbena hastata) 3                          |
| introduce             | ed <i>P. crispus)</i>                                 | boneset (Eupatorium perfoliatum) 4                            |
| *water lily           | y (Nymphaea tuberosa, N) 6                            | bugleweed spp. (Lycopus) 5                                    |
| water shi             | eld (Brasenia schreberi, N) 4                         | clearweed spp. (Pilea) 3                                      |
| *yellow s             | patterdock spp. (Nuphar) 6                            | cup plant (Silphium perfoliatum) 4                            |
|                       |   | false nettle (Boehmeria cylindrica) 3                         |
| Herbs: insectivo      |   | *fen betony (Pedicularis lanceolata) 6                        |
|                       | plant (Sarracenia purpurea,N) 10                      | *gentian spp. (Gentiana & Gentianopsis) 8                     |
| *sundew               | spp. (Drosera, N) 10                                  | giant ragweed (Ambrosia trifida) 0                            |
| Harbai linaar lya     | s. or leafless ± monocots                             | Indian hemp (Apocynum cannabinum) 2                           |
|                       | sh spp. <i>(Rhynchospora,</i> N) 10                   | Joe-pye weed spp. (Eupatorium) 5                              |
|                       | ris (Iris virginica) 5                                | *loosestrife spp. (Lysimachia) 6                              |
|                       | spp. (Scirpus / Schoenoplectus) 5                     | meadow beauty (Rhexia virginica) 5                            |
|                       | I spp. (Sparganium) 9                                 | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5             |
|                       | op. <i>(Typha)</i> 1                                  | moneywort (Lysimachia nummularia) 0                           |
|                       | rass spp. <i>(Eriophorum,</i> N) 10                   | monkey flower spp. (Mimulus) 4                                |
|                       | 1833 Spp. ( <i>Enophorum</i> , 11) 10                 | nettle (Urtica pro cera) 1                                    |
|                       | <i>framineae)</i> - indicate types & number of specie | purple loosestrife (Lythrum salicaria) 0                      |
|                       | rice (Zizania aquatica, N) 10                         | *richweed (Collinsonia canadensis) 8                          |
|                       | native perennial grass spp. 4: e.g.                   | *St. John's wort <i>spp.(Hypericum/Triandeum)8</i>            |
|                       | rass, manna-g, Canada bluejoint, fox                  | tail sunflower spp. (Helianthus) 4                            |
|                       | ecurus]; other  | *swamp loosestrife (Decodon verticillatus, N) 8               |
|                       | duced grass spp. 0: reed canary                       | swamp milkweed (Asclepias incarnata) 4                        |
|                       | s [Phalaris], reed [Phragmites], and                  |   |
|                       | ses such as annual foxtail [Setaria                   | ] & *turtlehead spp. (Chelone) 8                              |
| •                     | /ard grass Echinochloa]                               | virgin's bower (vine) (Clematis virginiana) 3                 |
|                       | edge spp. (Eleocharis) sp.1 =2                        | water puslane (Ludwigia palustris) 3                          |
|                       | tional=8  | winged loosestrife (Lythrum alatum) 5                         |
|                       | spp. (Cyperus) 2                                      |   |
|                       | pp.: species (if known)                               | Herbs: (vines): dicots - lvs. alternate or basal              |
|                       | (Juncus) 4  | and simple  |
|                       | p. (Carex) sp.1=3 *additional=7                       | Amer. bellflower (Campanula americana) 4                      |
|                       | y (Hymenocallis occidentalis) 9                       | *asters: bristly aster (Aster puniceus) 7                     |
|                       | g (Acorus calamus) 0                                  | *flat-topped aster (A. umbellatus) 8                          |
|                       | edge (Dulichium arundinaceum) 10                      | other aster spp. (e.g. New Engl, panicled-a) 3                |
|                       | h (Cladium mariscoides, N) 10                         | *black-eyed Susan (Rudbeckia fulgida) 8                       |
|                       | a sedge (Fuirena squarrosa, N) 10                     | cardinal flower (Lobelia cardinalis) 4                        |
|                       | einth (Camassia scilloides) 5                         | InWrap, Terg revised June 2005                                |
| ^yellow-e             | yed grass (Xyris torta, N) 9                          | mittiap, reig revised buile 2000                              |

| cress spp. (Cardamine) 4 dock spp.: swamp-, water-, pale- (Rumex) 4 garlic mustard (Alliaria petio/ata) 0 golden ragwort (Senecio aureus) 4 *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9 *grass of Parnassus (Parnassia glauca) 10 *Indian plantain (Cacalia plantaginea) 10 ironweed spp. (Vernonia) 4 jewelweed, touch-me-not spp. (Impatiens) 3 lizard's tail (Saururus cernuus) 4 lobelia spp. (Lobelia) 4  | Shrubs - Ivs. alternate  *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5  |
|--|---|
| *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp.(Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10  *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3   | Trees - Ivs. needle shaped  *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7  X ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10  |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8 tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7 water parsnips (Sium suave) 5 | Trees – Ivs. simple and opposite  X red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8  X elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5  X oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrubs - leaves opposite or whorled bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2  | OTHER  InWrap, Terg revised June 200  |

Data Reference # S5W147

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W14  | 7   |   |                 |                       |                      |   |
|---|---|---|-----------------|-----------------------|----------------------|---|
| Ownership (if known):   |   |   |                 |                       |                      |   |
| USGS Topographic Quadrang   | le(s): Blooming   | ton   |                 |                       |                      |   |
| USGS Watershed map 14-Dig   | · ·   |   | 090010)         |                       |                      |   |
|   |   |   |                 |                       |                      |   |
| Identify each NWI Polygon with NWI Polygon ID Number  | in the Wetland Site   | e (Polygon spe                                      | ecific data)    | <del></del>           |                      |   |
| Cowardin Classification   | PFO   |   |                 |                       |                      | - |
| Polygon Size (hectares)   | 0.09 (0.23 acres)   |   |                 |                       |                      |   |
| NIMI Daluman ID Number  |   |   |                 |                       |                      |   |
| NWI Polygon ID Number Cowardin Classification   |   |   |                 |                       |                      | _ |
| Polygon Size (hectares)   |   |   |                 |                       |                      | _ |
| 1.2 Site Visit: Team Members: K. Schroed  | ler & D. White  |   |                 |                       |                      |   |
| Agency: INDOT   |   |   |                 |                       |                      |   |
| Date assessed: 4/27/2012  |   | Time  | e assessed:     | 8:30 am               |                      |   |
| Weather conditions: 50 F,   | Sunny   |   |                 |                       |                      |   |
| 1.3 Wetland Size: Size of site under assessment   |   |   | Spirity, etc.). |                       |                      |   |
| Size of total wetland complex   |   | •   | s): 0.09 hect   | ares (0.23 acres)     |                      |   |
| 1.4 Site Setting:  Degree of isolation from other was a connected up.  The site is only connected.  The site is only connected.  X Other wetlands are near a connected.  The wetland site is isola. | estream and downs<br>ed upstream with c<br>ed downstream wit<br>by (within 0.25 mil | stream with ot<br>other wetlands<br>th other wetlar | nds             |                       |                      |   |
| (General assessment of adjace   | nt land use / land  | cover in the a                                      | rea within 50 n | neters of the perim   | neter of the wetland |   |
| site (indicate the % abundance  |   |   |                 | and point             |                      |   |
| 75 Native Vegetation - woo  | dland   | 25  | Road / hig      | ghway / railroad be   | ed / parking lot     |   |
| Native Vegetation - old f   | ield / scrub  |   | Industrial      |                       |                      |   |
| Agricultural- tilled  |   |   | Residentia      | al – single family    |                      |   |
| Agricultural - pasture  |   |   | Commerc         | ial or multifamily re | esidential           |   |
| Recreation - green space  | e, mowed  |   |                 |                       |                      |   |

| NWI Polygon # (see table on page or  | 147<br>ne)  | Data Reference #         | S5W147                 | InWRAP, TERG May 2000              |
|--------------------------------------|---|--------------------------|------------------------|------------------------------------|
|                                      | •   | Assessment (to be o      | completed on-site f    | or <u>each</u> NWI polygon present |
| X Depression                         | orphic Setting and Surface. Inal Slope Within the river/stream banks)                             | e Flo                    | <b>e):</b><br>podplain | Lacustrine                         |
| 2.2 Presence of Sta                  | ·   |                          |                        |                                    |
| Is standing water no • If standing v | ormally present in the polygor<br>water is present, is the water<br>ormally present in an adjacen | greater than 2 meters ir | depth? No              |                                    |
| 2.3 Apparent Hydro                   | period (check one):   |                          |                        |                                    |
| Permanently                          |   | Artific                  | cially Flooded         |                                    |
| X Seasonally F Saturated (su         | looded<br>urface water seldom present)  | Artific                  | cially Drained         |                                    |
| 2.4 Soil Type: Organic (i            | .e. peat, etc.) X   | Mineral                  | Both Mi                | neral and Organic Present          |
| 2.5 Wetland Comm Floodplain forest   | unity Type for this NWI poly  | ygon (see Key to Wetk    | and Communities        | of Indiana):                       |
| 2.6 Disturbances of                  | f Hydrology (check all that   | apply):                  |                        |                                    |
| X Ditching                           |   | Culvert                  |                        |                                    |
| Tiles<br>Dams                        |   | Other Hu                 | ıman Disturbances      | to the Hydrology (explain):        |
| X Road or Rail                       | oad Embankment  |                          |                        |                                    |
| 2.7 Presence of Inv                  | asive Exotics (Score as: S  | = Scattered, F = Frequ   | ent, or C = Comm       | on):                               |
| Garlic Musta                         | rd  | Glossy Buckthorn         |                        |                                    |
| Phragmities                          |   | Reed canary grass        |                        |                                    |
| Purple looses                        | strife  | Other (list):            |                        |                                    |
| 2.8 Presence of Spenore              | ecial Hydrologic Conditions   | s (i.e. seeps, wet slope | es, floating mat):     |                                    |
| 2.9 Presence of Spe                  | ecial Community Types: Fen  | W                        | et Sand / Muck Fla     | ts or Mari Seeps                   |
| 2.10 Presence of K                   | nown Federal or Indiana Ra  | re, Threatened or End    | angered Species:       |                                    |
| X None obse                          | erved or known to be present<br>sent (list)   |                          |                        |                                    |
| 2.11 Wetland Polyg                   | on Quality Descriptor (see:   | Wetland Quality Desc     | criptions and chec     | k one):                            |
| X Good                               | Medium  | Po                       | oor                    |                                    |

| NW    | I Po | olyg | jon  | #     | 147 Data Reference # S5W147   |
|-------|------|------|------|-------|---|
| Tier  | 3a   | ln   | div  | idua  | al Polygon: Rapid Hydrology Indicators  |
| 3a.1  | Not  | abl  | e F  | eatui | res that influence water quality and hydrology:   |
| Estir | nate | ed I | nerb | aceo  | ous plant cover (percentage) in the polygon 100-75 75-50 _X 50-25 <25   |
| Estir | nate | ed v | woo  | dy pl | ant foliar cover in the polygon 100-75 _X_ 75-50 50-25 <25  |
| Amo   | unt  | of   | dea  | d wo  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% cover)  |
| 3a.2  | Wat  | ter  | Qua  | ality | Protection Questions:   |
| 1.    | X    | Y    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.    | Χ    | Y    |      | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.    |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.   |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.   | X    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.    | Χ    | Y    |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.    |      | Y    | X    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.    | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|       |      |      |      |       | Average width of buffer area (in meters) 20 Approximate slope (percent) 2   |
| 3a.3  | Flo  | od : | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.    |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.   |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.   | Χ    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.    |      | Y    | X    | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.    | X    | Y    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

 $\mathbf{Y} \times \mathbf{N}$ 

**X Y** 

5.

| NWI Polygon #                        | 147  | Data Reference # S5W147  |
|--------------------------------------|--|--|
| Tier 3b Individu                     | ıal Polygon: Rapid Ve                                  | getation Description   |
| <b>3b.1 Zonation and</b> 1. How many | -  | ent in this wetland polygon? _ 1   |
| 1b. If only one                      | e vegetation zone is evident                           | , which best describes the site?   |
| X                                    | Polygon composed of a m                                | osaic of small vegetation patches, hummocks, or tussocks; cross the polygon. |
|                                      | Polygon composed of a si polygon.                      | ngle vegetation type with more or less uniform texture across the            |
|                                      |  | sent in the polygon, which interspersion diagram most closely represents     |
|                                      | e One Interspersion                                    | Type Two Interspersion   |
| (                                    |  |  |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zo                              | Photo number(s)  (Note: V-mark location on the NWI polygon)                  |
| What % of the polyg                  | gon does this vegetative zor                           | ,                                      |
| 10 – 25%                             | 25 – 50 %  | 50 - 75%   |
| Is there notable laye                | ering/stratification in this ve                        | getation zone? Yes   |
|                                      | ous Species (i.e. covering es that forms extensive mon | more than 10% of the area) listed in order of relative abundance. (Mark      |
| a Eleocharis acid                    |  | d  |
| b                                    |  | e  |
| С                                    |  | f  |
| -                                    | pecies listed in order of related                      | ive abundance.   |
| a Salix nigra                        |  | c  |
| b Cornus amomu                       | um   | d  |
| Dominant <b>Tree</b> Spe             | cies listed in order of relativ                        | e abundance  |
| a Fraxinus penns                     |  | c  |
| b <i>Ulmus america</i>               |  | d  |
| Tree & shrub canop                   | y: nil sepai   | rate, seldom touching X often touching More or less closed                   |
| Mature trees (>12"                   | dbh) present: X  | yes no   |
| Other remarks (inc                   | lude personal comments ab                              | out what adds to or detracts from the quality of this wetland site).         |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

| (N = northern Indiana SW = southwestern Indiana              | numbers = C-coefficients *= species with high conservationism |
|--|---|
| Herbs: non-seed plants                                       |   |
| horsetail, scouring rush spp. (Equisetum) 2                  | Herbs: wide-leafed monocots                                   |
| *ferns: marsh shield fern spp. (Dryopteris) 7                | *arrow arum (Peltandra virginica, N) 6                        |
| *cinnamon fern (Osmunda cinnamomea) 9                        | arrow-head spp. (Sagittaria) 4                                |
| *royal fern (Osmunda regalis) 8                              | *green dragon (Arisaema dracontium) 6                         |
| sensitive fern (Onoclea sensibilis) 4                        | Jack-in-the-pulpit (Arisaema triphyllum) 4                    |
| *other: species (if known)                                   | pickerel weed (Pontederia cordata, N) 5                       |
| marsh club moss (Selaginella apoda) 4                        | *skunk cabbage (Symplocarpus foetidus) 8                      |
| *Sphagnum moss spp. (Sphagnum, N) 10                         | *water arum (Calla palustris, N) 10                           |
| орнаднан носо оррг (орнаднан, т.,                            | water plantain (Alisma plantago-aquat.) 2                     |
| Herbs: Ivs. floating or submergent                           |   |
| *bladderwort spp. (Utricularia, N) 10                        | Herbs: dicots - Ivs. opposite/whorled                         |
| coontail (Ceratophyllum demersum, N) 1                       | *bedstraw spp. (Galium) 6                                     |
| duckweed spp. (Lemnaceae) 3                                  | beggar's tick spp. (Bidens) 3                                 |
| *pondweed spp. (Potamogeton) 8 (except (                     | of for blue vervain (Verbena hastata) 3                       |
| introduced P. crispus)                                       | boneset (Eupatorium perfoliatum) 4                            |
| *water lily (Nymphaea tuberosa, N) 6                         | bugleweed spp. (Lycopus) 5                                    |
| water shield (Brasenia schreberi, N) 4                       | clearweed spp. (Pilea) 3                                      |
| *yellow spatterdock spp. (Nuphar) 6                          | cup plant (Silphium perfoliatum) 4                            |
|  | false nettle (Boehmeria cylindrica) 3                         |
| Herbs: insectivorous plants                                  | *fen betony (Pedicularis lanceolata) 6                        |
| *pitcher plant (Sarracenia purpurea,N) 10                    | *gentian spp. (Gentiana & Gentianopsis) 8                     |
| *sundew spp. (Drosera, N) 10                                 | giant ragweed (Ambrosia trifida) 0                            |
| Harbar linear his ar leafless i managets                     | Indian hemp (Apocynum cannabinum) 2                           |
| Herbs: linear-lvs. or leafless ± monocots                    | Joe-pye weed spp. (Eupatorium) 5                              |
| *beak rush spp. (Rhynchospora, N) 10                         | *loosestrife spp. (Lysimachia) 6                              |
| blueflag iris (Iris virginica) 5                             | meadow beauty (Rhexia virginica) 5                            |
| bulrush spp. (Scirpus / Schoenoplectus) 5                    | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5             |
| *bur reed spp. (Sparganium) 9                                | <b>X</b> moneywort (Lysimachia nummularia) 0                  |
| cat-tail spp. (Typha) 1                                      | monkey flower spp. (Mimulus) 4                                |
| *cotton grass spp. (Eriophorum, N) 10                        | nettle (Urtica pro cera) 1                                    |
| Grasses (family Gramineae) - indicate types & number of spec |   |
| a. *wild rice (Zizania aquatica, N) 10                       | *richweed (Collinsonia canadensis) 8                          |
| b. most native perennial grass spp. 4: e.g.                  | *St. John's wort spp.(Hypericum/Triandeum)8                   |
| cut-grass, manna-g, Canada bluejoint, fo                     |   |
| [Alopecurus]; other  | *swamp loosestrife (Decodon verticillatus, N) 8               |
| c. introduced grass spp. 0: reed canary                      | swamp milkweed (Asclepias incarnata) 4                        |
| grass [Phalaris], reed [Phragmites], an                      | nual toothcup spp. (Ammania & Rotala) 2                       |
| grasses such as annual foxtail [Setari                       | a] & *turtlehead spp. (Chelone) 8                             |
| barnyard grass Echinochloa]                                  | virgin's bower (vine) (Clematis virginiana) 3                 |
| X needle sedge spp. (Eleocharis) sp.1 =2                     | water puslane (Ludwigia palustris) 3                          |
| *additional=8  | winged loosestrife (Lythrum alatum) 5                         |
| nutsedge spp. (Cyperus) 2                                    |   |
| *orchid spp.: species (if known)                             | Herbs: (vines): dicots - lvs. alternate or basal              |
| rush spp. <i>(Juncus) 4</i>                                  | and simple  |
| <b>2</b> sedge spp. (Carex) sp.1=3 *additional=7             | Amer. bellflower (Campanula americana) 4                      |
| *spiderlily (Hymenocallis occidentalis) 9                    | *asters: bristly aster (Aster puniceus) 7                     |
| sweet flag (Acorus calamus) 0                                | *flat-topped aster (A. umbellatus) 8                          |
| *3-way sedge (Dulichium arundinaceum) 10                     | other aster spp. (e.g. New Engl, panicled-a) 3                |
| *twig rush <i>(Cladium mariscoides,</i> N) 10                | *black-eyed Susan (Rudbeckia fulgida) 8                       |
| *umbrella sedge (Fuirena squarrosa, N) 10                    | cardinal flower (Lobelia cardinalis) 4                        |
| wild hyacinth (Camassia scilloides) 5                        | In Minor. Town and and I are 2005                             |
| *yellow-eyed grass (Xyris torta, N) 9                        | InWrap, Terg revised June 2005                                |

|        | cress spp. (Cardamine) 4                                 | Shrubs - Ivs. alternate                                       |
|--------|--|---|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4               | *cranberry spp. (Vaccinium, N) 10                             |
| •      | garlic mustard (Alliaria petio/ata) 0                    | *dwarf birch (Betula pumila, N) 10                            |
|        | golden ragwort (Senecio aureus) 4                        | *high bush blueberry (V. corymbosum, N) 9                     |
| •      | goldenrod spp. (Solidago ohioensis, S.                   | *leatherleaf (Chamaedaphne calycul., N) 10                    |
| -      |  | meadowsweet & hardhack spp.(Spiraea) 4                        |
|        | patula, S. riddellil) 9                                  | *ninebark (Physocarpus opulifoius) 7                          |
| -      | *grass of Parnassus (Parnassia glauca) 10                |   |
|        | *Indian plantain (Cacalia plantaginea) 10                | *shrubby cinquefoil (Potentilla fruticosa) 9                  |
|        | ironweed spp. (Vernonia) 4                               | spice bush (Lindera benzoin) 5                                |
|        | jewelweed, touch-me-not spp. (Impatiens) 3               | *swamp dewberry (Rubus hispidus) 6                            |
|        | lizard's tail (Saururus cernuus) 4                       | *swamp holly & winterberry (/lex spp.) 7                      |
|        | lobelia spp. (Lobelia) 4                                 | X swamp rose (Rosa palustris) 5                               |
|        | _ *marsh marigold <i>(Caltha palustris) 7</i>            | Trees his weedle should                                       |
|        | _ *moonseed (vine) (Menispermum canadense) 6             | Trees - Ivs. needle shaped                                    |
|        | _ primrose-willow <i>spp.(Epilobium &amp;Ludwigia)</i> 3 | *tamarack (Larix laricina, N) 10                              |
|        | rose mallow spp. (Hibiscus) 4                            | Trees - Ivs. compound   |
|        | smartweed spp.: incl. jumpseed, pinkweed,                | *ash, black <i>(Fraxinus nigra)</i> 7                         |
|        | tearthumb, water-pepper, water-sm.                       |   |
|        | (Polygonum) 4 [Except *for P. arifolium 10]              | ash, green (Fraxinus pensylvanica) 3                          |
|        | sneezeweed (Helenium autumnale) 3                        | *ash, pumpkin (Fraxinus tomentosa, SW) 8                      |
|        | stinging nettle (Laportea canadensis) 2                  | boxelder (Acer negundo) 1                                     |
|        | *swamp saxifrage <i>(Saxifraga pa.) 10</i>               | hickory, bitternut (Carya cordiformis) 5                      |
| -      | *Virginia bluebells (Mertensia virginica) 6              | *hickory, shell bark (Carya laciniosa) 8                      |
|        | waterhemp (Amaranthus tuberculatus) 1                    | honey locust (Gleditsia triacanthos) 1                        |
|        | wingstem (Actinomeris alternifolia) 3                    | *poison sumac <i>(Rhus vernix)</i> 10                         |
|        | g (  | Troop Ive simple and ennesite                                 |
| Herbs: | : dicots - lvs. basal or alternate and                   | Trees – Ivs. simple and opposite  X red maple (Acer rubrum) 5 |
| compo  | ound or deeply lobed                                     |   |
|        | aven spp.: rough a., white a. (Geum) 2                   | silver maple (A. saccharinum) 1                               |
|        | *buttercup spp: e.g. cursed b., hooked b.,               | Trees – Ivs. simple and alternate                             |
|        | swamp b. (Ranunculus) 6                                  | *alder, speckled (Alnus rugosa) 9                             |
|        | chervil (Chaerophyllum procumbens) 3                     | birch, river (Betula nigra) 2                                 |
|        | *cowbane (Oxypolis rigidior) 7                           |   |
|        | *great angelica (Angelica atropurpurea) 6                | black gum (Nyssa sylvatica) 5                                 |
| -      | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5           | cottonwood, eastern (Populus deltoides) 1                     |
|        | honewort (Cryptotaenia canadensis) 3                     | *cottonwood, swamp ( <i>P. heterophylla,</i> SW) 8            |
|        | meadow rue spp. (Thalictrum) 5                           | elm, Amer. (Ulmus americana) 3                                |
| X      |  | hackberry (Celtis occidentalis) 3                             |
|        | *queen-of-the-prairie (Filipendula rubra) 9              | ironwood (Carpinus caroliniana) 5                             |
|        | senna spp. <i>(Cassia) 4</i>                             | X oak, pin or white (Quercus) 4                               |
| -      | swamp agrimony (Agrimonia parviflora) 4                  | *oak, Shumard's, sw. chestnut, sw. white 7                    |
|        | *swamp thistle (Cirsium muticum) 8                       | *papaw (Asimina triloba) 6                                    |
| -      |  | *sugarberry (Celtis laevigata, S) 7                           |
|        | tall coneflower (Rudbeckia laciniata) 3                  | sweet gum (Liquidambar styraciflua) 4                         |
|        | *water hemlock spp. (Cicuta) 7                           | sycamore, Amer. (Platanus occidentalis) 3                     |
|        | _ water parsnips (Sium suave) 5                          | willow spp. (Salix) sp.1=3; *additional=7                     |
| Shrub  | s - leaves opposite or whorled                           | OTHER   |
| J U.J. | bladdernut (Staphylea trifolia) 5                        | OTHER   |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0            |   |
|        | button bush (Cepha/anthus occidentalis) 5                |   |
|        | dogwood, red-osier (Cornus stolonifera) 4                |   |
| X      | *dogwood, blue-fruited or silky Cornus                   |   |
|        | obliqua) 7   |   |
|        | dogwood, gray (C. <i>racemosa)</i> 2                     |   |
|        | elderberry (Sambucus) 2                                  |   |
|        | _ oldoloony (odiniododo) z                               | InWrap. Tera revised June 20                                  |

| Date Rep                    | port Generated: 4/30/2012  |  |  |
|-----------------------------|--|--|--|
| Wetland                     | site name: S5W148  |  |  |
| Data Ref                    | ference #: 148   |  |  |
| Date of Site Visit: 4/27/12 |  |  |  |
| NWI poly                    | gons in Site (quadrangle and NWI id. numbers: Modesto                                |  |  |
|                             |  |  |  |
| TIER 1 S                    | SUMMARY:   |  |  |
| a.                          | Total wetland area (hectares): .03 hectares (0.09 acres)                             |  |  |
| b.                          | Wetland size and connectivity – contribution to animal habitat:                      |  |  |
|                             | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral                                    |  |  |
| C.                          | Surrounding land use – numerical rank (max. = 1): 0.0                                |  |  |
| d.                          | Value surrounding area adds to animal habitat  |  |  |
|                             |  |  |  |
| TIER 2                      | SUMMARY: NWI Polygon Id. 148   |  |  |
| a.                          | Indiana Wetland community type: Sedge meadow   |  |  |
| b.                          | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral    |  |  |
| C.                          | Disturbances to site: Road embankment  |  |  |
| d.                          | Exotic species rating:  Good  Medium  Poor   |  |  |
| e.                          | Special Hydrologic Conditions Observed: None   |  |  |
| f.                          | Special Community Type: None   |  |  |
| g.                          | Rare-Threatened-Endangered Species: None   |  |  |
| h.                          | Polygon Quality Description: Good Medium Poor  |  |  |
| TIED 0                      | A CLUMMA DV  |  |  |
| HER 3                       | A SUMMARY:   |  |  |
| a.                          | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral |  |  |
| b.                          | Water quality protection – numerical rank (6 max): 2 Rating: ☐ Good ☐ Medium ☒ Poor  |  |  |
| C.                          | Flood and storm water storage – numerical rank (5 max): 2 Rating: Good Medium Poor   |  |  |
|                             |  |  |  |
| TIER 3                      | B SUMMARY:   |  |  |
| a.                          | Zonation and interspersion as indicator of animal habitat:                           |  |  |
| b.                          | Stratification as indicator of animal habitat:  Valuable  Neutral                    |  |  |
| C.                          | Number of dominant plant taxa observed: 2 Rating: Good Medium Poor                   |  |  |
| d.                          | Average coefficient of conservatism: 0.5 Rating: Good Medium Poor                    |  |  |
| e.                          | Tree canopy as indicator of animal habitat:   Valuable   Neutral                     |  |  |
| f.                          | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☐ Neutral        |  |  |
| g.                          | Total hydrophytic taxa observed: 4 Rating: ☐ Good ☐ Medium ☒ Poor                    |  |  |
| h.                          | Number of indicator taxa 0 Rating: ☐ Good ☐ Medium ☐ Poor                            |  |  |

Data Reference # S5W148

TERG May 2000

## **Tier 1: Assessment Overview**

| Wetland site name: S5W14  | 8   |  |   |                    |                |
|---|---|--|---|--------------------|----------------|
| Ownership (if known):   |   |  |   |                    |                |
| USGS Topographic Quadrang   | gle(s): Modesto   |  |   |                    |                |
| USGS Watershed map 14-Dig   | git HUC: Bryant (   | Creek (51202011  | 180040)   |                    |                |
| Identify each NIMI Delygen with   | in the Wetland Site   | . (Dolygon angai   | fic data)   |                    |                |
| Identify each NWI Polygon with NWI Polygon ID Number  | 148   | e (Polygon speci<br>   |   |                    |                |
| Cowardin Classification   | PEM   |  |   |                    |                |
| Polygon Size (hectares)   | 0.03 (0.09 acres)   |  |   |                    |                |
| NWI Polygon ID Number   |   |  |   |                    |                |
| Cowardin Classification   |   |  |   |                    |                |
| Polygon Size (hectares)   |   |  |   |                    |                |
| 1.2 Site Visit:   |   |  |   |                    |                |
| Team Members: K. Schroed  | der & D. White  |  |   |                    |                |
| Agency: INDOT   |   |  |   |                    |                |
| Date assessed: 4/27/2012  |   | Time a   | ssessed: 10:30  | am                 |                |
| Weather conditions: 50 F,   | Sunny   |  |   |                    |                |
| Note any unional weather aver   | nto that may bay  | influenced the c   | t oon ditions   | within this watlan | d avatam (a.a. |
| Note any unusual weather ever<br>recent heavy rains, an unusuall  | -   |  |   | within this wetian | a system (e.g. |
| recent fleaty fame, an arracaan   | y ary coacorr, arr c  | openiany carry c   | pg, 0.0./.  |                    |                |
|   |   |  |   |                    |                |
| 1 3 Wotland Size:   |   |  |   |                    |                |
| 1.3 Wetland Size:   | t 0.03 hectares (   | 0 00 acres)  |   |                    |                |
| Size of site under assessment   |   | •  | 0.03 hostaros (   | 0.00 agrae)        |                |
| Size of site under assessment<br>Size of total wetland complex  |   | •  | 0.03 hectares (   | 0.09 acres)        |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  | (all continuous we  | tland polygons):   | 0.03 hectares (   | 0.09 acres)        |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other v   | (all continuous we  | tland polygons):   |   | 0.09 acres)        |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other w  The site is connected up  | (all continuous we vetlands or wetlands or downs  | tland polygons): d complexes: stream with othe   |   | 0.09 acres)        |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other w  The site is connected up  The site is only connected  | (all continuous we vetlands or wetlands ostream and downs ed upstream with c  | tland polygons):  d complexes: stream with othe other wetlands                                     | r wetlands  | 0.09 acres)        |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other v  The site is connected up  The site is only connected  X The site is only connected  | (all continuous we wetlands or wetlands or wetlands ostream and downsed upstream with continuous wetlands)  | tland polygons):  d complexes: stream with othe other wetlands                                     | r wetlands  | 0.09 acres)        |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other v  The site is connected up  The site is only connected  X The site is only connected  Other wetlands are near   | (all continuous we wetlands or wetlands or wetlands ostream and downsed upstream with coed downstream with the coed downstream with the coed within 0.25 miles.   | tland polygons):  d complexes: stream with othe other wetlands                                     | r wetlands  | 0.09 acres)        |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other w  The site is connected up  The site is only connected  X The site is only connected  Other wetlands are near  The wetland site is isola  | (all continuous we wetlands or wetlands or wetlands ostream and downsed upstream with coed downstream without the wetlands of | tland polygons):  d complexes: stream with othe other wetlands th other wetlands le) but not conne | r wetlands  |                    |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other v  The site is connected up  The site is only connected  X The site is only connected  Other wetlands are near   | vetlands or wetland ostream and downs ed upstream with code downstream with the first (within 0.25 mileted ent land use / land  | tland polygons):  d complexes: stream with othe other wetlands th other wetlands le) but not conne | r wetlands  |                    | of the wetland |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other w  The site is connected up  The site is only connected  X The site is only connected  Other wetlands are near  The wetland site is isola  (General assessment of adjace   | (all continuous we vetlands or wetlands or wetlands ostream and downsed upstream with coed downstream with the coed within 0.25 miles and land use / land of each type):  | tland polygons):  d complexes: stream with othe other wetlands th other wetlands le) but not conne | r wetlands<br>s<br>octed<br>a within 50 meters                              |                    |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other we to the site is connected up to the site is only connected with the site is only connected to the site is isolated.  Other wetlands are near the wetland site is isolated.  (General assessment of adjaces site (indicate the % abundance)   | (all continuous we wetlands or wetlands or wetlands ostream and downsed upstream with coed downstream without within 0.25 mill ted ent land use / land of each type):   | tland polygons):  d complexes: stream with othe other wetlands th other wetlands e) but not conne  | r wetlands<br>s<br>octed<br>a within 50 meters                              | s of the perimeter |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other v  The site is connected up  The site is only connected  X The site is only connected  Other wetlands are near  The wetland site is isola  (General assessment of adjace site (indicate the % abundance Native Vegetation - woo  | (all continuous we wetlands or wetlands or wetlands ostream and downsed upstream with coed downstream without within 0.25 mill ted ent land use / land of each type):   | tland polygons):  d complexes: stream with othe other wetlands th other wetlands e) but not conne  | r wetlands cted within 50 meters  | s of the perimeter |                |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other ware is connected up The site is connected up The site is only connected X The site is only connected Other wetlands are near The wetland site is isola  (General assessment of adjace site (indicate the % abundance Native Vegetation - old for the size of total site is isola site (indicate the % abundance Native Vegetation - old for the size of total wetland site is isola site (indicate the % abundance Native Vegetation - old for the size of total wetland site is isola site (indicate the % abundance Native Vegetation - old for the size of total wetland site is isola site (indicate the % abundance Native Vegetation - old for the size of total wetland complex | (all continuous we wetlands or wetlands or wetlands ostream and downsed upstream with coed downstream with the coed within 0.25 miles and the coed to the coed within 1.25 miles and the coed that land use / land of each type):   | tland polygons):  d complexes: stream with othe other wetlands th other wetlands e) but not conne  | r wetlands cted within 50 meters Road / highway Industrial Residential – si | s of the perimeter | arking lot     |

|                 | Polygon #<br>ble on page or   |  |                | Data Refe     | rence #            | S5W148                 | InWRAP, TERG May 2000                   |
|-----------------|-------------------------------|--|----------------|---------------|--------------------|------------------------|---|
| Tier 2 in the w |                               | l Polygon: Pre                             | liminary A     | ssessmer      | <b>It</b> (to be o | completed on-s         | ite for <u>each</u> NWI polygon present |
| 2.1 We          | tland Geomo                   | orphic Setting an                          | d Surface. W   | ater Flow (c  |                    | <b>e):</b><br>oodplain | Lacustrine                              |
|                 | _ Riverine (                  | within the river/stre                      | eam banks)     |               |                    |                        |   |
| 2.2 Pre         | sence of Sta                  | anding Water:                              |                |               |                    |                        |   |
| ls stan         | ding water n                  | ormally present in                         | the polygon?   | Yes           |                    |                        |   |
|                 | _                             | water is present, is<br>ormally present in | _              |               | meters in<br>No    | depth? No              |   |
| 2.3 App         | parent Hydro                  | operiod (check or                          | ne):           |               |                    |                        |   |
|                 | Permanently                   |  |                |               | Artific            | cially Flooded         |   |
|                 | Seasonally F<br>Saturated (so | looded<br>urface water seldo               | m present)     |               | Artific            | cially Drained         |   |
| 2.4 Soi         |                               | .e. peat, etc.)                            | Х              | Mineral       |                    | Both                   | Mineral and Organic Present             |
| 0.5.W.          |                               |  | - NIVA/I I     |               | . 40 14/04/        |                        | des of Indiana).                        |
|                 | tiand Comm<br>e meadow        | unity Type for th                          | s NWI polyg    | on (see Key   | to wetia           | ana Communii           | ues or indiana):                        |
| Seuge           | e meadow                      |  |                |               |                    |                        |   |
| 2.6 Dis         | turbances o                   | f Hydrology (che                           | ck all that ap | ply):         |                    |                        |   |
|                 | Ditching                      |  |                |               | Culvert            |                        |   |
|                 | Tiles<br>Dams                 |  |                |               | Other Hu           | ıman Disturban         | ces to the Hydrology (explain):         |
| X               | Road or Rail                  | road Embankment                            |                |               |                    |                        |   |
| 2.7 Pre         | sence of Inv                  | asive Exotics (Se                          | ore as: S = 3  | Scattered, F  | = Frequ            | ent, or C = Co         | mmon):                                  |
|                 | Garlic Musta                  |  |                | lossy Bucktho |                    |                        | ·                                       |
|                 | Phragmities                   |  |                | eed canary gr |                    |                        |   |
|                 | Purple loose                  | strife                                     | X              | ther (list):  | Typha              |                        |   |
| 2.8 Pre         | sence of Sp                   | ecial Hydrologic                           | Conditions (   | i.e. seeps, w | vet slope          | s, floating ma         | t):                                     |
| None            |                               |  |                |               |                    |                        |   |
| 2 0 Dro         | canca of Cn                   | ooial Cammunity                            | Tymaay         |               |                    |                        |   |
| 2.9 FIE         | Bog                           | ecial Community                            | -en            |               | We                 | et Sand / Muck         | Flats or Mari Seeps                     |
|                 | ~8                            | <del></del> '                              | J.,            |               |                    |                        | 000p0                                   |
| 2.10 Pr         | esence of K                   | nown Federal or                            | Indiana Rare   | , Threatene   | d or End           | angered Spec           | ies:                                    |
| Χ               |                               | erved or known to                          | be present     |               |                    |                        |   |
|                 | _ RTES Pre                    | esent (list)                               |                |               |                    |                        |   |
| 2.11 W          |                               | on Quality Desci                           | •              | Vetland Qua   | lity Desc          | criptions and c        | heck one):                              |
|                 | Good                          |  | Medium         | X             | Po                 | or                     |   |

| NWI    | Ро   | lyg  | on   | #     | 148 Data Reference # S5W1  | 48   |  |  |  |  |
|--------|------|------|------|-------|--|--|--|--|--|--|
| Tier   | 3a   | Inc  | vib  | idua  | al Polygon: Rapid Hydrology Indicators   |  |  |  |  |  |
| 3a.1 N | lota | able | e Fe | eatur | res that influence water quality and hydrology:  |  |  |  |  |  |
| Estim  | nate | ed h | erb  | acec  | ous plant cover (percentage) in the polygon 100-75 _X  | 75-50 50-25 <25  |  |  |  |  |
| Estim  | nate | ed v | voo  | dy pl | plant foliar cover in the polygon 100-75   | _75-5050-25 <u>X</u> <25   |  |  |  |  |
| Amo    | unt  | of c | dead | d wo  | oody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover)  | Frequent (>20% cover)  |  |  |  |  |
| 3a.2 V | Vat  | er ( | Qua  | lity  | Protection Questions:  |  |  |  |  |  |
| 1.     | Χ    | Y    |      | N     | Does the wetland have a significant amount of vegetative (specificall density to potentially uptake dissolved nutrients?   | y perennial and woody plant)   |  |  |  |  |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricult or municipal wastewater) is <b>not</b> discharged into the wetland polygon   |  |  |  |  |  |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, an   | swer 3b  |  |  |  |  |
| 3a.    |      | Υ    | X    | N     | Does the wetland have a shape or flow that allows for the settling ou before the water reaches the center of the wetland?  | t of suspended materials   |  |  |  |  |
| 3b.    |      | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is he surface body of water down gradient?   | d or filtered before entering a  |  |  |  |  |
| 4.     | X    | Υ    |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border? |  |  |  |  |  |
| 5.     |      | Υ    | Χ    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?  |  |  |  |  |  |
| 6.     |      | Y    | X    | N     |  | regetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow I be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area and slope. |  |  |  |  |
|        |      |      |      |       | Average width of buffer area (in meters) Approximate s   | dth of buffer area (in meters) Approximate slope (percent)   |  |  |  |  |
| 3a.3 F | loc  | od a | and  | Stoi  | ormwater Storage / Attenuation Questions:  |  |  |  |  |  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, an   | swer 1b  |  |  |  |  |
| 1a.    |      | Υ    | Χ    | N     | Around the wetland is there a buffer strip of natural vegetation (fores slow overland flow into the wetland?   | ted, old field, scrub) that will   |  |  |  |  |
| 1b.    |      | Υ    |      | N     | Is there a significant amount of microtopography or vegetative densit the velocity of the water leaving the wetland?   | y within the wetland to reduce   |  |  |  |  |
| 2.     |      | Y    | X    | N     | Does the wetland <b>lack</b> man-made structures that would speed the flo (tiles, culverts, ditches)?  | ow of water from the wetland   |  |  |  |  |
| 3.     | X    | Y    |      | N     | Is the flood potential high in the sub-watershed in which the wetland damages)?  | is located (history of flood   |  |  |  |  |
| 4.     |      | Υ    | Χ    | N     | Is the wetland located in a watershed where the majority of the uplar impermeable, or is bedrock within two feet of the top of the soil profile  |  |  |  |  |  |
| 5.     | Х    | Υ    |      | N     | Is the wetland located in a local watershed which has highly modified existing development (e.g. >50% area in row crop, commercial, or re  |  |  |  |  |  |

| NWI Polygon #                        | 148   | Data Reference # S5W148  |
|--------------------------------------|---|--|
| Tier 3b Individu                     | ıal Polygon: Rapid Vege                               | tation Description   |
| <b>3b.1 Zonation and</b> 1. How many | Interspersion:<br>y vegetation zones are eviden       | in this wetland polygon? _ 1   |
| 1b. If only one                      | e vegetation zone is evident, w                       | hich best describes the site?  |
|                                      | Polygon composed of a mos heterogeneous textures acro | aic of small vegetation patches, hummocks, or tussocks; ss the polygon.                  |
| X                                    | Polygon composed of a sing polygon.                   | e vegetation type with more or less uniform texture across the                           |
|                                      | one vegetation zone is prese ion of these zones?      | nt in the polygon, which interspersion diagram most closely represents                   |
| Туре                                 | e One Interspersion                                   | Type Two Interspersion   |
| (                                    |   |  |
| 3b.2 Dominant Pla                    | nt Species: Vegetation zone                           | A Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)        |
| What % of the polyg                  | gon does this vegetative zone                         |  |
| 10 – 25%                             | <del>-</del>  | 50 - 75% 75 - 90% _X >90%  |
| Is there notable laye                | ering/stratification in this veget                    |  |
|                                      | es that forms extensive monoc                         | ore than 10% of the area) listed in order of relative abundance. (Mark ultural patches). |
| b Typha angustif                     | olia  | e  |
| c                                    |   | f  |
| Dominant <b>Shrub</b> Sp             | pecies listed in order of relative                    | abundance.   |
|                                      |   |  |
| b                                    |   | d  |
| -                                    | cies listed in order of relative a                    |  |
| I.                                   |   | .1   |
| b & shrub capon                      | w. Y nil sonara                                       | e, seldom touching often touching More or less closed                                    |
| rree α siliub carlop                 | y. <u>A</u> IIII <u> </u>                             | e, seldom todching often todching wore of less closed                                    |
| Mature trees (>12"                   | dbh) present: ye                                      | X no   |
| Other remarks (inc                   | lude personal comments abou                           | t what adds to or detracts from the quality of this wetland site).                       |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \*= species with high conservationism

| Herbs: non-seed plants   | φ   |
|--|---|
| horsetail, scouring rush spp. (Equisetum) 2  | Herbs: wide-leafed monocots                       |
| *ferns: marsh shield fern spp. (Dryopteris) 7  | *arrow arum (Peltandra virginica, N) 6            |
| *cinnamon fern (Osmunda cinnamomea) 0  | arrow-head spp. (Sagittaria) 4                    |
| *royal fern (Osmunda regalis) 8  | *green dragon (Arisaema dracontium) 6             |
| sensitive fern (Onoclea sensibilis) 4  | Jack-in-the-pulpit (Arisaema triphyllum) 4        |
| *other: species (if known)   | pickerel weed (Pontederia cordata, N) 5           |
| *royal fern (Osmunda regalis) 8 sensitive fern (Onoclea sensibilis) 4 *other: species (if known) marsh club moss (Selaginella apoda) 4 | *skunk cabbage (Symplocarpus foetidus) 8          |
| *Sphagnum moss spp. (Sphagnum, N) 10   | *water arum (Calla palustris, N) 10               |
| Opilagilali illoss spp. (Opilagilalii, 14) 10  | water plantain (Alisma plantago-aquat.) 2         |
| Herbs: Ivs. floating or submergent   | water plantain (rinema plantage aquati) 2         |
| *bladderwort spp. (Utricularia, N) 10  | Herbs: dicots - Ivs. opposite/whorled             |
| coontail (Ceratophyllum demersum, N) 1   | *bedstraw spp. (Galium) 6                         |
| duckweed spp. (Lemnaceae) 3  | beggar's tick spp. (Bidens) 3                     |
| *pondweed spp. (Potamogeton) 8 (except 0 for   | blue vervain (Verbena hastata) 3                  |
| introduced P. crispus)   | boneset (Eupatorium perfoliatum) 4                |
| *water lily (Nymphaea tuberosa, N) 6   | bugleweed spp. (Lycopus) 5                        |
| water shield (Brasenia schreberi, N) 4   | clearweed spp. (Pilea) 3                          |
| *yellow spatterdock spp. (Nuphar) 6  | cup plant (Silphium perfoliatum) 4                |
|  | false nettle (Boehmeria cylindrica) 3             |
| Herbs: insectivorous plants  | *fen betony (Pedicularis lanceolata) 6            |
| *pitcher plant (Sarracenia purpurea,N) 10  | *gentian spp. (Gentiana & Gentianopsis) 8         |
| *sundew spp. (Drosera, N) 10   | giant ragweed (Ambrosia trifida) 0                |
| Harbar linear lya, ar lastings , managata  | Indian hemp (Apocynum cannabinum) 2               |
| Herbs: linear-lvs. or leafless ± monocots  | Joe-pye weed spp. (Eupatorium) 5                  |
| *beak rush spp. (Rhynchospora, N) 10 blueflag iris (Iris virginica) 5  | *loosestrife spp. (Lysimachia) 6                  |
| bulrush spp. (Scirpus / Schoenoplectus) 5  | meadow beauty (Rhexia virginica) 5                |
| *bur reed spp. (Sparganium) 9  | mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 |
| 1 cat-tail spp. (Typha) 1  | moneywort (Lysimachia nummularia) 0               |
| *cotton grass spp. ( <i>Friophorum,</i> N) 10  | monkey flower spp. (Mimulus) 4                    |
|  | nettle ( <i>Urtica pro cera)</i> 1                |
| Grasses (family Gramineae) - indicate types & number of species  | purple loosestrife (Lythrum salicaria) 0          |
| <sup>a.</sup> *wild rice <i>(Zizania aquatica,</i> N) 10   | *richweed (Collinsonia canadensis) 8              |
| b. most native perennial grass spp. 4: e.g.  | *St. John's wort spp.(Hypericum/Triandeum)8       |
| cut-grass, manna-g, Canada bluejoint, foxtail  | sunflower spp. (Helianthus) 4                     |
| [Alopecurus]; other  | *swamp loosestrife (Decodon verticillatus, N) 8   |
| c. introduced grass spp. 0: reed canary  | swamp milkweed (Asclepias incarnata) 4            |
| grass [Phalaris], reed [Phragmites], annual  | toothcup spp. <i>(Ammania &amp; Rotala) 2</i>     |
| grasses such as annual foxtail [Setaria] &   | *turtlehead spp. (Chelone) 8                      |
| barnyard grass Echinochloa]  | virgin's bower (vine) (Clematis virginiana) 3     |
| needle sedge spp. (Eleocharis) sp.1 =2   | water puslane (Ludwigia palustris) 3              |
| *additional=8  | winged loosestrife (Lythrum alatum) 5             |
| nutsedge spp. (Cyperus) 2  |   |
| *orchid spp.: species (if known)   | Herbs: (vines): dicots - lvs. alternate or basal  |
| rush spp. (Juncus) 4 sedge spp. (Carex) sp.1=3 *additional=7   | and simple  |
| 9 11 \ / 1   | Amer. bellflower (Campanula americana) 4          |
| *spiderlily (Hymenocallis occidentalis) 9  | *asters: bristly aster (Aster puniceus) 7         |
| sweet flag (Acorus calamus) 0  | *flat-topped aster (A. umbellatus) 8              |
| *3-way sedge (Dulichium arundinaceum) 10   | other aster spp. (e.g. New Engl, panicled-a) 3    |
| *twig rush (Cladium mariscoides, N) 10   | *black-eyed Susan (Rudbeckia fulgida) 8           |
| *umbrella sedge (Fuirena squarrosa, N) 10  | cardinal flower (Lobelia cardinalis) 4            |
| wild hyacinth (Camassia scilloides) 5 *yellow-eyed grass (Xyris torta, N) 9  | InWrap, Terg revised June 2005                    |
| yenow-eyeu grass (Ayris torta, N) s  |   |

| cress spp. (Cardamine) 4  dock spp.: swamp-, water-, pale- (Rumex) 4  garlic mustard (Alliaria petio/ata) 0  golden ragwort (Senecio aureus) 4  *goldenrod spp. (Solidago ohioensis, S. patula, S. riddellil) 9  *grass of Parnassus (Parnassia glauca) 10  *Indian plantain (Cacalia plantaginea) 10  ironweed spp. (Vernonia) 4  jewelweed, touch-me-not spp. (Impatiens) 3  lizard's tail (Saururus cernuus) 4  lobelia spp. (Lobelia) 4  *marsh marigold (Caltha palustris) 7   | *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7  swamp rose (Rosa palustris) 5   |
|---|---|
| *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp.(Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4 smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2 *swamp saxifrage (Saxifraga pa.) 10 *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3   | Trees - Ivs. needle shaped  *tamarack (Larix laricina, N) 10  Trees - Ivs. compound  *ash, black (Fraxinus nigra) 7  ash, green (Fraxinus pensylvanica) 3  *ash, pumpkin (Fraxinus tomentosa, SW) 8  boxelder (Acer negundo) 1  hickory, bitternut (Carya cordiformis) 5  *hickory, shell bark (Carya laciniosa) 8  honey locust (Gleditsia triacanthos) 1  *poison sumac (Rhus vernix) 10  |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5 | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| Shrubs - leaves opposite or whorled  bladdernut (Staphylea trifolia) 5  buckthorn spp. (Rhamnus cathar. & frangula) 0  button bush (Cepha/anthus occidentalis) 5  dogwood, red-osier (Cornus stolonifera) 4  *dogwood, blue-fruited or silky Cornus  obliqua) 7  dogwood, gray (C. racemosa) 2  elderberry (Sambucus) 2   | OTHER  InWrap, Terg revised June 200  |

| Date Re                        | port Generated:   |  |  |
|--------------------------------|---|--|--|
| Wetland                        | site name: S5W149   |  |  |
| Data Re                        | ference #: 149  |  |  |
| Date of Site Visit: 10/13/2011 |   |  |  |
| NWI pol                        | gons in Site (quadrangle and NWI id. numbers: Bloomington                                 |  |  |
|                                |   |  |  |
| TIER 1                         | SUMMARY:  |  |  |
| a.                             | Total wetland area (hectares): 0.51 hectares (1.27 acres)                                 |  |  |
| b.                             | Wetland size and connectivity – contribution to animal habitat:                           |  |  |
|                                | ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral   |  |  |
| C.                             | Surrounding land use – numerical rank (max. = 1): 0.15                                    |  |  |
| d.                             | Value surrounding area adds to animal habitat ☐ Valuable ☐ Favorable ☐ Low                |  |  |
|                                |   |  |  |
| TIER 2                         | SUMMARY: NWI Polygon Id. 149a   |  |  |
| a.                             | Indiana Wetland community type: Sedge meadow  |  |  |
| b.                             | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral         |  |  |
| C.                             | Disturbances to site: Road  |  |  |
| d.                             | Exotic species rating:   Good   Medium   Poor   |  |  |
| e.                             | Special Hydrologic Conditions Observed: None  |  |  |
| f.                             | Special Community Type: None  |  |  |
| g.                             | Rare-Threatened-Endangered Species: None  |  |  |
| h.                             | Polygon Quality Description: 🛛 Good 🔲 Medium 🔲 Poor                                       |  |  |
|                                |   |  |  |
| TIER 3                         | A SUMMARY:  |  |  |
| a.                             | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral      |  |  |
| b.                             | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☑ Medium ☐ Poor       |  |  |
| C.                             | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor        |  |  |
|                                |   |  |  |
| TIER 3                         | B SUMMARY:  |  |  |
| a.                             | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral |  |  |
| b.                             | Stratification as indicator of animal habitat:   Valuable   Neutral                       |  |  |
| C.                             | Number of dominant plant taxa observed: 2 Rating: ☐ Good ☐ Medium ☐ Poor                  |  |  |
| d.                             | Average coefficient of conservatism: 5.5 Rating: Sood Medium Poor                         |  |  |
| e.                             | Tree canopy as indicator of animal habitat:   Valuable   Neutral                          |  |  |
| f.                             | Mature trees as indicator of animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral             |  |  |
| g.                             | Total hydrophytic taxa observed: 11 Rating: ☐ Good ☐ Medium ☒ Poor                        |  |  |
| h.                             | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                 |  |  |
|                                |   |  |  |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2 | SUMMARY: NWI Polygon Id. 149b   |
|--------|---|
| a.     | Indiana Wetland community type: Sedge meadow  |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral         |
| C.     | Disturbances to site: Road  |
| d.     | Exotic species rating: Good Medium Poor   |
| e.     | Special Hydrologic Conditions Observed: None  |
| f.     | Special Community Type: None  |
| g.     | Rare-Threatened-Endangered Species: None  |
| h.     | Polygon Quality Description: Good Medium Poor   |
|        |   |
| TIER 3 | A SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable Favorable   Neutral        |
| b.     | Water quality protection – numerical rank (6 max): 4 Rating: ☐ Good ☑ Medium ☐ Poor       |
| C.     | Flood and storm water storage – numerical rank (5 max): 5 Rating: Good Medium Poor        |
|        |   |
| TIER 3 | B SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:   Valuable  Favorable  Neutral |
| b.     | Stratification as indicator of animal habitat:   Valuable   Neutral                       |
| C.     | Number of dominant plant taxa observed: 2 Rating: ☐ Good ☐ Medium ☒ Poor                  |
| d.     | Average coefficient of conservatism: 5.5 Rating: Sood Medium Poor                         |
| e.     | Tree canopy as indicator of animal habitat:   |
| f.     | Mature trees as indicator of animal habitat:  Valuable  Favorable  Neutral                |
| g.     | Total hydrophytic taxa observed: 11 Rating: ☐ Good ☐ Medium ☒ Poor                        |
| h.     | Number of indicator taxa 1 Rating: ☐ Good ☐ Medium ☒ Poor                                 |
|        |   |

Supplemental page for wetland sites with multiple NWI polygons:

| TIER 2 | SUMMARY: NWI Polygon Id. 149c  |
|--------|--|
| a.     | Indiana Wetland community type: Swamp Forest   |
| b.     | Standing water – contribution to animal habitat:   Valuable   Favorable   Neutral        |
| C.     | Disturbances to site: Ditching   |
| d.     | Exotic species rating: Good Medium Poor  |
| e.     | Special Hydrologic Conditions Observed: None   |
| f.     | Special Community Type: None   |
| g.     | Rare-Threatened-Endangered Species: None   |
| h.     | Polygon Quality Description: Good Medium Poor  |
|        |  |
| TIER 3 | BA SUMMARY:  |
| a.     | Dead woody material as indicator of animal habitat:   Valuable   Favorable   Neutral     |
| b.     | Water quality protection – numerical rank (6 max): 3 Rating: ☐ Good ☐ Medium ☐ Poor      |
| C.     | Flood and storm water storage – numerical rank (5 max): 4 Rating: 🖂 Good 🔲 Medium 🔲 Poor |
|        |  |
| TIER 3 | BB SUMMARY:  |
| a.     | Zonation and interspersion as indicator of animal habitat:                               |
| b.     | Stratification as indicator of animal habitat:   |
| C.     | Number of dominant plant taxa observed: 7 Rating: ☐ Good ☐ Medium ☒ Poor                 |
| d.     | Average coefficient of conservatism: 2.6 Rating: Good Medium Poor                        |
|        | Tree canopy as indicator of animal habitat:     Valuable   Neutral                       |
| е.     | — — —  |
| f.     | Mature trees as indicator of animal habitat:   Valuable Favorable Neutral                |
| g.     | Total hydrophytic taxa observed: 19 Rating: Good Medium Poor                             |
| h.     | Number of indicator taxa 2 Rating: Good Medium Poor                                      |

### **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W149

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

| Wetland  | d site name: S5W149  | 9  |   |  |  |               |
|--|--|--|---|--|--|---------------|
| Owners   | ship (if known):   |  |   |  |  |               |
| USGS 7   | Topographic Quadrang   | le(s): Blooming  | ton   |  |  |               |
| USGS \   | Watershed map 14-Dig   | jit HUC: <u>Bean B</u>   | lossom Creek-Sto  | ut Creek 051202020   | 010080                                     |               |
| Identify e   | each NWI Polygon with  | in the Wetland Sit   | e (Polygon specific   | r data)  |  |               |
|  | lygon ID Number  | 149a   | 149b  | 149c   |  |               |
|  | in Classification  | PEMC   | PEMC  | PFO1A  |  |               |
| Polygon  | Size (hectares)  | 0.16 (0.4 acre)  | 0.04 (0.11 acre)  | 0.31 (0.76acre)  |  |               |
| NWI Pol  | lygon ID Number  |  |   |  |  |               |
| Cowardi  | in Classification  |  |   |  |  |               |
| Polygon  | Size (hectares)  |  |   |  |  |               |
| 1.2 Site \   | Visit:   |  |   |  |  |               |
| Team N   | Members: K. Schroed  | ler, D. White  |   |  |  |               |
| Agency   | r: INDOT   |  |   |  |  |               |
| Date as  | ssessed: <u>10/13/2011</u>   |  | Time as   | sessed: 4:00 pm  |  |               |
| Weathe   | er conditions: Overc   | ast, rain, 70  |   |  |  |               |
|  |  |  |   |  |  |               |
| Note on  |  | -4- 4b-4 b   | influenced the au   |  | المصملة منتجلة منا                         | a             |
| •  | / unusual weather ever<br>eavv rains. an unusuall  | •  |   |  | in this wetland                            | system (e.g.  |
| •  | / unusual weather ever<br>eavy rains, an unusuall  | •  |   |  | in this wetland                            | system (e.g.  |
| recent he  | eavy rains, an unusuall  | •  |   |  | in this wetland                            | system (e.g.  |
| 1.3 Wetla  | eavy rains, an unusuall  | y dry season, an e   | especially early sp   | ing, etc.):  | in this wetland                            | system (e.g.  |
| 1.3 Wetla<br>Size of   | eavy rains, an unusuall  and Size: site under assessment   | y dry season, an e   | especially early spi  | ing, etc.):  |  | system (e.g.  |
| 1.3 Wetla<br>Size of   | eavy rains, an unusuall  | y dry season, an e   | especially early spi  | ing, etc.):  |  | system (e.g.  |
| 1.3 Wetla<br>Size of<br>Size of<br>1.4 Site 9  | and Size: site under assessment total wetland complex Setting:   | y dry season, an e   | PEM; 0.31 hectare   | ing, etc.):  |  | system (e.g.  |
| 1.3 Wetla<br>Size of<br>Size of<br>1.4 Site S<br>Degree of   | and Size: site under assessment total wetland complex Setting: of isolation from other w   | y dry season, an e  .: 0.2 hectares- (all continuous we wetlands or wetlan   | PEM; 0.31 hectare tland polygons):  | ring, etc.):   |  | system (e.g.  |
| 1.3 Wetla<br>Size of<br>Size of<br>1.4 Site 3<br>Degree of   | and Size: site under assessment total wetland complex Setting: of isolation from other with the site is connected up   | y dry season, an e  0.2 hectares- (all continuous we wetlands or wetlan estream and down   | PEM; 0.31 hectare tland polygons): d complexes: stream with other   | ring, etc.):   |  | system (e.g.  |
| 1.3 Wetla<br>Size of<br>Size of<br>1.4 Site S<br>Degree of<br>X T  | and Size: site under assessment total wetland complex Setting: of isolation from other with the site is connected up   | y dry season, an e   | PEM; 0.31 hectare tland polygons):  d complexes: stream with other tother wetlands  | ring, etc.):   |  | system (e.g.  |
| 1.3 Wetla<br>Size of<br>Size of<br>1.4 Site s<br>Degree of<br>X T  | and Size: site under assessment total wetland complex  Setting: of isolation from other with the site is connected up the site is only connected the site is only connected.   | y dry season, an e   | PEM; 0.31 hectare tland polygons):  d complexes: stream with other other wetlands   | s-PFO  0.51 hectares (1.2)  wetlands   |  | system (e.g.  |
| 1.3 Wetla Size of Size of Degree of X T  | and Size: site under assessment total wetland complex  Setting: of isolation from other withe site is connected up the site is only connected the site is on | y dry season, an extension of the continuous we wetlands or wetlands or wetlands and downed upstream with continuous we downstream with the continuous we wetlands or wetlands or wetlands and downstream with the continuous we will be continuous.   | PEM; 0.31 hectare tland polygons):  d complexes: stream with other other wetlands   | s-PFO  0.51 hectares (1.2)  wetlands   |  | system (e.g.  |
| 1.3 Wetla Size of Size of Degree of X T  | and Size: site under assessment total wetland complex  Setting: of isolation from other wealthe site is connected up the site is only connected the site is only connected the wetlands are near the wetland site is isola   | y dry season, an extreme of the continuous we wetlands or wetlands or wetlands or wetlands and down and down the downstream with continuous we wetlands or wetland | PEM; 0.31 hectare tland polygons):  d complexes: stream with other tother wetlands th other wetlands le) but not connect                                      | es-PFO  0.51 hectares (1.2)  wetlands  | 27 acres)                                  |               |
| 1.3 Wetla Size of Size of Degree of X T  | and Size: site under assessment total wetland complex  Setting: of isolation from other withe site is connected up the site is only connected the site is on | y dry season, an extreme of the continuous we wetlands or wetlands or wetlands or wetlands and down and downstream with continuous we wetlands or wetlands or wetlands or wetlands or wetlands or wetlands or wetland or wetlands or wetla | PEM; 0.31 hectare tland polygons):  d complexes: stream with other tother wetlands th other wetlands le) but not connect                                      | es-PFO  0.51 hectares (1.2)  wetlands  | 27 acres)                                  |               |
| 1.3 Wetla Size of Size of Degree of X T  | and Size: site under assessment total wetland complex  Setting: of isolation from other withe site is connected up the site is only connected the site is only connected the wetlands are near the wetland site is isolal assessment of adjace   | 2.2 hectares- 2.3 (all continuous we wetlands or wetlands or wetlands or wetlands and down and downstream with a downstream with the wetlands of each type):   | PEM; 0.31 hectare tland polygons):  d complexes: stream with other tother wetlands th other wetlands le) but not connect                                      | es-PFO  0.51 hectares (1.2)  wetlands  | 27 acres)                                  | f the wetland |
| 1.3 Wetla Size of Size of 1.4 Site S Degree of X T T T O T (General site (indice)                                      | and Size: site under assessment total wetland complex  Setting: of isolation from other with the site is connected up the site is only connected the site is only connected the wetlands are near the wetland site is isolal assessment of adjace cate the % abundance   | y dry season, an extension of each type):  O.2 hectares— (all continuous we wetlands or wetlands or wetlands) of wetland down ed upstream with one of each type):  dland   | PEM; 0.31 hectare tland polygons):  d complexes: stream with other tother wetlands th other wetlands the other wetlands the other wetlands the other wetlands | es-PFO  0.51 hectares (1.2)  wetlands  eed  within 50 meters of t  | 27 acres)                                  | f the wetland |
| 1.3 Wetla Size of Size of Size of 1.4 Site Size of T T T T T T T T T T T T T T T T T T                                 | and Size: site under assessment total wetland complex  Setting: of isolation from other withe site is connected up the site is only connected the site is only connected the wetlands are near the wetland site is isolated assessment of adjace cate the % abundance lative Vegetation - woo  | y dry season, an extension of each type):  O.2 hectares— (all continuous we wetlands or wetlands or wetlands) and down of upstream with or each type): dland   | PEM; 0.31 hectare tland polygons):  d complexes: stream with other tother wetlands th other wetlands the other wetlands the other wetlands the other wetlands | wetlands wethin 50 meters of t   | the perimeter o                            | f the wetland |
| 1.3 Wetla Size of Size of Size of Degree of X T T T T T T (General site (indices N N N N N N N N N N N N N N N N N N N | and Size: site under assessment total wetland complex  Setting: of isolation from other withe site is connected up the site is only connected the site is only connected the wetlands are near the wetland site is isolated assessment of adjaced cate the % abundance lative Vegetation - woo lative Vegetation - old for the site is sold the site is sold the site is sold the wetland site is isolated assessment of adjaced the % abundance lative Vegetation - old for the site is sold the  | y dry season, an extension of each type):  O.2 hectares— (all continuous we wetlands or wetlands or wetlands) and down of upstream with or each type): dland   | PEM; 0.31 hectare tland polygons):  d complexes: stream with other tother wetlands th other wetlands the other wetlands the other wetlands the other wetlands | ring, etc.):  Se-PFO  0.51 hectares (1.2)  Wetlands  Sed  Within 50 meters of the Road / highway / rail Industrial | the perimeter of ilroad bed / pares family | f the wetland |

| NWI Polygon # (see table on page or |   | Data Reference #           | S5W149                 | InWRAP, TERG May 2000              |
|-------------------------------------|---|----------------------------|------------------------|------------------------------------|
|                                     | -   | Assessment (to be o        | completed on-site f    | or <u>each</u> NWI polygon present |
| Depression                          | orphic Setting and Surface onal X Slop within the river/stream bank                     | pe Flo                     | <b>e):</b><br>podplain | Lacustrine                         |
| 2.2 Presence of Sta                 | anding Water:   |                            |                        |                                    |
| If standing                         | ormally present in the polygowater is present, is the wate ormally present in an adjace | r greater than 2 meters in | n depth?               |                                    |
| 2.3 Apparent Hydro                  | operiod (check one):  |                            |                        |                                    |
| Permanently                         |   | Artific                    | cially Flooded         |                                    |
| X Seasonally F Saturated (si        | looded<br>urface water seldom present   | ) Artific                  | cially Drained         |                                    |
| 2.4 Soil Type: Organic (i           | .e. peat, etc.) x   | Mineral                    | Both Mi                | neral and Organic Present          |
| 2.5 Wetland Comm                    | unity Type for this NWI po  | lygon (see Key to Wetla    | and Communities        | of Indiana):                       |
| 2.6 Disturbances o                  | f Hydrology (check all that   | apply):                    |                        |                                    |
| X Ditching                          |   | Culvert                    |                        |                                    |
| Tiles<br>Dams                       |   | Other Hu                   | ıman Disturbances      | to the Hydrology (explain):        |
| X Road or Rail                      | road Embankment   |                            |                        |                                    |
| 2.7 Presence of Inv                 | rasive Exotics (Score as: S   | S = Scattered, F = Frequ   | ent, or C = Comm       | on):                               |
| Garlic Musta                        | rd  | Glossy Buckthorn           |                        |                                    |
| Phragmities                         |   | Reed canary grass          |                        |                                    |
| Purple loose                        | strife  | Other (list):              |                        |                                    |
| 2.8 Presence of Sp                  | ecial Hydrologic Condition  | ns (i.e. seeps, wet slope  | es, floating mat):     |                                    |
| 2.9 Presence of Sp                  | ecial Community Types: Fen  | We                         | et Sand / Muck Fla     | ts or Mari Seeps                   |
| 2.10 Presence of K                  | nown Federal or Indiana R   | are, Threatened or End     | angered Species:       |                                    |
|                                     | erved or known to be preser   | nt                         |                        |                                    |
| KIES Pre                            | esent (list)  |                            |                        |                                    |
|                                     | on Quality Descriptor (see  | _                          | -                      | ck one):                           |
| X Good                              | Medium  | Po                         | oor                    |                                    |

| NWI    | Ро   | lyg  | on   | #     | 149a Data Reference # S5W149  |
|--------|------|------|------|-------|---|
| Tier   | 3a   | In   | div  | idu   | al Polygon: Rapid Hydrology Indicators  |
| 3a.1 I | Not  | abl  | e Fe | eatu  | res that influence water quality and hydrology:   |
| Estin  | nate | ed h | erb  | aceo  | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |
| Estin  | nate | ed v | voo  | dy p  | lant foliar cover in the polygon 100-75 75-50 50-25 _X <25  |
| Amo    | unt  | of ( | dea  | d wo  | ody material on the soil surface:  X nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers)   |
| 3a.2 \ | Nat  | er   | Qua  | ality | Protection Questions:   |
| 1.     | Χ    | Υ    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.     |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.     |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.    |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.    | Χ    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.     | X    | Y    |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.     |      | Y    | X    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.     | Χ    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|        |      |      |      |       | Average width of buffer area (in meters) 10-20 Approximate slope (percent) 1-2  |
| 3a.3 F | Floo | od a | and  | Sto   | rmwater Storage / Attenuation Questions:  |
| 1.     |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.    |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.    | X    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.     | Χ    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.     | Χ    | Y    |      | N     | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood damages)?  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

5.

**X Y** 

Ν

Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development (e.g. >50% area in row crop, commercial, or residential use)?

| 3b.1 Zonation and Ir  1. How many  1b. If only one y  X  2. If more than of the distribution               | vegetation zones are evident vegetation zone is evident, whe Polygon composed of a mosa heterogeneous textures acros Polygon composed of a single polygon.  | in this wetland polygon?1 ich best describes the site? ic of small vegetation patches, hummocks, or tussocks;  |
|--|---|--|
| <ol> <li>How many</li> <li>If only one</li> <li>X</li> <li>If more than one of the distribution</li> </ol> | vegetation zones are evident vegetation zone is evident, whe Polygon composed of a mosa heterogeneous textures acros Polygon composed of a single polygon.  One vegetation zone is present of these zones?  One Interspersion | ich best describes the site? ic of small vegetation patches, hummocks, or tussocks; s the polygon.  vegetation type with more or less uniform texture across the tin the polygon, which interspersion diagram most closely representation. |
| X  2. If more than on the distribution   | Polygon composed of a mosa heterogeneous textures acros Polygon composed of a single polygon.  One vegetation zone is present of these zones?  One Interspersion  | ic of small vegetation patches, hummocks, or tussocks; is the polygon.  vegetation type with more or less uniform texture across the in the polygon, which interspersion diagram most closely represent                                    |
| X  2. If more than contribution  | heterogeneous textures acros Polygon composed of a single polygon.  one vegetation zone is present n of these zones? One Interspersion  | s the polygon.  vegetation type with more or less uniform texture across the  in the polygon, which interspersion diagram most closely represer  |
| 2. If more than of the distribution  | polygon.  one vegetation zone is present n of these zones?  One Interspersion   | in the polygon, which interspersion diagram most closely represer  |
| the distributio  | n of these zones? One Interspersion   |  |
|  | One Interspersion   | Type Two Interspersion   |
|  | t Species: Vegetation zone  |  |
|  | t Species: Vegetation zone  |  |
| 3b.2 Dominant Plant  |   | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)  |
| What % of the polygo   | n does this vegetative zone o   | ,  |
| 10 – 25%   | 25 – 50 %   | 50 - 75% <u>X</u> 75 - 90% >90%  |
| Is there notable layer   | ing/stratification in this vegeta   |  |
|  | that forms extensive monocu   | re than 10% of the area) listed in order of relative abundance. <b>(M</b><br>Itural patches).  |
| b Carex sp.  |   | e  |
| С  |   | f  |
| Dominant <b>Shrub</b> Spe  | cies listed in order of relative  |  |
|  |   |  |
| b  |   | d  |
| •  | es listed in order of relative at   |  |
|  |   |  |
| Troo & shrub canony  | · V nil congrate  | d d More or less close, seldom touching More or less close.  |
| Tiee & Siliub Callopy.   | . <u>A</u> IIII Separate  | , seldon todoning often todoning wore or less dos  |
| Mature trees (>12" db  | oh) present: yes  | X no   |
| Other remarks (inclu   | de personal comments about  | what adds to or detracts from the quality of this wetland site).   |

**3b.4 Species richness and indicator species.** Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana) SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism

| (N = north) | ern Indiana     | SW = southwestern Indiana                | numbers = C-coe | fficients  | * = species with high conservationism                                   |
|-------------|-----------------|--|-----------------|------------|---|
| Herbs: r    | non-seed pla    | nts                                      | Herb            | s: wide-   | -leafed monocots  |
|             |                 | uring rush spp. (Equisetum) 2            |                 | *arro      | w arum (Peltandra virginica, N) 6                                       |
|             |                 | shield fern spp. (Dryopteris) 7          |                 |            | v-head spp. <i>(Sagittaria) 4</i>                                       |
|             |                 | rn (Osmunda cinnamomea) 9                |                 |            | en dragon (Arisaema dracontium) 6                                       |
|             |                 | smunda regalis) 8                        |                 |            | -in-the-pulpit (Arisaema triphyllum) 4                                  |
|             |                 | (Onoclea sensibilis) 4                   | <del></del>     |            | erel weed (Pontederia cordata, N) 5                                     |
|             | *other: specie  |  |                 |            | nk cabbage (Symplocarpus foetidus) 8                                    |
|             |                 | oss (Selaginella apoda) 4                | <del></del>     |            | er arum <i>(Calla palustris,</i> N) 10                                  |
|             |                 | noss spp. (Sphagnum, N) 10               |                 |            | r plantain <i>(Alisma plantago-aquat.)</i> 2                            |
| Herbs: I    | vs. floating o  | or submergent                            | Herb            | s: dicot   | s - lvs. opposite/whorled   |
|             |                 | spp. <i>(Utricularia,</i> N) 10          |                 | *beds      | straw spp. <i>(Galium) 6</i>  |
|             |                 | atophyllum demersum, N) 1                |                 |            | ar's tick spp. (Bidens) 3   |
|             |                 | p. (Lemnaceae) 3                         |                 |            | vervain (Verbena hastata) 3   |
|             |                 | pp. <i>(Potamogeton)</i> 8 (except 0     | for             |            | eset (Eupatorium perfoliatum) 4   |
|             | introduced P.   |  |                 |            | eweed spp. (Lycopus) 5  |
|             |                 | mphaea tuberosa, N) 6                    |                 |            | weed spp. (Pilea) 3   |
|             |                 | Brasenia schreberi, N) 4                 | <del></del>     |            | plant (Silphium perfoliatum) 4  |
|             |                 | erdock spp. (Nuphar) 6                   |                 |            | nettle (Boehmeria cylindrica) 3   |
|             | your opanic     | тасы, орр. (. тар.та.) с                 |                 |            | betony ( <i>Pedicularis lanceolata</i> ) 6                              |
| Herbs: i    | nsectivorous    | s plants                                 |                 |            | tian spp. (Gentiana & Gentianopsis) 8                                   |
|             | *pitcher plant  | (Sarracenia purpurea,N) 10               |                 |            | ragweed (Ambrosia trifida) 0  |
|             |                 | (Drosera, N) 10                          |                 |            | n hemp <i>(Apocynum cannabinum)</i> 2                                   |
|             |                 |  |                 |            | oye weed spp. <i>(Eupatorium)</i> 5                                     |
|             |                 | leafless ± monocots                      |                 |            | sestrife spp. (Lysimachia) 6  |
|             | •               | p. <i>(Rhynchospora,</i> N) 10           |                 |            | dow beauty <i>(Rhexia virginica)</i> 5                                  |
|             |                 | ris virginica) 5                         |                 |            | spp.: e.g. hedge nettle, mtn. m., skullcap 5                            |
|             |                 | (Scirpus / Schoenoplectus) 5             |                 |            | eywort <i>(Lysimachia nummularia)</i> 0                                 |
|             |                 | . (Sparganium) 9                         |                 |            | key flower spp. <i>(Mimulus) 4</i>                                      |
|             | cat-tail spp. ( | • • •                                    |                 |            | e (Urtica pro cera) 1   |
|             | *cotton grass   | spp. (Eriophorum, N) 10                  |                 |            | le loosestrife <i>(Lythrum salicaria)</i> 0                             |
| Grasses     | (family Grami   | neae) - indicate types & number of speci |                 |            | weed (Collinsonia canadensis) 8   |
|             |                 | (Zizania aquatica, N) 10                 |                 |            | John's wort <i>spp.(Hypericum/Triandeum)8</i>                           |
|             |                 | ve perennial grass spp. 4: e.g.          |                 |            |   |
| -           |                 | , manna-g, Canada bluejoint, fo          |                 |            | ower spp. (Helianthus) 4<br>mp loosestrife (Decodon verticillatus, N) 8 |
|             | [Alopecur       |  |                 |            | . ,   |
|             |                 | d grass spp. 0: reed canary              |                 |            | np milkweed (Asclepias incarnata) 4                                     |
|             |                 | nalaris], reed [Phragmites], and         | al              |            | cup spp. (Ammania & Rotala) 2   |
|             |                 | such as annual foxtail [Setaria          |                 |            | ehead spp. (Chelone) 8  |
|             |                 | grass <i>Echinochloa]</i>                |                 |            | n's bower (vine) (Clematis virginiana) 3                                |
| X           |                 | spp. <i>(Eleocharis)</i> sp.1 =2         |                 |            | r puslane (Ludwigia palustris) 3  |
|             | *additiona      |  |                 | winge      | ed loosestrife (Lythrum alatum) 5                                       |
|             | nutsedge spp    |  | Harb            | e: (vino   | s): dicots - lvs. alternate or basal                                    |
|             |                 | species (if known)                       |                 | s. (Ville. | s). dicots - IVS. diterriate or basar                                   |
|             | rush spp. (Jul  |  |                 |            | r. bellflower <i>(Campanula americana) 4</i>                            |
|             |                 | Carex) sp.1=3 *additional=7              |                 |            | ers: bristly aster (Aster puniceus) 7                                   |
|             | •               | menocallis occidentalis) 9               |                 |            | topped aster (A. umbellatus) 8  |
|             |                 | corus calamus) 0                         |                 |            | r aster spp. (e.g. New Engl, panicled-a) 3                              |
|             | • .             | (Dulichium arundinaceum) 10              |                 |            | :k-eyed Susan <i>(Rudbeckia fulgida)</i> 8                              |
|             |                 | adium mariscoides, N) 10                 |                 |            | ,                                 |
|             |                 | lge (Fuirena squarrosa, N) 10            |                 | cardi      | nal flower (Lobelia cardinalis) 4                                       |
|             |                 | (Camassia scilloides) 5                  | InWra           | ap, Tera   | revised June 2005   |
|             |                 | grass (Xyris torta, N) 9                 |                 | ., 9 '     |   |
|             | yonow-cycu      | grado (Myrio luria, IN) 3                |                 |            |   |

| cress spp. (Cardamine) 4  | Shrubs - Ivs. alternate  |
|---|--|
| dock spp.: swamp-, water-, pale- (Rumex) 4  | *cranberry spp. (Vaccinium, N) 10  |
| garlic mustard (Alliaria petio/ata) 0   | *dwarf birch (Betula pumila, N) 10   |
| golden ragwort (Senecio aureus) 4   | *high bush blueberry (V. corymbosum, N) 9  |
| *goldenrod spp. (Solidago ohioensis, S.   | *leatherleaf (Chamaedaphne calycul., N) 10   |
| patula, S. riddellil) 9   | meadowsweet & hardhack spp.(Spiraea) 4   |
|   | *ninebark (Physocarpus opulifoius) 7   |
| *grass of Parnassus (Parnassia glauca) 10   |  |
| *Indian plantain (Cacalia plantaginea) 10   | *shrubby cinquefoil (Potentilla fruticosa) 9   |
| ironweed spp. (Vernonia) 4  | spice bush (Lindera benzoin) 5   |
| jewelweed, touch-me-not spp. (Impatiens) 3  | *swamp dewberry (Rubus hispidus) 6   |
| lizard's tail (Saururus cernuus) 4  | *swamp holly & winterberry (/lex spp.) 7   |
| lobelia spp. (Lobelia) 4  | swamp rose (Rosa palustris) 5  |
| *marsh marigold (Caltha palustris) 7  | Tuesa ha waadla ahawad   |
| *moonseed (vine) (Menispermum canadense) 6  | Trees - Ivs. needle shaped   |
| primrose-willow spp.(Epilobium &Ludwigia) 3   | *tamarack (Larix laricina, N) 10   |
| rose mallow spp. (Hibiscus) 4   | Trees - Ivs. compound  |
| X smartweed spp.: incl. jumpseed, pinkweed,   | *ash, black (Fraxinus nigra) 7   |
| tearthumb, water-pepper, water-sm.  | ash, green (Fraxinus pensylvanica) 3   |
| (Polygonum) 4 [Except *for P. arifolium 10]   | *ash, pumpkin (Fraxinus tomentosa, SW) 8   |
| sneezeweed (Helenium autumnale) 3   | boxelder (Acer negundo) 1  |
| stinging nettle (Laportea canadensis) 2   | · · · · · · · · · · · · · · · · ·  |
| *swamp saxifrage (Saxifraga pa.) 10   | hickory, bitternut (Carya cordiformis) 5   |
| *Virginia bluebells (Mertensia virginica) 6   | *hickory, shell bark (Carya laciniosa) 8   |
| waterhemp (Amaranthus tuberculatus) 1   | honey locust (Gleditsia triacanthos) 1   |
| wingstem (Actinomeris alternifolia) 3   | *poison sumac (Rhus vernix) 10   |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6 hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 honewort (Cryptotaenia canadensis) 3 meadow rue spp. (Thalictrum) 5 poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9 senna spp. (Cassia) 4 | red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate |
| swamp agrimony (Agrimonia parviflora) 4 *swamp thistle (Cirsium muticum) 8  | *papaw (Asimina triloba) 6   |
| tall coneflower (Rudbeckia laciniata) 3   | *sugarberry (Celtis laevigata, S) 7  |
| *water hemlock spp. (Cicuta) 7  | sweet gum (Liquidambar styraciflua) 4  |
| water parsnips (Sium suave) 5   | sycamore, Amer. (Platanus occidentalis) 3  |
| water parships (oldin suave) o  | willow spp. (Salix) sp.1=3; *additional=7  |
| Shrubs - leaves opposite or whorled bladdernut (Staphylea trifolia) 5   | OTHER  |
| buckthorn spp. (Rhamnus cathar. & frangula) 0   |  |
| button bush (Cepha/anthus occidentalis) 5   |  |
| dogwood, red-osier (Cornus stolonifera) 4   |  |
| *dogwood, fed osici (ocimus stoicimera) *   |  |
| obliqua) 7  |  |
| dogwood, gray (C. <i>racemosa)</i> 2  |  |
| elderberry (Sambucus) 2   | InWrap, Terg revised June 2005   |

| Tier 2 Individual Polygon: Preliminary Assessment (to be completed on-site for each NWI polygon present in the wetland)  2.1 Wetland Geomorphic Setting and Surface. Water Flow (check one):   |        | Polygon # 149b<br>able on page one) |                         | Data Reference #       | S5W149            | InWRAP, TERG May 2000               |
|--|--------|-------------------------------------|-------------------------|------------------------|-------------------|-------------------------------------|
| Depressional X   Slope   Floodplain   Lacustrine   |        | 5 0                                 | n: Preliminary A        | ssessment (to be o     | completed on-site | for <u>each</u> NWI polygon present |
| Is standing water normally present in the polygon? No If standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon? Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded Seasonally Flooded Seasonally Flooded Seasonally Flooded Martificially Plooded Seasonally Flooded Martificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.) x Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Sedge meadow  2.6 Disturbances of Hydrology (check all that apply): X Ditching Culvert Tiles Other Human Disturbances to the Hydrology (explain): Dams X Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common): Garlic Mustard Glossy Buckthorn Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species: X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one): | 2.1 W  | Depressional                        | X Slope                 |                        | -                 | Lacustrine                          |
| If standing water is present, is the water greater than 2 meters in depth?  Is standing water normally present in an adjacent polygon? Yes  2.3 Apparent Hydroperiod (check one):  Permanently Flooded   | 2.2 Pr | esence of Standing Wa               | ter:                    |                        |                   |                                     |
| Permanently Flooded Seasonally Flooded Seasonally Flooded Seasonally Flooded  X Saturated (surface water seldom present)  Artificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.)  Organic (i.e. peat, etc.)  X Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Sedge meadow  2.6 Disturbances of Hydrology (check all that apply):  X Ditching  Tiles Other Human Disturbances to the Hydrology (explain): Dams  X Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common): Garlic Mustard Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species: X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   |        | If standing water is pre-           | esent, is the water gro | eater than 2 meters in | depth?            |                                     |
| Seasonally Flooded X Saturated (surface water seldom present) Artificially Drained  2.4 Soil Type: Organic (i.e. peat, etc.) V Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Sedge meadow  2.6 Disturbances of Hydrology (check all that apply): X Ditching Culvert Tiles Other Human Disturbances to the Hydrology (explain): Dams X Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common): Garlic Mustard Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species: X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  | 2.3 Ap | pparent Hydroperiod (ch             | neck one):              |                        |                   |                                     |
| 2.4 Soil Type: Organic (i.e. peat, etc.) x Mineral Both Mineral and Organic Present  2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana): Sedge meadow  2.6 Disturbances of Hydrology (check all that apply): X Ditching Culvert Tiles Other Human Disturbances to the Hydrology (explain): Dams X Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common): Garlic Mustard Glossy Buckthorn Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species: X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   |        |                                     |                         | Artific                | cially Flooded    |                                     |
| Organic (i.e. peat, etc.)  | Χ      | Saturated (surface water            | r seldom present)       | Artific                | cially Drained    |                                     |
| 2.6 Disturbances of Hydrology (check all that apply):  X Ditching Culvert  Tiles Other Human Disturbances to the Hydrology (explain):  Dams  X Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard Glossy Buckthorn  Phragmities Reed canary grass  Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types:  Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X   | 2.4 Sc | • •                                 | c.) <u>x</u>            | Mineral                | Both M            | lineral and Organic Present         |
| X Ditching Culvert  Tiles Other Human Disturbances to the Hydrology (explain):  Dams  X Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard Glossy Buckthorn  Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | Sed    | ge meadow                           |                         |                        | and Communitie    | s of Indiana):                      |
| Tiles Other Human Disturbances to the Hydrology (explain):  Dams  X    Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard Glossy Buckthorn Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X  |        |                                     | y (check all that ap    |                        |                   |                                     |
| X Road or Railroad Embankment  2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):  Garlic Mustard Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species: X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  |        | Tiles                               |                         | Other Hu               | ıman Disturbance  | s to the Hydrology (explain):       |
| Garlic Mustard Glossy Buckthorn Phragmities Reed canary grass Purple loosestrife Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | Χ      | •                                   | nkment                  |                        |                   |                                     |
| Phragmities Reed canary grass Other (list):  2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):  2.9 Presence of Special Community Types: Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species: None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | 2.7 Pr | esence of Invasive Exo              | tics (Score as: S = \$  | Scattered, F = Frequ   | ent, or C = Comr  | non):                               |
| 2.9 Presence of Special Community Types:  Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   |        | Phragmities                         | R                       | eed canary grass       |                   |                                     |
| Bog Fen Wet Sand / Muck Flats or Mari Seeps  2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:  X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | 2.8 Pr | esence of Special Hydro             | ologic Conditions (     | i.e. seeps, wet slope  | s, floating mat): |                                     |
| X None observed or known to be present RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):   | 2.9 Pr | •                                   | · .                     | We                     | et Sand / Muck Fl | ats or Mari Seeps                   |
| RTES Present (list)  2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):  | 2.10 F | Presence of Known Fede              | eral or Indiana Rare    | , Threatened or End    | angered Species   | <b>:</b> :                          |
|  | X      |                                     | ·                       |                        |                   |                                     |
| A COOL INDUINI LOO   | .,     |                                     | • •                     | _                      | -                 | ck one):                            |

| NW    | l Po | olyg | jon  | #     | 149b Data Reference # S5W149  |
|-------|------|------|------|-------|---|
| Tier  | 3a   | In   | div  | idua  | al Polygon: Rapid Hydrology Indicators  |
| 3a.1  | Not  | abl  | e Fe | atur  | es that influence water quality and hydrology:  |
| Estir | nate | ed I | nerb | acec  | ous plant cover (percentage) in the polygon X 100-75 75-50 50-25 <25  |
| Estir | nate | ed v | NOO  | dy pl | ant foliar cover in the polygon 100-75 75-50 50-25 _X <25   |
| Amo   | unt  | of   | dea  | d wo  | ody material on the soil surface:  nil (<5% cover) scattered (5-15% cover) Frequent (>20% covers)   |
| 3a.2  | Wat  | er   | Qua  | lity  | Protection Questions:   |
| 1.    | Х    | Y    |      | N     | Does the wetland have a significant amount of vegetative (specifically perennial and woody plant) density to potentially uptake dissolved nutrients?  |
| 2.    |      | Y    | X    | N     | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon?                                     |
| 3.    |      |      |      |       | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |
| 3a.   |      | Y    |      | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?   |
| 3b.   | X    | Y    |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?  |
| 4.    | X    | Υ    |      | N     | Does the wetland <b>lack</b> steep slopes (>12%), large impervious areas, moderate slopes (6-12%) with row cropping, or areas with severe overgrazing within 100 meters of its border?                              |
| 5.    |      | Y    | X    | N     | Are there recreational lakes, navigable watercourses, or water supply sources located within a mile down gradient in the local watershed?   |
| 6.    | X    | Y    |      | N     | Is a vegetative buffer area (>15 m wide) or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope. |
|       |      |      |      |       | Average width of buffer area (in meters) 10-20 Approximate slope (percent) 1-2  |
| 3a.3  | Floo | od   | and  | Stoi  | mwater Storage / Attenuation Questions:   |
| 1.    |      |      |      |       | If wetland in question is a depressional wetland answer 1a, if not, answer 1b   |
| 1a.   |      | Y    |      | N     | Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?  |
| 1b.   | Χ    | Y    |      | N     | Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?  |
| 2.    | Χ    | Y    |      | N     | Does the wetland <b>lack</b> man-made structures that would speed the flow of water from the wetland (tiles, culverts, ditches)?  |
| 3.    | v    | v    |      | NI.   | Is the flood potential high in the sub-watershed in which the wetland is located (history of flood  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

impermeable, or is bedrock within two feet of the top of the soil profile?

**X Y** 

X Y

X Y

5.

Ν

Ν

damages)?

| NWI Polygon #                                | 149b                                       | Data Refere  | ence # S5W149   |
|--|--|--|---|
| Tier 3b Individu                             | ıal Polygon: Rapid                         | Vegetation Description                               |   |
| <b>3b.1 Zonation and</b> 1. How man          | -  | evident in this wetland polygon                      | ? 1   |
| 1b. If only one                              | e vegetation zone is evi                   | dent, which best describes the                       | site?   |
|  |  | a mosaic of small vegetation pes across the polygon. | patches, hummocks, or tussocks;   |
| X  | Polygon composed of polygon.               | a single vegetation type with m                      | nore or less uniform texture across the                                       |
|  | one vegetation zone is ion of these zones? | s present in the polygon, which                      | interspersion diagram most closely represent                                  |
|  | One Interspersion                          |  | Type Two Interspersion  |
| (  |  |  |   |
| 3b.2 Dominant Pla                            | nt Species: Vegetatio                      |  | Observation Point #1 Photo number(s) ote: V-mark location on the NWI polygon) |
| What % of the polyg                          | gon does this vegetative                   |  | (1,00)  |
| 10 – 25%                                     | 25 – 50 %                                  | 50 – 75%   | X 75 – 90% >90%   |
| Is there notable laye                        | ering/stratification in this               | s vegetation zone? No                                |   |
| with an * any specie                         | es that forms extensive                    | monocultural patches).                               | ea) listed in order of relative abundance. (Ma                                |
| a <u>Polygonum nye</u><br>b <i>Carex sp.</i> | лоріреі                                    | d<br>e   |   |
| C Carox op.                                  |  | f  |   |
| Dominant <b>Shrub</b> Sp                     | pecies listed in order of                  | relative abundance.                                  |   |
| a  |  | C  |   |
| b  |  | d  |   |
| •  | cies listed in order of re                 |  |   |
| a<br>b                                       |  | c<br>d   |   |
|  | y: X nil                                   |  | often touching More or less close   |
| Mature trees (>12"                           | dbh) present:                              | yesX no  |   |
| Other remarks (inc                           | lude personal commen                       | ts about what adds to or detrac                      | ets from the quality of this wetland site).                                   |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.  $\dot{N}$  = northern Indiana SW = southwestern Indiana numbers = C-coefficients \* = species with high conservationism Herbs: non-seed plants Herbs: wide-leafed monocots horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 \*Sphagnum moss spp. (Sphagnum, N) 10 water plantain (Alisma plantago-aguat.) 2 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced *P. crispus*) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 Herbs: insectivorous plants \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea,N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 **X** moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 X cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 b. most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]; other swamp milkweed (Asclepias incarnata) 4 c. introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 X needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - Ivs. alternate or basal \*orchid spp.: species (if known) and simple rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3 \*black-eyed Susan (Rudbeckia fulgida) 8 \*3-way sedge (Dulichium arundinaceum) 10

\*twig rush (Cladium mariscoides, N) 10

wild hyacinth (Camassia scilloides) 5 \*yellow-eyed grass (Xyris torta, N) 9

\*umbrella sedge (Fuirena squarrosa, N) 10

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cardinal flower (Lobelia cardinalis) 4

wingstem (Actinomeris alternifolia) 3 Herbs: dicots - Ivs. basal or alternate and

**NWI Polygon #** 

149b

garlic mustard (Alliaria petio/ata) 0

golden ragwort (Senecio aureus) 4 \*goldenrod spp. (Solidago ohioensis, S.

patula, S. riddellil) 9

lizard's tail (Saururus cernuus) 4

rose mallow spp. (Hibiscus) 4

\*marsh marigold (Caltha palustris) 7

ironweed spp. (Vernonia) 4

lobelia spp. (Lobelia) 4

dock spp.: swamp-, water-, pale- (Rumex) 4

\*grass of Parnassus (Parnassia glauca) 10 \*Indian plantain (Cacalia plantaginea) 10

jewelweed, touch-me-not spp. (Impatiens) 3

primrose-willow spp.(Epilobium &Ludwigia) 3

smartweed spp.: incl. jumpseed, pinkweed,

sneezeweed (Helenium autumnale) 3

\*swamp saxifrage (Saxifraga pa.) 10

stinging nettle (Laportea canadensis) 2

\*Virginia bluebells (Mertensia virginica) 6

waterhemp (Amaranthus tuberculatus) 1

tearthumb, water-pepper, water-sm.

cress spp. (Cardamine) 4

| compo | und or deeply lobed                            |
|-------|--|
| -     | aven spp.: rough a., white a. (Geum) 2         |
|       | *buttercup spp: e.g. cursed b., hooked b.,     |
|       | swamp b. (Ranunculus) 6                        |
|       | chervil (Chaerophyllum procumbens) 3           |
|       | *cowbane (Oxypolis rigidior) 7                 |
|       | *great angelica (Angelica atropurpurea) 6      |
|       | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5 |
|       | honewort (Cryptotaenia canadensis) 3           |
|       | meadow rue spp. (Thalictrum) 5                 |
|       | poison ivy (vine) (Rhus radicans) 1            |
|       | *queen-of-the-prairie (Filipendula rubra) 9    |
|       | senna spp. (Cassia) 4                          |
|       | swamp agrimony (Agrimonia parviflora) 4        |
|       | *swamp thistle (Cirsium muticum) 8             |
|       | tall coneflower (Rudbeckia laciniata) 3        |
|       | *water hemlock spp. (Cicuta) 7                 |

| Shrubs - leaves | opposite | or whorle | d |
|-----------------|----------|-----------|---|
|-----------------|----------|-----------|---|

water parsnips (Sium suave) 5

| 450 | iouvoc opposito di milonou                    |
|-----|---|
|     | bladdernut (Staphylea trifolia) 5             |
|     | buckthorn spp. (Rhamnus cathar. & frangula) 0 |
|     | button bush (Cepha/anthus occidentalis) 5     |
|     | dogwood, red-osier (Cornus stolonifera) 4     |
|     | *dogwood, blue-fruited or silky Cornus        |
|     | obliqua) 7                                    |
|     | dogwood, gray (C. racemosa) 2                 |
|     | elderberry (Sambucus) 2                       |

| Trees - | · lvs. simple and alternate                |
|---------|--|
|         | *alder, speckled (Alnus rugosa) 9          |
|         | birch, river (Betula nigra) 2              |
|         | black gum (Nyssa sylvatica) 5              |
|         | cottonwood, eastern (Populus deltoides) 1  |
|         | *cottonwood, swamp (P. heterophylla, SW) 8 |
|         | elm, Amer. (Ulmus americana) 3             |
|         | hackberry (Celtis occidentalis) 3          |

ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 \*oak, Shumard's, sw. chestnut, sw. white 7 \*papaw (Asimina triloba) 6 \*sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; \*additional=7

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**OTHER** 

| NWI Polygon # 14 (see table on page one) | 9c   | Data Reference #            | S5W149             | InWRAP, TERG May 2000               |
|--|--|-----------------------------|--------------------|-------------------------------------|
| Tier 2 Individual Pointhe wetland)       | olygon: Preliminary A  | ssessment (to be o          | ompleted on-site   | for <u>each</u> NWI polygon present |
| Depressional                             | nic Setting and Surface. W Slope in the river/stream banks)                                  | ater Flow (check one x Flo  | -                  | Lacustrine                          |
| 2.2 Presence of Standi                   | ng Water:  |                             |                    |                                     |
| <ul> <li>If standing water</li> </ul>    | ally present in the polygon?<br>er is present, is the water greally present in an adjacent p | eater than 2 meters in      | depth? No          |                                     |
| 2.3 Apparent Hydroper                    | riod (check one):  |                             |                    |                                     |
| Permanently Floor X Seasonally Floor     |  | Artific                     | ially Flooded      |                                     |
| Saturated (surface                       | ce water seldom present)   | Artific                     | ially Drained      |                                     |
| 2.4 Soil Type: Organic (i.e. p           | peat, etc.) X  | Mineral                     | Both M             | ineral and Organic Present          |
| 2.5 Wetland Communit                     | y Type for this NWI polyg  | on <i>(see Key to Wetla</i> | nd Communities     | s of Indiana):                      |
| Swamp Forest                             |  |                             |                    |                                     |
| 2.6 Disturbances of Hv                   | drology (check all that ap   | ply):                       |                    |                                     |
| X Ditching                               |  | Culvert                     |                    |                                     |
| Tiles                                    |  | Other Hu                    | man Disturbance    | s to the Hydrology (explain):       |
| Dams  Road or Railroad                   | Embankment   |                             |                    |                                     |
| <del></del>                              |  | Spottored E - Francis       | ont or C – Comm    | n\.                                 |
| Garlic Mustard                           | ve Exotics (Score as: S = S  | lossy Buckthorn             | ent, or C = Comi   | ion):                               |
| Phragmities                              |  | eed canary grass            |                    |                                     |
| Purple loosestrife                       |  | ther (list): Multiflora     | rose               |                                     |
| 2.8 Presence of Specia                   | Il Hydrologic Conditions (i  | i.e. seeps, wet slope       | s, floating mat):  |                                     |
| 2.9 Presence of Special                  | Il Community Types:  | We                          | et Sand / Muck Fla | ats or Mari Seeps                   |
|  |  |                             |                    | ·                                   |
|  | n Federal or Indiana Rare  | , Threatened or Enda        | angered Species    | :                                   |
| X None observe RTES Presen               | ed or known to be present t (list)   |                             |                    |                                     |
| 2.11 Wetland Polygon                     | Quality Descriptor (see: <i>V</i>  |                             |                    |                                     |
| Good                                     | X Medium   | Poo                         | or                 |                                     |

| NWI Polygon #           | 149c D   | ata Reference # <u>S5</u>   | W149                    |                 |  |  |
|-------------------------|--|---|-------------------------|-----------------|--|--|
| Tier 3a Individ         | dual Polygon: Rapid Hydrology Indic  | ators   |                         |                 |  |  |
| 3a.1 Notable Fea        | atures that influence water quality and hydro  | ology:  |                         |                 |  |  |
| Estimated herbad        | aceous plant cover (percentage) in the polygon   | _X 100-75 _   | 75-50 50                | -25<25          |  |  |
| Estimated woody         | y plant foliar cover in the polygon  | 100-75  | 75-50 <u>X</u> 50       | -25<25          |  |  |
| Amount of dead          | woody material on the soil surface: nil (<5% cover) X  | scattered (5-15% cove   | r) Frequent             | (>20% covers)   |  |  |
| 3a.2 Water Quali        | ity Protection Questions:  |   |                         |                 |  |  |
| 1. X Y N                | N Does the wetland have a significant amour density to potentially uptake dissolved nutr                 |   | cally perennial and v   | voody plant)    |  |  |
| 2. Y X M                | Managed water (e.g. municipal or road sto or municipal wastewater) is <b>not</b> discharged              |   |                         | let, industrial |  |  |
| 3.                      | If wetland in question is a depressional we  | tland answer 3a, if not,  | answer 3b               |                 |  |  |
| 3a. X Y                 |  | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland? |                         |                 |  |  |
| 3b. Y                   | N Is the position of the wetland in the landsca<br>surface body of water down gradient?                  | ape such that run-off is  | held or filtered before | re entering a   |  |  |
| 4. X Y N                | N Does the wetland <b>lack</b> steep slopes (>12% with row cropping, or areas with severe over           |   |                         | s (6-12%)       |  |  |
| 5. Y X N                | Are there recreational lakes, navigable was down gradient in the local watershed?                        | ercourses, or water su  | pply sources located    | I within a mile |  |  |
| 6.<br>Y X N             | Is a vegetative buffer area (>15 m wide) or could be filtered) located upland and adjac width and slope. |   |                         |                 |  |  |
|                         | Average width of buffer area (in meters)   | 1-2 Approxima   | te slope (percent)      | 1-5             |  |  |
| 3a.3 Flood and S        | Stormwater Storage / Attenuation Questions   | :   |                         |                 |  |  |
| 1.                      | If wetland in question is a depressional we  | tland answer 1a, if not,  | , answer 1b             |                 |  |  |
| 1a. <b>Y</b> X <b>N</b> | Around the wetland is there a buffer strip o slow overland flow into the wetland?                        | f natural vegetation (fo  | rested, old field, scru | ub) that will   |  |  |
| 1b. <b>Y</b>            | N Is there a significant amount of microtopog the velocity of the water leaving the wetlan               | . ,   | nsity within the wetla  | and to reduce   |  |  |
| 2. X Y N                | N Does the wetland <b>lack</b> man-made structure (tiles, culverts, ditches)?                            | es that would speed the   | e flow of water from    | the wetland     |  |  |
| 3. X Y N                | N Is the flood potential high in the sub-waters damages)?  | shed in which the wetla   | and is located (history | y of flood      |  |  |
| 4. X Y N                | N Is the wetland located in a watershed when impermeable, or is bedrock within two feet                  |   |                         | y and           |  |  |
| 5. X Y N                | N Is the wetland located in a local watershed existing development (e.g. >50% area in ro                 |   |                         | s due to        |  |  |

| NWI Polygon #   | 149c   | Data Re                    | erence # S      | 5W149  |                           |  |  |
|---|--|----------------------------|-----------------|--|---------------------------|--|--|
| Tier 3b Individual Polygon: Rapid Vegetation Description  |  |                            |                 |  |                           |  |  |
| 3b.1 Zonation and 1. How many   | Interspersion: y vegetation zones are evic   | dent in this wetland polyg | on? 1           |  |                           |  |  |
| 1b. If only one vegetation zone is evident, which best describes the site?                                      |  |                            |                 |  |                           |  |  |
| X   | X Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks;<br>heterogeneous textures across the polygon. |                            |                 |  |                           |  |  |
|   | Polygon composed of a s  | ingle vegetation type with | n more or less  | uniform texture                                | across the                |  |  |
|   | one vegetation zone is preion of these zones?  | esent in the polygon, whi  | ch interspersio | n diagram mos                                  | t closely represents      |  |  |
| Туре  | One Interspersion  |                            | Тур             | e Two Interspe                                 | ersion                    |  |  |
| (   |  |                            | ı               |  |                           |  |  |
| 3b.2 Dominant Pla   | nt Species: Vegetation zo  |                            | Photo num       | oservation Point<br>hber(s)<br>location on the |                           |  |  |
| What % of the polyg   | on does this vegetative zo   |                            | (               |  | 1 - 73 - 7                |  |  |
| 10 – 25%  | 25 – 50 %  | 50 – 75%                   | 7               | 75 – 90%                                       | X >90%                    |  |  |
| Is there notable laye   | ering/stratification in this ve  |                            |                 |  |                           |  |  |
|   | mmularia   |                            |                 |  | e abundance. <b>(Mark</b> |  |  |
|   |  |                            |                 |  | _                         |  |  |
| •   | pecies listed in order of rela   | tive abundance.            |                 |  |                           |  |  |
| a <u>Lindera benzoi</u>   |  | C                          |                 |  |                           |  |  |
| b   |  | d                          |                 |  |                           |  |  |
| a Acer rubrum   | cies listed in order of relati   | С                          | Fraxinus penr   | nsylvanicus                                    |                           |  |  |
| Tree & shrub canop  | y: nil sepa  | rate, seldom touching      | often tou       | iching X                                       | More or less closed       |  |  |
|   | dbh) present: X  |                            |                 | ·  |                           |  |  |
| Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site). |  |                            |                 |  |                           |  |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants horsetail, scouring rush spp. (Equisetum) 2 \*arrow arum (Peltandra virginica, N) 6 \*ferns: marsh shield fern spp. (Dryopteris) 7 arrow-head spp. (Sagittaria) 4 \*cinnamon fern (Osmunda cinnamomea) 9 \*green dragon (Arisaema dracontium) 6 \*royal fern (Osmunda regalis) 8 Jack-in-the-pulpit (Arisaema triphyllum) 4 X sensitive fern (Onoclea sensibilis) 4 pickerel weed (Pontederia cordata, N) 5 \*other: species (if known) \*skunk cabbage (Symplocarpus foetidus) 8 marsh club moss (Selaginella apoda) 4 \*water arum (Calla palustris, N) 10 X water plantain (Alisma plantago-aquat.) 2 \*Sphagnum moss spp. (Sphagnum, N) 10 Herbs: Ivs. floating or submergent Herbs: dicots - Ivs. opposite/whorled \*bladderwort spp. (Utricularia, N) 10 X \*bedstraw spp. (Galium) 6 coontail (Ceratophyllum demersum, N) 1 beggar's tick spp. (Bidens) 3 duckweed spp. (Lemnaceae) 3 blue vervain (Verbena hastata) 3 \*pondweed spp. (Potamogeton) 8 (except 0 for boneset (Eupatorium perfoliatum) 4 introduced P. crispus) bugleweed spp. (Lycopus) 5 \*water lily (Nymphaea tuberosa, N) 6 X clearweed spp. (Pilea) 3 water shield (Brasenia schreberi, N) 4 cup plant (Silphium perfoliatum) 4 \*yellow spatterdock spp. (Nuphar) 6 false nettle (Boehmeria cylindrica) 3 \*fen betony (Pedicularis lanceolata) 6 Herbs: insectivorous plants \*gentian spp. (Gentiana & Gentianopsis) 8 \*pitcher plant (Sarracenia purpurea, N) 10 giant ragweed (Ambrosia trifida) 0 \*sundew spp. (Drosera, N) 10 Indian hemp (Apocynum cannabinum) 2 Joe-pye weed spp. (Eupatorium) 5 Herbs: linear-lvs. or leafless ± monocots \*loosestrife spp. (Lysimachia) 6 \*beak rush spp. (Rhynchospora, N) 10 meadow beauty (Rhexia virginica) 5 blueflag iris (Iris virginica) 5 X mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 bulrush spp. (Scirpus / Schoenoplectus) 5 X moneywort (Lysimachia nummularia) 0 \*bur reed spp. (Sparganium) 9 monkey flower spp. (Mimulus) 4 cat-tail spp. (Typha) 1 nettle (Urtica pro cera) 1 \*cotton grass spp. (Eriophorum, N) 10 purple loosestrife (Lythrum salicaria) 0 Grasses (family Gramineae) - indicate types & number of species \*richweed (Collinsonia canadensis) 8 a. \*wild rice (Zizania aquatica, N) 10 \*St. John's wort spp.(Hypericum/Triandeum)8 most native perennial grass spp. 4: e.g. sunflower spp. (Helianthus) 4 cut-grass, manna-g, Canada bluejoint, foxtail \*swamp loosestrife (Decodon verticillatus, N) 8 [Alopecurus]: other swamp milkweed (Asclepias incarnata) 4 introduced grass spp. 0: reed canary toothcup spp. (Ammania & Rotala) 2 grass [Phalaris], reed [Phragmites], annual \*turtlehead spp. (Chelone) 8 grasses such as annual foxtail [Setaria] & virgin's bower (vine) (Clematis virginiana) 3 barnyard grass Echinochloa] water puslane (Ludwigia palustris) 3 needle sedge spp. (Eleocharis) sp.1 =2 winged loosestrife (Lythrum alatum) 5 \*additional=8 nutsedge spp. (Cyperus) 2 Herbs: (vines): dicots - lvs. alternate or basal \*orchid spp.: species (if known) rush spp. (Juncus) 4 Amer. bellflower (Campanula americana) 4 sedge spp. (Carex) sp.1=3 \*additional=7 \*asters: bristly aster (Aster puniceus) 7 \*spiderlily (Hymenocallis occidentalis) 9 \*flat-topped aster (A. umbellatus) 8 sweet flag (Acorus calamus) 0 other aster spp. (e.g. New Engl.-, panicled-a) 3

\*3-way sedge (Dulichium arundinaceum) 10

\*umbrella sedge (Fuirena squarrosa, N) 10

\*twig rush (Cladium mariscoides, N) 10

wild hyacinth (Camassia scilloides) 5
\*yellow-eyed grass (Xyris torta, N) 9

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\*black-eyed Susan (Rudbeckia fulgida) 8

cardinal flower (Lobelia cardinalis) 4

| cress spp. (Cardamine) 4  dock spp.: swamp-, water-, pale- (Rumex) 4  garlic mustard (Alliaria petio/ata) 0  golden ragwort (Senecio aureus) 4  *goldenrod spp. (Solidago ohioensis, S.  patula, S. riddellil) 9  *grass of Parnassus (Parnassia glauca) 10  *Indian plantain (Cacalia plantaginea) 10  ironweed spp. (Vernonia) 4  jewelweed, touch-me-not spp. (Impatiens) 3  lizard's tail (Saururus cernuus) 4  | Shrubs - Ivs. alternate  *cranberry spp. (Vaccinium, N) 10  *dwarf birch (Betula pumila, N) 10  *high bush blueberry (V. corymbosum, N) 9  *leatherleaf (Chamaedaphne calycul., N) 10  meadowsweet & hardhack spp.(Spiraea) 4  *ninebark (Physocarpus opulifoius) 7  *shrubby cinquefoil (Potentilla fruticosa) 9  X spice bush (Lindera benzoin) 5  *swamp dewberry (Rubus hispidus) 6  *swamp holly & winterberry (/lex spp.) 7   |
|---|---|
| lobelia spp. (Lobelia) 4  *marsh marigold (Caltha palustris) 7  *moonseed (vine) (Menispermum canadense) 6 primrose-willow spp. (Epilobium &Ludwigia) 3 rose mallow spp. (Hibiscus) 4  smartweed spp.: incl. jumpseed, pinkweed, tearthumb, water-pepper, water-sm. (Polygonum) 4 [Except *for P. arifolium 10] sneezeweed (Helenium autumnale) 3 stinging nettle (Laportea canadensis) 2  *swamp saxifrage (Saxifraga pa.) 10  *Virginia bluebells (Mertensia virginica) 6 waterhemp (Amaranthus tuberculatus) 1 wingstem (Actinomeris alternifolia) 3   | Trees - Ivs. needle shaped  |
| Herbs: dicots - Ivs. basal or alternate and compound or deeply lobed  aven spp.: rough a., white a. (Geum) 2  *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6  chervil (Chaerophyllum procumbens) 3  *cowbane (Oxypolis rigidior) 7  *great angelica (Angelica atropurpurea) 6  hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5  honewort (Cryptotaenia canadensis) 3  meadow rue spp. (Thalictrum) 5  X poison ivy (vine) (Rhus radicans) 1  *queen-of-the-prairie (Filipendula rubra) 9  senna spp. (Cassia) 4  X swamp agrimony (Agrimonia parviflora) 4  *swamp thistle (Cirsium muticum) 8  tall coneflower (Rudbeckia laciniata) 3  *water hemlock spp. (Cicuta) 7  water parsnips (Sium suave) 5  Shrubs - leaves opposite or whorled  bladdernut (Staphylea trifolia) 5 | Trees – Ivs. simple and opposite  X red maple (Acer rubrum) 5 X silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate  *alder, speckled (Alnus rugosa) 9 birch, river (Betula nigra) 2 black gum (Nyssa sylvatica) 5 cottonwood, eastern (Populus deltoides) 1 *cottonwood, swamp (P. heterophylla, SW) 8 elm, Amer. (Ulmus americana) 3 hackberry (Celtis occidentalis) 3 ironwood (Carpinus caroliniana) 5 oak, pin or white (Quercus) 4 *oak, Shumard's, sw. chestnut, sw. white 7 *papaw (Asimina triloba) 6 *sugarberry (Celtis laevigata, S) 7 sweet gum (Liquidambar styraciflua) 4 sycamore, Amer. (Platanus occidentalis) 3 willow spp. (Salix) sp.1=3; *additional=7 |
| bladdernut (Staphylea trifolia) 5 buckthorn spp. (Rhamnus cathar. & frangula) 0 button bush (Cepha/anthus occidentalis) 5 dogwood, red-osier (Cornus stolonifera) 4 *dogwood, blue-fruited or silky Cornus obliqua) 7 dogwood, gray (C. racemosa) 2 elderberry (Sambucus) 2   | InWrap, Terg revised June 2005  |

# **IN-WRAP Summary Sheet**

| Date Re  | port Generated: 10/15/2011   |  |  |  |  |
|--|--|--|--|--|--|
| Wetland  | Vetland site name: S5W150  |  |  |  |  |
| Data Re  | ference #: 150   |  |  |  |  |
| Date of Site Visit: 10/15/2011   |  |  |  |  |  |
| NWI polygons in Site (quadrangle and NWI id. numbers: Hindustan                      |  |  |  |  |  |
|  |  |  |  |  |  |
| TIER 1   | SUMMARY:   |  |  |  |  |
| a.   | a. Total wetland area (hectares): 0.03 hectares (0.07 acres)                       |  |  |  |  |
| b.   | b. Wetland size and connectivity – contribution to animal habitat:                 |  |  |  |  |
| ☐ Valuable ☐ More Favorable ☐ Favorable ☐ Neutral                                    |  |  |  |  |  |
| C.   | Surrounding land use – numerical rank (max. = 1): 0.4                              |  |  |  |  |
| d.   | Value surrounding area adds to animal habitat □ Valuable □ Favorable □ Low         |  |  |  |  |
|  |  |  |  |  |  |
| TIER 2   | SUMMARY: NWI Polygon Id. 150   |  |  |  |  |
| a.   | Indiana Wetland community type: Wet meadow   |  |  |  |  |
| b. Standing water – contribution to animal habitat: ☐ Valuable ☐ Favorable ☒ Neutral |  |  |  |  |  |
| C.   | Disturbances to site: Dam  |  |  |  |  |
| d.   |  |  |  |  |  |
| e.   |  |  |  |  |  |
| f.   |  |  |  |  |  |
| g.   |  |  |  |  |  |
| h.   | h. Polygon Quality Description:   Good  Medium  Poor                               |  |  |  |  |
| TIED 2   | A SUMMARY:   |  |  |  |  |
|  |  |  |  |  |  |
| a.<br>b.   |  |  |  |  |  |
|  |  |  |  |  |  |
| C.   | Flood and storm water storage – numerical rank (5 max): 3 Rating: Good Medium Poor |  |  |  |  |
| TIED 2   | B SUMMARY:   |  |  |  |  |
|  |  |  |  |  |  |
| a.   |  |  |  |  |  |
| b.   |  |  |  |  |  |
| C.   | Number of dominant plant taxa observed: 4 Rating: Good Medium Poor                 |  |  |  |  |
| d.   | Average coefficient of conservatism: 4.25 Rating: Good Medium Poor                 |  |  |  |  |
| е.   | Tree canopy as indicator of animal habitat:   Valuable   Neutral                   |  |  |  |  |
| f.   | Mature trees as indicator of animal habitat:   Valuable Favorable Neutral          |  |  |  |  |
| g.   | Total hydrophytic taxa observed: 8 Rating: Good Medium Poor                        |  |  |  |  |
| h.   | . Number of indicator taxa 2 Rating: ☐ Good ☐ Medium ☒ Poor                        |  |  |  |  |

## **Indiana Wetland Routine Assessment Protocol**

Data Reference # S5W150

TERG May 2000

## **Tier 1: Assessment Overview**

1.1 Site Identification:

|  | 0  |   |  |                    |                  |
|--|--|---|--|--------------------|------------------|
| Ownership (if known):  |  |   |  |                    |                  |
| USGS Topographic Quadrang  |  |   |  |                    |                  |
| USGS Watershed map 14-Dig  | git HUC: Bryant  | Creek (Morgai   | n) 051202011800  | 40                 |                  |
|  |  |   |  |                    |                  |
| Identify each NWI Polygon with NWI Polygon ID Number   | in the Wetland Site  | e (Polygon spe<br>I   | ecific data)   | 1                  |                  |
| Cowardin Classification  | PEMC   |   |  |                    |                  |
| Polygon Size (hectares)  | 0.03 (0.07 acre)   |   |  |                    |                  |
| NWI Polygon ID Number  |  | 1   |  |                    |                  |
| Cowardin Classification  |  |   |  |                    |                  |
| Polygon Size (hectares)  |  |   |  |                    |                  |
| 1.2 Site Visit:  Team Members: K. Schroed  Agency: INDOT   | der & D. White   |   |  |                    |                  |
| Date assessed: 10/15/201   | 1  | Time  | e assessed: 4:15   | nm                 |                  |
|  |  |   | assesseu. 4.13   | рш                 |                  |
| Weather conditions: 70°F   | Sunny  |   |  |                    |                  |
| recent heavy rains, an unusual   | ly dry season, an e  | especially early  | spring, etc.):   |                    | , , ,            |
| 1.3 Wetland Size:  |  | (0.0 <b>-</b>   |  |                    |                  |
| Size of site under assessmen   |  | ,   |  |                    |                  |
|  |  | ,   | s): <u>0.03 hectare</u>  | (0.07 acre)        |                  |
| Size of site under assessmen   | (all continuous we wetlands or wetlands or wetlands ostream and downed upstream with code downstream without the continuous wetlands or we | tland polygons d complexes: stream with ot other wetlands                                 | ner wetlands   | (0.07 acre)        |                  |
| Size of site under assessmen Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other of the site is connected up  The site is only connect  X The site is only connect  Other wetlands are near   | (all continuous we wetlands or wetlands or wetlands ostream and downed upstream with ded downstream without within 0.25 mileted  | tland polygons d complexes: stream with ot other wetlands th other wetlar le) but not con | ner wetlands<br>nds<br>nected  |                    | r of the wetland |
| Size of site under assessmen Size of total wetland complex  1.4 Site Setting:  Degree of isolation from other of the site is connected up  The site is only connect  X The site is only connect  Other wetlands are nead  The wetland site is isolation from other of the site is only connected up  The site is only connected up  Other wetlands are nead  The wetland site is isolatic (General assessment of adjaceted)  | (all continuous we wetlands or wetlands or wetlands ostream and downed upstream with ded downstream without within 0.25 mileted ent land use / land of each type):   | tland polygons d complexes: stream with ot other wetlands th other wetlar le) but not con | ner wetlands  ids  nected  rea within 50 meter   |                    |                  |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected up The site is only connect X The site is only connect Other wetlands are nead The wetland site is isolated (General assessment of adjaces site (indicate the % abundance)  | (all continuous we wetlands or wetlands or wetlands or wetland ostream and downed upstream with oned downstream without (within 0.25 minuted ent land use / land of each type):  | tland polygons d complexes: stream with ot other wetlands th other wetlar le) but not con | ner wetlands  ids  nected  rea within 50 meter   | rs of the perimete |                  |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other was a site is connected up to the site is connected up to the site is only connected.  X The site is only connected to the wetlands are neaded.  The wetlands are neaded.  (General assessment of adjaces site (indicate the % abundance to the wetlands are neaded).  Native Vegetation - woods.  | (all continuous we wetlands or wetlands or wetlands or wetland ostream and downed upstream with oned downstream without (within 0.25 minuted ent land use / land of each type):  | tland polygons d complexes: stream with ot other wetlands th other wetlar le) but not con | ner wetlands  ids  nected  rea within 50 meter  Road / highwa                              | rs of the perimete |                  |
| Size of site under assessment Size of total wetland complex  1.4 Site Setting: Degree of isolation from other of the site is connected up the site is only connect to the site is only connect to the site is only connect to the wetlands are nead to the wetland site is isolated (General assessment of adjaces site (indicate the % abundance to the wetlands are nead to the w | (all continuous we wetlands or wetlands or wetlands or wetland ostream and downed upstream with oned downstream without (within 0.25 minuted ent land use / land of each type):  | tland polygons d complexes: stream with ot other wetlands th other wetlar le) but not con | ner wetlands  nds  nected  rea within 50 meter  Road / highwa  Industrial  Residential – s | rs of the perimete | parking lot      |

| NWI Polygon # 150 (see table on page one)               |  | Data Reference #                    | S5W150                         | InWRAP, TERG May 2000               |
|---|--|-------------------------------------|--------------------------------|-------------------------------------|
| Tier 2 Individual Polyin the wetland)                   | ygon: Preliminary A  | ssessment (to be o                  | ompleted on-site               | for <u>each</u> NWI polygon present |
| 2.1 Wetland Geomorphic  X Depressional Riverine (within | Setting and Surface. W Slope the river/stream banks)                                     |                                     | <b>e):</b><br>odplain          | Lacustrine                          |
| 2.2 Presence of Standing                                | g Water:   |                                     |                                |                                     |
| <ul> <li>If standing water</li> </ul>                   | y present in the polygon? is present, is the water group of the present in an adjacent p |                                     | depth? No                      | <u> </u>                            |
| 2.3 Apparent Hydroperic                                 | od (check one):  |                                     |                                |                                     |
| X Seasonally Flood Saturated (surface                   |  |                                     | ially Flooded<br>ially Drained |                                     |
| 2.4 Soil Type: Organic (i.e. pe                         | at, etc.) X  | Mineral                             | Both M                         | ineral and Organic Present          |
| 2.5 Wetland Community Wet meadow                        | Type for this NWI polyg  | on (see Key to Wetla                | nd Communities                 | s of Indiana):                      |
| 2.6 Disturbances of Hyd                                 | rology (check all that ap  | ply):                               |                                |                                     |
| Ditching  |  | Culvert                             |                                |                                     |
| Tiles X Dams  |  | Other Hu                            | man Disturbance                | s to the Hydrology (explain):       |
| Road or Railroad E                                      | Embankment   |                                     |                                |                                     |
| 2.7 Presence of Invasive                                | Exotics (Score as: S = S   | Scattered, F = Freque               | ent, or C = Comn               | non):                               |
| Garlic Mustard  |  | lossy Buckthorn                     |                                |                                     |
| <i>Phragmities</i> Purple loosestrife                   |  | eed canary grass                    |                                |                                     |
| 2.8 Presence of Special                                 |  | ther (list): i.e. seeps, wet slope: | s, floating mat):              |                                     |
| 2.9 Presence of Special Bog                             | Community Types: Fen   | We                                  | et Sand / Muck Fla             | ats or Mari Seeps                   |
| 2.10 Presence of Known                                  | Federal or Indiana Rare  | , Threatened or Enda                | angered Species                | :                                   |
|   | or known to be present   | ,                                   |                                |                                     |
| 2.11 Wetland Polygon Q Good                             | uality Descriptor (see: И<br>_X Medium   | <b>/etland Quality Desc</b>         | -                              | ck one):                            |

| NW   | l Pc | olyg  | on   | #     | 150 Data Reference  | ce # <u>S5W150</u>  |                   |  |  |  |
|--|------|-------|------|-------|---|---|-------------------|--|--|--|
| Tier 3a Individual Polygon: Rapid Hydrology Indicators |      |       |      |       |   |   |                   |  |  |  |
| 3a.1   | Not  | abl   | e Fe | atu   | ures that influence water quality and hydrology:  |   |                   |  |  |  |
| Estir  | mate | ed h  | erb  | aceo  | eous plant cover (percentage) in the polygon X  | 100-75 75-50 5  | 60-25 <25         |  |  |  |
| Estir  | mate | ed v  | voo  | dy pl | olant foliar cover in the polygon   | 100-75 75-50 5  | 0-25 <u>X</u> <25 |  |  |  |
| Amo  | unt  | of    | dea  | d wo  | oody material on the soil surface:  X nil (<5% cover) scattered (5-   | 15% cover) Frequer  | nt (>20% covers)  |  |  |  |
| 3a.2   | Wat  | ter ( | Qua  | lity  | Protection Questions:   |   |                   |  |  |  |
| 1.   | X    | Y     |      | N     | Does the wetland have a significant amount of vegetati density to potentially uptake dissolved nutrients?   | ve (specifically perennial and  | woody plant)      |  |  |  |
| 2.   | Χ    | Y     |      | N     |   | Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is <b>not</b> discharged into the wetland polygon? |                   |  |  |  |
| 3.   |      |       |      |       | If wetland in question is a depressional wetland answer   | If wetland in question is a depressional wetland answer 3a, if not, answer 3b   |                   |  |  |  |
| За.  |      | Y     | X    | N     | Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland? |   |                   |  |  |  |
| 3b.  |      | Y     |      | N     | Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?      |   |                   |  |  |  |
| 4.   |      | Y     | Χ    | N     | Does the wetland <b>lack</b> steep slopes (>12%), large imposith row cropping, or areas with severe overgrazing with                              |   |                   |  |  |  |
| 5.   |      | Y     | Χ    | N     | Are there recreational lakes, navigable watercourses, of down gradient in the local watershed?  | or water supply sources locate  | ed within a mile  |  |  |  |
| 6.   | X    | Υ     |      | N     | Is a vegetative buffer area (>15 m wide) or another well could be filtered) located upland and adjacent to the we width and slope.                |   |                   |  |  |  |
|  |      |       |      |       | Average width of buffer area (in meters) 40   | Approximate slope (percent)   | 15                |  |  |  |
| 3a.3   | Flo  | od a  | and  | Sto   | ormwater Storage / Attenuation Questions:   |   |                   |  |  |  |
| 1.   |      |       |      |       | If wetland in question is a depressional wetland answer   | r 1a, if not, answer 1b   |                   |  |  |  |
| 1a.  | X    | Y     |      | N     | Around the wetland is there a buffer strip of natural veg slow overland flow into the wetland?  | getation (forested, old field, so   | rub) that will    |  |  |  |
| 1b.  |      | Y     | Χ    | N     | Is there a significant amount of microtopography or veg<br>the velocity of the water leaving the wetland?   | getative density within the wet   | land to reduce    |  |  |  |
| 2.   |      | Y     | Χ    | N     | Does the wetland <b>lack</b> man-made structures that would (tiles, culverts, ditches)?   | d speed the flow of water from  | n the wetland     |  |  |  |
| 3.   | X    | Y     |      | N     | Is the flood potential high in the sub-watershed in which damages)?   | h the wetland is located (histo   | ry of flood       |  |  |  |

Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?

existing development (e.g. >50% area in row crop, commercial, or residential use)?

Is the wetland located in a local watershed which has highly modified runoff conditions due to

 $\mathbf{Y} \times \mathbf{N}$ 

**X Y** 

5.

| NWI Polygon #  | 150  | Data Reference # S5W150  |  |  |  |  |
|--|--|--|--|--|--|--|
| Tier 3b Individu   | ıal Polygon: Rapid Vegetati  | on Description   |  |  |  |  |
| <b>3b.1 Zonation and</b> 1. How many                                       | Interspersion: y vegetation zones are evident in the                             | nis wetland polygon? 1   |  |  |  |  |
| 1b. If only one vegetation zone is evident, which best describes the site? |  |  |  |  |  |  |
|  | Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks; |  |  |  |  |  |
|  | heterogeneous textures across th   | e polygon.   |  |  |  |  |
| X  | Polygon composed of a single ver   | getation type with more or less uniform texture across the   |  |  |  |  |
|  | n one vegetation zone is present in i  | the polygon, which interspersion diagram most closely represents                                       |  |  |  |  |
|  | e One Interspersion  | Type Two Interspersion   |  |  |  |  |
| (  |  |  |  |  |  |  |
| 3b.2 Dominant Pla  | nt Species: Vegetation zone A  | Observation Point #1 Photo number(s) (Note: V-mark location on the NWI polygon)                        |  |  |  |  |
| What % of the polyg  | gon does this vegetative zone occu   | ,  |  |  |  |  |
| 10 – 25%   | 25 – 50 %  | 50 - 75% X _ 75 - 90% >90%   |  |  |  |  |
| Is there notable laye  | ering/stratification in this vegetation  | zone? No   |  |  |  |  |
|  | es that forms extensive monocultura  | nan 10% of the area) listed in order of relative abundance. (Mark al patches).  d Boehmeria cylindrica |  |  |  |  |
| b <i>Impatiens sp.</i>   | 163  | e  |  |  |  |  |
| c Carex sp.  |  |  |  |  |  |  |
| a  | pecies listed in order of relative abu   | c  |  |  |  |  |
| b  |  | d  |  |  |  |  |
| ·  | ecies listed in order of relative abund  | _  |  |  |  |  |
| L .  |  |  |  |  |  |  |
|  | ov: nil separate sel   | dom touching often touching _X_ More or less closed  |  |  |  |  |
|  | dbh) present: X yes  | ——————————————————————————————————————   |  |  |  |  |
| Other remarks (inc   | clude personal comments about what   | at adds to or detracts from the quality of this wetland site).   |  |  |  |  |

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple

species from one genus or family (marked with spp.) are seen, indicate the number of species. (N = northern Indiana)SW = southwestern Indiana *numbers* = *C*-coefficients \* = species with high conservationism Herbs: wide-leafed monocots Herbs: non-seed plants \*arrow arum (Peltandra virginica, N) 6 horsetail, scouring rush spp. (Equisetum) 2 arrow-head spp. (Sagittaria) 4 \*ferns: marsh shield fern spp. (Dryopteris) 7 \*green dragon (Arisaema dracontium) 6 \*cinnamon fern (Osmunda cinnamomea) 9 Jack-in-the-pulpit (Arisaema triphyllum) 4 \*royal fern (Osmunda regalis) 8 pickerel weed (Pontederia cordata, N) 5 sensitive fern (Onoclea sensibilis) 4 \*skunk cabbage (Symplocarpus foetidus) 8 \*other: species (if known) \*water arum (Calla palustris, N) 10 marsh club moss (Selaginella apoda) 4 water plantain (Alisma plantago-aguat.) 2 \*Sphagnum moss spp. (Sphagnum, N) 10 Herbs: dicots - Ivs. opposite/whorled Herbs: Ivs. floating or submergent \*bedstraw spp. (Galium) 6 \*bladderwort spp. (Utricularia, N) 10 beggar's tick spp. (Bidens) 3 coontail (Ceratophyllum demersum, N) 1 blue vervain (Verbena hastata) 3 duckweed spp. (Lemnaceae) 3 boneset (Eupatorium perfoliatum) 4 \*pondweed spp. (Potamogeton) 8 (except 0 for bugleweed spp. (Lycopus) 5 introduced *P. crispus*) clearweed spp. (Pilea) 3 \*water lily (Nymphaea tuberosa, N) 6 cup plant (Silphium perfoliatum) 4 water shield (Brasenia schreberi, N) 4 X false nettle (Boehmeria cylindrica) 3 \*yellow spatterdock spp. (Nuphar) 6 \*fen betony (Pedicularis lanceolata) 6 \*gentian spp. (Gentiana & Gentianopsis) 8 Herbs: insectivorous plants giant ragweed (Ambrosia trifida) 0 \*pitcher plant (Sarracenia purpurea,N) 10 Indian hemp (Apocynum cannabinum) 2 \*sundew spp. (Drosera, N) 10 Joe-pye weed spp. (Eupatorium) 5 \*loosestrife spp. (Lysimachia) 6 Herbs: linear-lvs. or leafless ± monocots meadow beauty (Rhexia virginica) 5 \*beak rush spp. (Rhynchospora, N) 10 mint spp.: e.g. hedge nettle, mtn. m., skullcap 5 blueflag iris (Iris virginica) 5 moneywort (Lysimachia nummularia) 0 bulrush spp. (Scirpus / Schoenoplectus) 5 monkey flower spp. (Mimulus) 4 \*bur reed spp. (Sparganium) 9 nettle (Urtica pro cera) 1 cat-tail spp. (Typha) 1 purple loosestrife (Lythrum salicaria) 0 \*cotton grass spp. (Eriophorum, N) 10 \*richweed (Collinsonia canadensis) 8 Grasses (family Gramineae) - indicate types & number of species \*St. John's wort spp.(Hypericum/Triandeum)8 a. \*wild rice (Zizania aquatica, N) 10 sunflower spp. (Helianthus) 4 most native perennial grass spp. 4: e.g. \*swamp loosestrife (Decodon verticillatus, N) 8 cut-grass, manna-g, Canada bluejoint, foxtail swamp milkweed (Asclepias incarnata) 4 [Alopecurus]: other toothcup spp. (Ammania & Rotala) 2 introduced grass spp. 0: reed canary \*turtlehead spp. (Chelone) 8 grass [Phalaris], reed [Phragmites], annual virgin's bower (vine) (Clematis virginiana) 3 grasses such as annual foxtail [Setaria] & water puslane (Ludwigia palustris) 3 barnyard grass Echinochloa] winged loosestrife (Lythrum alatum) 5 needle sedge spp. (Eleocharis) sp.1 =2 \*additional=8 Herbs: (vines): dicots - Ivs. alternate or basal nutsedge spp. (Cyperus) 2 and simple \*orchid spp.: species (if known) Amer. bellflower (Campanula americana) 4 rush spp. (Juncus) 4 \*asters: bristly aster (Aster puniceus) 7 sedge spp. (Carex) sp.1=3 \*additional=7 \*flat-topped aster (A. umbellatus) 8 \*spiderlily (Hymenocallis occidentalis) 9 other aster spp. (e.g. New Engl.-, panicled-a) 3 sweet flag (Acorus calamus) 0 \*black-eved Susan (Rudbeckia fulgida) 8 \*3-way sedge (Dulichium arundinaceum) 10 cardinal flower (Lobelia cardinalis) 4 \*twig rush (Cladium mariscoides, N) 10 \*umbrella sedge (Fuirena squarrosa, N) 10 InWrap, Terg revised June 2005 wild hyacinth (Camassia scilloides) 5

\*yellow-eyed grass (Xyris torta, N) 9

|        | cress spp. (Cardamine) 4   | Shrubs - Ivs. alternate   |
|--------|--|---|
|        | dock spp.: swamp-, water-, pale- (Rumex) 4   | *cranberry spp. (Vaccinium, N) 10   |
|        | garlic mustard (Alliaria petio/ata) 0  | *dwarf birch (Betula pumila, N) 10  |
| -      | golden ragwort (Senecio aureus) 4  | *high bush blueberry (V. corymbosum, N) 9   |
|        | *goldenrod spp. (Solidago ohioensis, S.  | *leatherleaf (Chamaedaphne calycul., N) 10  |
|        | patula, S. riddellil) 9  | meadowsweet & hardhack spp.(Spiraea) 4  |
|        | *grass of Parnassus (Parnassia glauca) 10  | *ninebark (Physocarpus opulifoius) 7  |
|        | *Indian plantain (Cacalia plantaginea) 10  | *shrubby cinquefoil (Potentilla fruticosa) 9  |
|        | ironweed spp. (Vernonia) 4   | spice bush (Lindera benzoin) 5  |
| X      | jewelweed, touch-me-not spp. (Impatiens) 3   | *swamp dewberry (Rubus hispidus) 6  |
|        | lizard's tail (Saururus cernuus) 4   | *swamp holly & winterberry (/lex spp.) 7  |
|        | lobelia spp. (Lobelia) 4   | swamp rose (Rosa palustris) 5   |
|        | *marsh marigold (Caltha palustris) 7   |   |
|        | *moonseed (vine) (Menispermum canadense) 6   | Trees - Ivs. needle shaped  |
|        | primrose-willow spp.(Epilobium &Ludwigia) 3  | *tamarack (Larix laricina, N) 10  |
| -      | rose mallow spp. (Hibiscus) 4  |   |
| -      | smartweed spp.: incl. jumpseed, pinkweed,  | Trees - Ivs. compound   |
|        | tearthumb, water-pepper, water-sm.   | *ash, black (Fraxinus nigra) 7  |
|        | (Polygonum) 4 [Except *for P. arifolium 10]  | ash, green (Fraxinus pensylvanica) 3  |
|        | sneezeweed (Helenium autumnale) 3  | *ash, pumpkin (Fraxinus tomentosa, SW) 8  |
|        | stinging nettle (Laportea canadensis) 2  | boxelder (Acer negundo) 1   |
|        | *swamp saxifrage (Saxifraga pa.) 10  | hickory, bitternut (Carya cordiformis) 5  |
|        | *Virginia bluebells (Mertensia virginica) 6  | *hickory, shell bark (Carya laciniosa) 8  |
| -      | waterhemp (Amaranthus tuberculatus) 1  | honey locust (Gleditsia triacanthos) 1  |
|        | wingstem (Actinomeris alternifolia) 3  | *poison sumac <i>(Rhus vernix)</i> 10   |
|        | dicots - Ivs. basal or alternate and bund or deeply lobed aven spp.: rough a., white a. (Geum) 2 *buttercup spp: e.g. cursed b., hooked b., swamp b. (Ranunculus) 6 chervil (Chaerophyllum procumbens) 3 | Trees – Ivs. simple and opposite red maple (Acer rubrum) 5 silver maple (A. saccharinum) 1  Trees – Ivs. simple and alternate *alder, speckled (Alnus rugosa) 9 |
|        |  | birch, river (Betula nigra) 2   |
| -      | *cowbane (Oxypolis rigidior) 7   | black gum (Nyssa sylvatica) 5   |
|        | *great angelica (Angelica atropurpurea) 6  | cottonwood, eastern (Populus deltoides) 1   |
|        | hog peanut/gd. nut spp. (Amphicarpaea&Apios) 5<br>honewort (Cryptotaenia canadensis) 3   | *cottonwood, swamp (P. heterophylla, SW) 8  |
|        | meadow rue spp. (Thalictrum) 5   | elm, Amer. (Ulmus americana) 3  |
|        | poison ivy (vine) <i>(Rhus radicans)</i> 1   | hackberry (Celtis occidentalis) 3   |
|        | *queen-of-the-prairie (Filipendula rubra) 9  | ironwood (Carpinus caroliniana) 5   |
|        | senna spp. (Cassia) 4  | oak, pin or white (Quercus) 4   |
|        | swamp agrimony (Agrimonia parviflora) 4  | *oak, Shumard's, sw. chestnut, sw. white 7  |
|        | *swamp thistle (Cirsium muticum) 8   | *papaw (Asimina triloba) 6  |
|        | tall coneflower (Rudbeckia laciniata) 3  | *sugarberry (Celtis laevigata, S) 7   |
|        | *water hemlock spp. (Cicuta) 7   | sweet gum (Liquidambar styraciflua) 4   |
|        | water parsnips (Sium suave) 5  | sycamore, Amer. (Platanus occidentalis) 3   |
|        | . Hater parentpe (orani edave) o   | willow spp. (Salix) sp.1=3; *additional=7   |
| Shrubs | s - leaves opposite or whorled<br>bladdernut (Staphylea trifolia) 5  | OTHER   |
|        | buckthorn spp. (Rhamnus cathar. & frangula) 0  |   |
|        | button bush (Cepha/anthus occidentalis) 5  |   |
|        | dogwood, red-osier (Cornus stolonifera) 4  |   |
|        | *dogwood, red-osier ( <i>Corrius stolorinera)</i> 4  |   |
|        | obliqua) 7   |   |
|        | dogwood, gray (C. <i>racemosa</i> ) 2  | 1.11.   |
|        | elderberry (Sambucus) 2  | InWrap, Terg revised June 20  |

## Section 5—Final Envir onmental Impact Statement

# APPENDIX F FI |AL WETLAND TECH NICAL REPORT

#### TE CHNICAL REPORT APPENDICES

| APP :NDIX E | Wetland Determination Data Forms  |
|-------------|---|
| APP NDIX D  | InWRAP Data Sheets  |
| APP :NDIX C | Wetland Matrix for I-69<br>Alternatives Carried<br>Forward for Detailed<br>Analysis |
| APP :NDIX B | I-69 Wetland Quality<br>Assessment Profile<br>Sheets                                |
| APP INDIX A | Wetland Site Forms  |

| Project/Site: 1-69 Bloomington to Martinsville                         | City/Cou | unty: Bloomingt | ton/Monroe      | Sampling Date: 10-1                              | 1-11                                |             |
|--|----------|-----------------|-----------------|--|-------------------------------------|-------------|
| Applicant/Owner: INDOT   |          |                 |                 | State: IN  | Sampling Point: S5W                 | /011        |
| Investigator(s): K. Schroeder, D. White                                | ;        | Section,        | , Township, Ra  | nge: 31, 9N 1W                                   |                                     |             |
| Landform (hillslope, terrace, etc.): Depression                        |          |                 |                 | (concave, convex, none):                         | Concave                             |             |
| Slope (%): <5% Lat: 39.17154391020                                     |          |                 |                 | 0  |                                     |             |
| Soil Map Unit Name: Crider-Urban Land Complex                          |          |                 |                 | NWI classific                                    |                                     |             |
| Are climatic / hydrologic conditions on the site typical for thi       |          |                 |                 |  |                                     |             |
| Are Vegetation, Soil, or Hydrology                                     |          |                 |                 | 'Normal Circumstances" p                         |                                     | No          |
| Are Vegetation, Soil, or Hydrology                                     |          |                 |                 | eeded, explain any answe                         |                                     |             |
| SUMMARY OF FINDINGS – Attach site map                                  |          |                 |                 |  | ,                                   | res etc     |
|  |          |                 | mig pomiti      |  | ,portant route                      |             |
| Hydrophytic Vegetation Present?  Yes X  Hydric Soil Present?  Yes X  N |          | ls              | s the Sampled   | Area   |                                     |             |
| Wetland Hydrology Present?   |          | v               | vithin a Wetlar | nd? Yes X  | No                                  |             |
| Remarks:   |          |                 |                 |  |                                     |             |
|  |          |                 |                 |  |                                     |             |
| VECETATION . I les scientific names et plants                          |          |                 |                 |  |                                     |             |
| <b>VEGETATION</b> – Use scientific names of plants                     |          | Domin           | ant Indicator   | Dominance Test work                              | shoot:                              |             |
| Tree Stratum (Plot size: 30 )  | % Cover  | Specie          | es? Status      | Number of Dominant S<br>That Are OBL, FACW,      | pecies                              | (A)         |
| 2  |          |                 |                 | Total Number of Domin<br>Species Across All Stra | 4                                   | (B)         |
| 4.       5.  |          |                 |                 | Percent of Dominant Sp<br>That Are OBL, FACW,    |                                     | (A/B)       |
| Sapling/Shrub Stratum (Plot size: 15 )                                 |          | = Total         | Cover           | Prevalence Index wor                             | ksheet:                             |             |
| 1  |          |                 |                 | Total % Cover of:                                | Multiply by:                        | <u>:</u>    |
| 2  |          |                 |                 |  | x 1 = 15                            |             |
| 3  |          | -               |                 | FACW species 85                                  |                                     |             |
| 4  |          |                 |                 | FAC species                                      |                                     |             |
| 5  |          |                 |                 | FACU species                                     |                                     |             |
| Herb Stratum (Plot size: 5   |          | = Total         | Cover           | UPL species  Column Totals: 100                  | x 5 =<br>(A) 185                    | (B)         |
| 1. Phalaris arundinacea  | 85       | Υ               | FACW            | Column Totals.                                   | (A)                                 | (D)         |
| 2. Typha angustifolia  | 15       | N               | OBL             | Prevalence Index                                 | ·                                   | <del></del> |
| 3  |          |                 |                 | Hydrophytic Vegetation                           |                                     |             |
| 4  |          |                 |                 | X Dominance Test is X Prevalence Index is        |                                     |             |
| 5  |          |                 |                 | Morphological Ada                                |                                     | nortina     |
| 6  |          |                 |                 |  | s or on a separate shee             |             |
| 7  |          | -               |                 | Problematic Hydro                                | phytic Vegetation <sup>1</sup> (Exp | plain)      |
| 9.   |          |                 |                 |  |                                     |             |
| 10   |          |                 |                 | <sup>1</sup> Indicators of hydric soi            |                                     | yy must     |
|  |          | = Total         | Cover           | be present, unless distu                         | Tibed of problematic.               |             |
| Woody Vine Stratum (Plot size: 15 )                                    |          |                 |                 |  |                                     |             |
| 1  |          |                 |                 | Hydrophytic Vegetation                           |                                     |             |
| 2  |          | = Total         | Cover           |  | s <u>×</u> No                       | _           |
|  |          | - 10lal         | OUVEI           |  |                                     |             |
| Remarks: (Include photo numbers here or on a separate                  | sheet.)  |                 |                 |  |                                     |             |
|  |          |                 |                 |  |                                     |             |

SOIL Sampling Point: S5W011

| epth   | cription: (Describe<br>Matrix  |   | -  | lox Feature  | 25  |                  |  |   |
|--|--|---|--|--|---|------------------|--|---|
| nches)   | Color (moist)  | %   | Color (moist)  | <u>%</u>   | Type <sup>1</sup>   | Loc <sup>2</sup> | Texture  | Remarks   |
| -4   | 10YR 5/2   | 85  | 7.5YR 5/6  | 15   |   | М                | silt loam  |   |
| -20  | 10YR 5/1   | 60  | 10YR 5/8   | 40   |   | М                | Silty clay loam  |   |
|  |  |   | -  |  |   |                  | · <u></u> -  |   |
|  |  |   | -  |  |   |                  |  |   |
|  |  |   |  |  |   |                  |  |   |
|  |  |   |  |  |   |                  |  |   |
|  | <u></u>  |   | <u> </u>   |  |   |                  | . <u> </u>   |   |
|  |  |   |  |  |   |                  | . <u> </u>   |   |
| ype: C=C   | Concentration, D=De  | pletion, RN   | M=Reduced Matrix, C  | CS=Covere  | ed or Coate   | ed Sand G        | Grains. <sup>2</sup> Loca  | tion: PL=Pore Lining, M=Matrix.   |
| dric Soil  | Indicators:  |   |  |  |   |                  | Indicators fo  | or Problematic Hydric Soils <sup>3</sup> :  |
| _ Histoso  | ` '  |   |  | Gleyed M   |   |                  |  | rairie Redox (A16)  |
|  | pipedon (A2)   |   |  | Redox (S   |   |                  |  | nganese Masses (F12)  |
| _  | listic (A3)  |   |  | ed Matrix (  |   |                  | Other (E   | xplain in Remarks)  |
|  | en Sulfide (A4)<br>ed Layers (A5)  |   |  | / Mucky Mi<br>/ Gleyed M   |   |                  |  |   |
|  | uck (A10)  |   |  | ted Matrix   |   |                  |  |   |
|  | ed Below Dark Surfa  | ce (A11)  |  | Dark Surf  | . ,   |                  |  |   |
|  | Park Surface (A12)   | 00 (/ 1. 1)   |  |  | urface (F7)   |                  | <sup>3</sup> Indicators o  | of hydrophytic vegetation and   |
| _  | Mucky Mineral (S1)   |   |  | Depression   |   |                  |  | hydrology must be present,  |
| _ 5 cm M   | ucky Peat or Peat (  | 33)   |  |  |   |                  | unless d   | isturbed or problematic.  |
| strictive  | Layer (if observed   | ):  |  |  |   |                  |  |   |
|  |  |   |  |  |   |                  |  |   |
| Type:  |  |   |  |  |   |                  |  |   |
| Depth (ir  | nches):  |   |  |  |   |                  | Hydric Soil P  | resent? Yes X No  |
| Depth (ir  |  |   |  |  |   |                  | Hydric Soil P  | resent? Yes X No  |
| Depth (ir emarks:  |  | ::  |  |  |   |                  | Hydric Soil P  | resent? Yes X No  |
| Depth (irremarks:  | OGY<br>/drology Indicators   |   | uired; check all that a  | apply)   |   |                  |  | resent? Yes X No  |
| Depth (ir<br>emarks:<br>DROLC<br>etland Hy<br>imary Indi   | OGY<br>/drology Indicators   |   | V  | apply)   | ves (B9)  |                  | Secondary  |   |
| Depth (ir<br>emarks:<br>DROLC<br>etland Hy<br>imary Indi   | OGY<br>/drology Indicators<br>icators (minimum of<br>water (A1)  |   | X Water-St   | ained Lea  | ( - /   |                  | SecondarySurface   | / Indicators (minimum of two requir   |
| Depth (ir<br>emarks:<br>DROLO<br>etland Hy<br>imary Indi<br>_ Surface<br>_ High W  | OGY  /drology Indicators icators (minimum of a Water (A1) ater Table (A2)  |   | X Water-St Aquatic F   | ained Lea<br>Fauna (B1   | 3)  |                  | Secondary Surfac   | / Indicators (minimum of two requir<br>ce Soil Cracks (B6)<br>age Patterns (B10)  |
| DROLC etland Hy imary Indi Surface High W Saturat  | OGY /drology Indicators icators (minimum of a Water (A1) ater Table (A2) ion (A3)  |   | X Water-St Aquatic F True Aqu  | ained Lear<br>Fauna (B13<br>uatic Plants   | 3)<br>s (B14)   |                  | Secondary Surface Draina   | / Indicators (minimum of two requir   |
| DROLC  etland Hy mary Ind Surface High W Saturat Water M   | OGY  /drology Indicators icators (minimum of a Water (A1) ater Table (A2)  |   | X Water-St Aquatic F True Aqu Hydroge  | ained Lear<br>Fauna (B13<br>uatic Plants<br>n Sulfide C  | 3)<br>s (B14)   | ing Roots        | Secondary Surfac Draina Dry-S Crayfi                                     | v Indicators (minimum of two requirect Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8)   |
| DROLO etland Hy imary Indi Surface High W Saturat Water N Sedime   | OGY /drology Indicators icators (minimum of Water (A1) fater Table (A2) ion (A3) Marks (B1)  |   | X Water-St Aquatic F True Aqu Hydroget X Oxidized  | ained Leavanna (B13<br>Latic Plants<br>Sulfide C<br>Rhizospho  | 3)<br>s (B14)<br>Odor (C1)  | •                | Secondary Surface Draina Dry-S Crayfi (C3) Satura                        | v Indicators (minimum of two requirect Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8)   |
| DROLO etland Hy imary Indi Surface High W Saturat Water N Sedime Drift De  | ody<br>odrology Indicators<br>icators (minimum of<br>Water (A1)<br>dater Table (A2)<br>ion (A3)<br>Marks (B1)<br>ent Deposits (B2)   |   | X Water-St Aquatic F True Aqu Hydroget X Oxidized Presence   | ained Lear<br>Fauna (B13<br>Jatic Plants<br>n Sulfide C<br>Rhizospho<br>e of Reduc   | 3)<br>s (B14)<br>Odor (C1)<br>eres on Liv   | 4)               | Secondary Surface Draina Dry-S Crayfi (C3) Satura                        | r Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9   |
| DROLO etland Hy imary Indi Surface High W Saturat Water N Sedime Drift De Algal M  | ody<br>odrology Indicators<br>icators (minimum of<br>water (A1)<br>cater Table (A2)<br>ion (A3)<br>Marks (B1)<br>ent Deposits (B2)<br>eposits (B3)   |   | X Water-St Aquatic F True Aqu Hydroge X Oxidized Presence Recent Is  | ained Lear<br>Fauna (B13<br>Jatic Plants<br>n Sulfide C<br>Rhizospho<br>e of Reduc   | 3)<br>s (B14)<br>Odor (C1)<br>eres on Liv<br>ed Iron (C4  | 4)               | Secondary Surface Draina Dry-S Crayfi (C3) Satura Stunte 6) Geom         | r Indicators (minimum of two requirect concession of two requirects) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) and or Stressed Plants (D1)                           |
| Depth (in Depth  | or variable (A2)  Jordon (A3)  Marks (B1)  Perposits (B2)  Jordon (B3)  | one is requ   | X Water-St Aquatic F True Aqu Hydroget X Oxidized Presencet Recent In Thin Muc   | rained Lear<br>Fauna (B13<br>Jatic Plants<br>In Sulfide C<br>Rhizospho<br>E of Reduct<br>In Reduct<br>In Reduct                            | B) S (B14) Odor (C1) Heres on Lived Iron (C4) Stion in Tille (C7)   | 4)               | Secondary Surface Draina Dry-S Crayfi (C3) Satura Stunte 6) Geom         | v Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)                    |
| DROLC etland Hy imary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De  | oGY vdrology Indicators icators (minimum of wWater (A1) ater Table (A2) ion (A3) Warks (B1) ant Deposits (B2) eposits (B3) lat or Crust (B4) posits (B5)   | one is requ   | X Water-St Aquatic F True Aqu Hydroget X Oxidized Presencet Recent It Thin Muc   | ained Lear<br>Fauna (B1;<br>uatic Plants<br>n Sulfide C<br>Rhizospho<br>e of Reduct<br>ron Reduct<br>ck Surface<br>r Well Data             | B) S (B14) Ddor (C1) eres on Liv ed Iron (C4) tion in Tille (C7) a (D9)   | 4)               | Secondary Surface Draina Dry-S Crayfi (C3) Satura Stunte 6) Geom         | v Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)                    |
| DROLC etland Hy imary Ind Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparse  | order vertical vertic | one is required in the second of the second | X Water-St Aquatic F True Aqu Hydroge X Oxidized Presence Recent II Thin Muc B7) Gauge o (B8) Other (E:  | rained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R                        | B) s (B14) cloor (C1) eres on Liv ed Iron (C4) tion in Tille (C7) a (D9) emarks)  | 4)<br>d Soils (C | Secondary Surface Draina Dry-S Crayfi (C3) Satura Stunte 6) Geom         | v Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)                   |
| Depth (irremarks:  DROLC etland Hy imary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparse  | order vertical vertic | one is required in the second of the second | X Water-St Aquatic F True Aqu Hydroget X Oxidized Presencet Recent It Thin Muc   | rained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R                        | B) s (B14) cloor (C1) eres on Liv ed Iron (C4) tion in Tille (C7) a (D9) emarks)  | 4)<br>d Soils (C | Secondary Surface Draina Dry-S Crayfi (C3) Satura Stunte 6) Geom         | v Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)                   |
| Depth (in property of the prop | JOGY  /drology Indicators icators (minimum of water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aeria ly Vegetated Conca rvations: ter Present?  | one is required in the second of the second | X   Water-St   | ained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R                         | B) S (B14) Odor (C1) Heres on Lived Iron (C4) Stion in Tille (C7) A (D9) Hemarks)   | 4)<br>d Soils (C | Secondary Surface Draina Dry-S Crayfi (C3) Satura Stunte 6) Geom         | v Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)                   |
| Depth (in property of the prop | pody votrology Indicators (minimum of e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aeria ly Vegetated Conca rvations: ter Present?   | I Imagery (Ive Surface  | X   Water-St   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent Ir   Thin Muc   B7   Gauge o (B8)   Other (E: No   X   Depth (ir   No   X   Depth (ir   Ir   Ir   Ir   Ir   Ir   Ir   Ir   | ained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R nches): nches):         | B) S (B14) Ddor (C1) Heres on Lived Iron (C4) Historian Tille (C7) A (D9) Hemarks)  | t)<br>d Soils (C | Secondary Surface Draina Dry-S Crayfi  (C3) Satura Stunte 6) Geom        | v Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) norphic Position (D2)                   |
| Depth (in property of the prop | pody votrology Indicators icators (minimum of e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) ion Vis ble on Aeria ly Vegetated Conca rvations:  ter Present? Present? Present? pillary fringe)   | I Imagery (I ve Surface Yes Yes Yes X   | X   Water-St   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent In   Thin Muc   B7)   Gauge o (B8)   Other (E: No   X   Depth (in   No   De | ained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R nches): nches): nches): | B) S (B14) Ddor (C1) Heres on Liv Heres on Liv Hered Iron (C4 Hition in Tille Hition (C7) Hition (D9) Hered | 1) d Soils (C    | Secondary Surface Draina Dry-S Crayfice (C3) Satura Stunte 6) Geom FAC-N | / Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5) |
| Depth (in property of the prop | pody votrology Indicators icators (minimum of e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) ion Vis ble on Aeria ly Vegetated Conca rvations:  ter Present? Present? Present? pillary fringe)   | I Imagery (I ve Surface Yes Yes Yes X   | X   Water-St   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent Ir   Thin Muc   B7   Gauge o (B8)   Other (E: No   X   Depth (ir   No   X   Depth (ir   Ir   Ir   Ir   Ir   Ir   Ir   Ir   | ained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R nches): nches): nches): | B) S (B14) Ddor (C1) Heres on Liv Heres on Liv Hered Iron (C4 Hition in Tille Hition (C7) Hition (D9) Hered | 1) d Soils (C    | Secondary Surface Draina Dry-S Crayfice (C3) Satura Stunte 6) Geom FAC-N | / Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5) |
| Depth (irremarks:  DROLC  etland Hy imary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparse eld Obse urface Wa ater Table atturation Fecludes ca  | pody votrology Indicators icators (minimum of e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) ion Vis ble on Aeria ly Vegetated Conca rvations:  ter Present? Present? Present? pillary fringe)   | I Imagery (I ve Surface Yes Yes Yes X   | X   Water-St   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent In   Thin Muc   B7)   Gauge o (B8)   Other (E: No   X   Depth (in   No   De | ained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R nches): nches): nches): | B) S (B14) Ddor (C1) Heres on Liv Heres on Liv Hered Iron (C4 Hition in Tille Hition (C7) Hition (D9) Hered | 1) d Soils (C    | Secondary Surface Draina Dry-S Crayfice (C3) Satura Stunte 6) Geom FAC-N | / Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5) |
| Depth (in property of the prop | pody votrology Indicators icators (minimum of e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) ion Vis ble on Aeria ly Vegetated Conca rvations:  ter Present? Present? Present? pillary fringe)   | I Imagery (I ve Surface Yes Yes Yes X   | X   Water-St   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent In   Thin Muc   B7)   Gauge o (B8)   Other (E: No   X   Depth (in   No   De | ained Lear Fauna (B1; uatic Plants n Sulfide C Rhizospho e of Reduct ron Reduct ck Surface r Well Data xplain in R nches): nches): nches): | B) S (B14) Ddor (C1) Heres on Liv Heres on Liv Hered Iron (C4 Hition in Tille Hition (C7) Hition (D9) Hered | 1) d Soils (C    | Secondary Surface Draina Dry-S Crayfice (C3) Satura Stunte 6) Geom FAC-N | / Indicators (minimum of two requirece Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9) ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5) |

| Project/Site: I-69 Bloomington to Mai     | (                     | City/County: Bloomington/Monroe |                                     |        |              | Sampling D                                       | ate: 2/19/13               | 3                |          |
|---|-----------------------|---------------------------------|-------------------------------------|--------|--------------|--|----------------------------|------------------|----------|
| Applicant/Owner: INDOT                    |                       |                                 | State: IN                           |        |              |  | Sampling P                 | oint: S5W0       | 11UPL    |
| Investigator(s): D. White, T. Keefe       |                       | :                               | Section, Township, Range: 31, 9N 1W |        |              |  |                            |                  |          |
| Landform (hillslope, terrace, etc.): D    | epression             |                                 |                                     | Lo     | cal relief ( | (concave, convex, none):                         | Concave                    |                  |          |
| Slope (%): <5% Lat: 39.17                 |                       |                                 |                                     |        |              | )  |                            | D 83             |          |
| Soil Map Unit Name: Crider-Urban L        | and Complex           |                                 | -                                   |        |              | NWI classific                                    | ation: UPL                 |                  |          |
| Are climatic / hydrologic conditions o    |                       |                                 |                                     |        |              |  |                            |                  |          |
| Are Vegetation, Soil,                     | • •                   | •                               |                                     |        |              |  | ,                          | s <sup>X</sup> N | 10       |
| Are Vegetation, Soil,                     |                       | -                               |                                     |        |              | eded, explain any answe                          |                            |                  |          |
| SUMMARY OF FINDINGS –                     |                       |                                 |                                     |        |              |  |                            |                  | es, etc. |
| Hydrophytic Vegetation Present?           | Yes 1                 | No X                            |                                     |        |              |  |                            |                  |          |
| Hydric Soil Present?                      | Yes 1                 |                                 |                                     |        | Sampled      |  | ٧                          |                  |          |
| Wetland Hydrology Present?                | Yes 1                 |                                 |                                     | within | a Wetlan     | d? Yes   | No X                       |                  |          |
| Remarks:                                  |                       |                                 |                                     |        |              |  |                            |                  |          |
|   |                       |                                 |                                     |        |              |  |                            |                  |          |
| VEGETATION – Use scientifi                | ic names of plants    |                                 |                                     |        |              |  |                            |                  |          |
|   | <u> </u>              | Absolute                        | Domi                                | nant I | ndicator     | Dominance Test work                              | sheet:                     |                  |          |
| Tree Stratum (Plot size: 30               |                       | % Cover                         |                                     |        |              | Number of Dominant Sp<br>That Are OBL, FACW, of  |                            |                  | _ (A)    |
| 2<br>3                                    |                       |                                 |                                     |        |              | Total Number of Domin<br>Species Across All Stra |                            |                  | (B)      |
| 4   |                       |                                 |                                     |        |              | Percent of Dominant Sp                           | oecies                     |                  | . ,      |
|   |                       |                                 |                                     | l Cove | r            | That Are OBL, FACW, o                            | JI FAC: <u>-</u>           |                  | (A/B)    |
| Sapling/Shrub Stratum (Plot size:         |                       |                                 |                                     |        |              | Prevalence Index wor                             |                            | Aultiply by:     |          |
| 1   |                       |                                 |                                     |        |              | Total % Cover of: OBL species                    |                            |                  |          |
| 2.<br>3.                                  |                       |                                 |                                     |        |              | FACW species                                     |                            |                  |          |
| 4   |                       |                                 |                                     |        |              |  | x 3 =                      |                  |          |
| 5   |                       |                                 |                                     |        |              | FACU species 100                                 |                            |                  |          |
|   |                       |                                 |                                     |        |              | UPL species                                      | x 5 =                      |                  | _        |
| Herb Stratum (Plot size: 5  1 Festuca sp. |                       | 100                             | Υ                                   |        | FACU         | Column Totals: 100                               | (A)                        | 400              | (B)      |
| ''  |                       |                                 |                                     |        |              | Prevalence Index                                 | = R/A = 4                  |                  |          |
| 2   |                       |                                 |                                     |        |              | Hydrophytic Vegetation                           |                            | s:               |          |
| 3<br>4                                    |                       |                                 |                                     |        |              | Dominance Test is                                |                            |                  |          |
| 5   |                       |                                 |                                     |        |              | Prevalence Index is                              |                            |                  |          |
| 6   |                       |                                 |                                     |        |              | Morphological Ada<br>data in Remarks             | ptations <sup>1</sup> (Pro | ovide suppo      | rting    |
| 7   |                       |                                 |                                     |        |              | Problematic Hydro                                |                            |                  |          |
| 8   |                       |                                 |                                     |        |              |  | , , , , , , ,              |                  | ,        |
| 9   |                       |                                 |                                     |        |              | <sup>1</sup> Indicators of hydric soi            |                            |                  | must     |
| 10  |                       | 400                             | = Tota                              | I Covo | -            | be present, unless distu                         | irbed or prob              | olematic.        |          |
| Woody Vine Stratum (Plot size: 1          | 5 )                   |                                 | = 1018                              | Cove   | ſ            |  |                            |                  |          |
| 1   |                       |                                 |                                     |        |              | Hydrophytic                                      |                            |                  |          |
| 2   |                       |                                 |                                     |        |              | Vegetation<br>Present? Yes                       | s N                        | No X             |          |
|   |                       |                                 | = Tota                              | I Cove | r            |  |                            |                  |          |
| Remarks: (Include photo numbers           | here or on a separate | sheet.)                         |                                     |        |              | l  |                            |                  |          |
|   |                       |                                 |                                     |        |              |  |                            |                  |          |
|   |                       |                                 |                                     |        |              |  |                            |                  |          |

SOIL Sampling Point: S5W011UPL

| Profile Desc   |  |   |            | Γ .   |  | _   |                  |   |   |   |                                       |
|--|--|---|------------|---|--|---|------------------|---|---|---|---------------------------------------|
| Depth<br>(inches)  | Matrix Color (moist)   | %   | Colo       | Redo<br>or (moist)  | ox Feature<br>%  | S<br>Type <sup>1</sup>  | Loc <sup>2</sup> | Texture                                     |   | Remarks   | S                                     |
| 0-4  | 10YR 4/3   | 100   |            | . (   |  | . , , , , ,   |                  | silty clay                                  | _   | Romain  | <u>-</u>                              |
| 4-20   | 10YR 5/8   | 100   |            |   | -  | ·   |                  |   |   |   |                                       |
| 4-20   | 101K 5/8   | _ 100   |            |   |  | ·   |                  | Silty clay                                  |   |   |                                       |
|  |  |   | _          |   | _  |   |                  |   | _   |   |                                       |
|  |  |   |            |   |  |   |                  |   |   |   |                                       |
|  |  |   |            |   |  |   |                  |   |   |   |                                       |
|  | -  |   |            |   | - ·  |   |                  |   |   |   |                                       |
|  | -  |   |            |   |  | · ——  |                  | -   |   |   |                                       |
|  | -  |   |            |   |  |   |                  |   |   |   |                                       |
|  | oncentration, D=De   | epletion, RI  | M=Reduce   | ed Matrix, C  | S=Covere   | d or Coate  | d Sand G         |   |   | =Pore Lining,   |                                       |
| Hydric Soil  |  |   |            |   |  |   |                  |   |   | ematic Hydri  | ic Soils":                            |
| Histosol   | ` '  |   |            |   | Gleyed Ma  |   |                  |   | st Prairie Re   |   | .,                                    |
|  | pipedon (A2)<br>istic (A3)   |   |            |   | Redox (S5<br>d Matrix (S   |   |                  |   | -Manganese<br>er (Explain in  | Masses (F12   | 2)                                    |
|  | en Sulfide (A4)  |   |            |   | Mucky Mi   |   |                  | Our   | ei (Expiaiii iii  | Remarks)  |                                       |
|  | d Layers (A5)  |   |            |   | Gleyed M   | , ,   |                  |   |   |   |                                       |
|  | uck (A10)  |   |            |   | ed Matrix (  |   |                  |   |   |   |                                       |
|  | d Below Dark Surfa   | ce (A11)  |            |   | Dark Surfa   |   |                  |   |   |   |                                       |
| Thick Da   | ark Surface (A12)  |   |            | Deplete   | ed Dark Su   | ırface (F7)   |                  | 3Indicate                                   | ors of hydrop   | hytic vegetat   | ion and                               |
|  | Mucky Mineral (S1)   |   |            | Redox   | Depressio  | ns (F8)   |                  | wetla                                       | and hydrolog  | y must be pre   | esent,                                |
|  | ucky Peat or Peat (  |   |            |   |  |   |                  | unle  | ss disturbed  | or problemat  | ic.                                   |
| Restrictive  | Layer (if observed   | l):   |            |   |  |   |                  |   |   |   |                                       |
| Type:  |  |   |            |   |  |   |                  |   |   |   | V                                     |
|  |  |   |            |   |  |   |                  | Hydric S                                    | -:I D10   | Voc   | No <sup>X</sup>                       |
| Depth (in Remarks:   | ches):   |   |            |   |  |   |                  | Tiyune o                                    | oil Present?  | 165   |                                       |
| Remarks:   |  |   |            |   |  |   |                  | Tiyune o                                    | oii Present?  | 165   |                                       |
| Remarks:   | GY   |   |            |   |  |   |                  | Tiyune o                                    | oii Present?  | 165   |                                       |
| Remarks:  HYDROLO  Wetland Hy  |  | s:  |            | eck all that a  | (ylac  |   |                  |   |   |   |                                       |
| Remarks:  HYDROLO  Wetland Hy  Primary India   | GY<br>drology Indicators   | s:  |            | eck all that a  |  | res (B9)  |                  | Secon                                       |   | ors (minimum  | of two required                       |
| HYDROLO Wetland Hy Primary India Surface   | GY<br>drology Indicators<br>cators (minimum of<br>Water (A1)   | s:  |            |   | ined Leav  | ` ,   |                  | <u>Secor</u> S                              | idary Indicato<br>urface Soil C   | ors (minimum<br>tracks (B6)   |                                       |
| HYDROLO Wetland Hy Primary India Surface   | drology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)  | s:  |            | _ Water-Sta   | ined Leav<br>auna (B13   | )   |                  | Secor<br>S<br>D                             | ndary Indicato<br>urface Soil C<br>rainage Patte  | ors (minimum<br>tracks (B6)   | of two required                       |
| HYDROLO Wetland Hy Primary India Surface High Wa Saturatia   | drology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)  | s:  |            | _ Water-Sta<br>_ Aquatic F  | nined Leav<br>auna (B13<br>atic Plants   | (B14)   |                  | Secor<br>S<br>D                             | ndary Indicato<br>urface Soil C<br>rainage Patte  | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>Jater Table (C   | of two required                       |
| HYDROLO  Wetland Hy  Primary India  Surface  High Wa  Saturati  Water M  | drology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)   | s:  |            | _ Water-Sta<br>_ Aquatic Fa<br>_ True Aqua  | nined Leav<br>auna (B13<br>atic Plants<br>Sulfide O  | (B14)<br>dor (C1)   | ing Roots        | Secor<br>S<br>D<br>D                        | idary Indicato<br>urface Soil C<br>rainage Patto<br>ry-Season W<br>rayfish Burro  | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>Vater Table (Cows (C8)   | of two required                       |
| HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen   | drology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)<br>flarks (B1)  | s:  |            | Water-Sta Aquatic F True Aqua Hydrogen Oxidized   | nined Leav<br>auna (B13<br>atic Plants<br>Sulfide O<br>Rhizosphe   | (B14)<br>dor (C1)   | _                | Secor S D D C (C3) S                        | ndary Indicato<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi  | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>Vater Table (Cows (C8)   | of two required C2) Imagery (C9)      |
| HYDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift De  | drology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)<br>farks (B1)<br>nt Deposits (B2)   | s:  |            | Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Presence   | nined Leave<br>auna (B13<br>atic Plants<br>Sulfide O<br>Rhizosphe<br>of Reduce   | (B14)<br>dor (C1)<br>eres on Liv  | 4)               | Secor S D C C (C3) S S                      | ndary Indicato<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi  | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants                               | of two required C2) Imagery (C9)      |
| HYDROLO  Wetland Hy Primary India Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma  | drology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)<br>Marks (B1)<br>nt Deposits (B2)<br>posits (B3)  | s:  |            | Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Presence   | nined Leav<br>auna (B13<br>atic Plants<br>Sulfide O<br>Rhizosphe<br>of Reduce<br>on Reducti  | (B14)<br>dor (C1)<br>eres on Livied Iron (C4<br>on in Tilled                    | 4)               | Secor S C C S C S S S S S S S S S S S S S S | ndary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stre                                | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)              | of two required C2) Imagery (C9)      |
| HYDROLO  Wetland Hy Primary India Surface High Wa Saturati Water M Sedimea Drift De Algal Ma Iron Dep  | drology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)<br>farks (B1)<br>nt Deposits (B2)<br>posits (B3)<br>at or Crust (B4)  | s:<br>one is req  | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro  | nined Leavauna (B13<br>atic Plants<br>Sulfide O<br>Rhizosphe<br>of Reduce<br>on Reducti  | (B14) dor (C1) eres on Livided Iron (C4) fron in Tilled                         | 4)               | Secor S C C S C S S S S S S S S S S S S S S | ndary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stre<br>eomorphic P                 | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)              | of two required C2) Imagery (C9)      |
| Nemarks:  HYDROLO  Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der   | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)   | s:<br>one is req  | uired; che | Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl                              | uined Leave<br>auna (B13<br>atic Plants<br>Sulfide O<br>Rhizosphe<br>of Reduction<br>C Surface (<br>Well Data  | (B14) dor (C1) eres on Livied Iron (C4) on in Tilled (C7) (D9)                  | 4)               | Secor S C C S C S S S S S S S S S S S S S S | ndary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stre<br>eomorphic P                 | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)              | of two required C2) Imagery (C9)      |
| Nemarks:  HYDROLO  Wetland Hy Primary India Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der   | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria y Vegetated Conca  | s:<br>one is req<br>I Imagery (<br>ve Surface   | uired; che | Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Ia Presence Recent Iro Thin Mucl Gauge or Other (Ex        | nined Leavalined Leavalined (B13 atic Plants Sulfide O Rhizosphe of Reduction Reduction Surface Well Data plain in Reserved  | (B14) (B14) dor (C1) eres on Live dor Iron (C4) fon in Tilled (C7) (D9) emarks) | d Soils (Ce      | Secor S C C S C S S S S S S S S S S S S S S | ndary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stre<br>eomorphic P                 | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)              | of two required C2) Imagery (C9)      |
| HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Drift Der Algal Ma Iron Der Inundatia  | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria y Vegetated Conca vations: er Present?                               | one is required in the second of the second | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl Gauge or Other (Ex           | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe on Reduction Surface (Well Data plain in Reduction Reduction Surface (Well Data plain in Reduction):   | (B14) dor (C1) eres on Livied Iron (C4) fron in Tilled (C7) (D9) emarks)        | d Soils (Co      | Secor S C C S C S S S S S S S S S S S S S S | ndary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stre<br>eomorphic P                 | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)              | of two required C2) Imagery (C9)      |
| HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatia Sparsely   | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria y Vegetated Conca vations: er Present?                               | one is required in the second of the second | uired; che | Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Ia Presence Recent Iro Thin Mucl Gauge or Other (Ex        | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe on Reduction Surface (Well Data plain in Reduction Reduction Surface (Well Data plain in Reduction):   | (B14) dor (C1) eres on Livied Iron (C4) fron in Tilled (C7) (D9) emarks)        | d Soils (Co      | Secor S C C S C S S S S S S S S S S S S S S | ndary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stre<br>eomorphic P                 | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)              | of two required C2) Imagery (C9)      |
| Remarks:  HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Algal Ma Iron Dep Inundati Sparsely  Field Obser  Surface Wat Water Table Saturation P (includes cal             | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria by Vegetated Conca vations: are Present? Present? present? present? | I Imagery ( ve Surface  Yes Yes Yes   | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl Gauge or Other (Ex Depth (in | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe of Reduce on Reductic Surface (Well Data plain in Reduction Re | (B14) (B14) dor (C1) eres on Livied Iron (C4) on in Tilled (C7) (D9) emarks)    | d Soils (Co      | Secor S D C (C3) S S F                      | idary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stru<br>eomorphic P<br>AC-Neutral T | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)              | of two required C2) Imagery (C9) (D1) |
| Remarks:  HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Algal Ma Iron Dep Inundati Sparsely  Field Obser  Surface Wat Water Table Saturation P (includes cal             | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria y Vegetated Conca vations: er Present? Present?                     | s: one is req I Imagery ( ve Surface Yes Yes Yes  | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl Gauge or Other (Ex Depth (in | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe of Reduce on Reductic Surface (Well Data plain in Reduction Re | (B14) (B14) dor (C1) eres on Livied Iron (C4) on in Tilled (C7) (D9) emarks)    | d Soils (Co      | Secor S D C (C3) S S F                      | idary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stru<br>eomorphic P<br>AC-Neutral T | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)<br>Fest (D5) | of two required C2) Imagery (C9) (D1) |
| HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Den Algal Ma Iron Den Inundatia Sparsely  Field Obser Surface Wat Water Table Saturation P (includes can Describe Re | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria by Vegetated Conca vations: are Present? Present? present? present? | s: one is req I Imagery ( ve Surface Yes Yes Yes  | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl Gauge or Other (Ex Depth (in | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe of Reduce on Reductic Surface (Well Data plain in Reduction Re | (B14) (B14) dor (C1) eres on Livied Iron (C4) on in Tilled (C7) (D9) emarks)    | d Soils (Co      | Secor S D C (C3) S S F                      | idary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stru<br>eomorphic P<br>AC-Neutral T | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)<br>Fest (D5) | of two required C2) Imagery (C9) (D1) |
| Remarks:  HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimer Algal Ma Iron Dep Inundati Sparsely  Field Obser  Surface Wat Water Table Saturation P (includes cal             | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria by Vegetated Conca vations: are Present? Present? present? present? | s: one is req I Imagery ( ve Surface Yes Yes Yes  | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl Gauge or Other (Ex Depth (in | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe of Reduce on Reductic Surface (Well Data plain in Reduction Re | (B14) (B14) dor (C1) eres on Livied Iron (C4) on in Tilled (C7) (D9) emarks)    | d Soils (Co      | Secor S D C (C3) S S F                      | idary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stru<br>eomorphic P<br>AC-Neutral T | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)<br>Fest (D5) | of two required C2) Imagery (C9) (D1) |
| HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Den Algal Ma Iron Den Inundatia Sparsely  Field Obser Surface Wat Water Table Saturation P (includes can Describe Re | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria by Vegetated Conca vations: are Present? Present? present? present? | s: one is req I Imagery ( ve Surface Yes Yes Yes  | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl Gauge or Other (Ex Depth (in | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe of Reduce on Reductic Surface (Well Data plain in Reduction Re | (B14) (B14) dor (C1) eres on Livied Iron (C4) on in Tilled (C7) (D9) emarks)    | d Soils (Co      | Secor S D C (C3) S S F                      | idary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stru<br>eomorphic P<br>AC-Neutral T | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)<br>Fest (D5) | of two required C2) Imagery (C9) (D1) |
| HYDROLO  Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Den Algal Ma Iron Den Inundatia Sparsely  Field Obser Surface Wat Water Table Saturation P (includes can Describe Re | drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aeria by Vegetated Conca vations: are Present? Present? present? present? | s: one is req I Imagery ( ve Surface Yes Yes Yes  | uired; che | Water-Sta Aquatic Fi True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl Gauge or Other (Ex Depth (in | wined Leave auna (B13 atic Plants Sulfide O Rhizosphe of Reduce on Reductic Surface (Well Data plain in Reduction Re | (B14) (B14) dor (C1) eres on Livied Iron (C4) on in Tilled (C7) (D9) emarks)    | d Soils (Co      | Secor S D C (C3) S S F                      | idary Indicate<br>urface Soil C<br>rainage Patte<br>ry-Season W<br>rayfish Burro<br>aturation Visi<br>tunted or Stru<br>eomorphic P<br>AC-Neutral T | ors (minimum<br>Fracks (B6)<br>erns (B10)<br>/ater Table (Cows (C8)<br>ible on Aerial<br>essed Plants<br>Position (D2)<br>Fest (D5) | of two required C2) Imagery (C9) (D1) |

| Project/Site: I-69 Bloomington to Martinsville        |                     | City/County: Bloom     | Sampling Date: 10-15-11                      |  |
|---|---------------------|------------------------|--|--|
| Applicant/Owner: INDOT                                |                     |                        | State: IN                                    | Sampling Point: S5W021                             |
| Investigator(s): K. Schroeder, D. White               |                     | Section, Township      | , Range: <u>4, 9N 1W</u>                     |  |
| Landform (hillslope, terrace, etc.): Ditch/Depress    | ion                 | Local re               | elief (concave, convex, none):               | Concave  |
| Slope (%): <5% Lat: 39.24392187600                    |                     |                        |  |  |
| Soil Map Unit Name: Stendal Silt Loam                 |                     |                        | NWI classific                                | ation: PEM   |
| Are climatic / hydrologic conditions on the site type |                     |                        |  |  |
| Are Vegetation, Soil, or Hydrolog                     |                     |                        |  | present? Yes x No No                               |
| Are Vegetation, Soil, or Hydrolog                     |                     |                        | If needed, explain any answe                 |  |
| SUMMARY OF FINDINGS – Attach s                        |                     |                        | ,  | ,  |
|   | <u>-</u>            |                        | in locations, transcots                      | , important reatures, etc.                         |
| Hydrophytic Vegetation Present? Yes                   | No                  | Is the Sam             | pled Area                                    |  |
|   | No                  | within a We            | etland? Yes X                                | No   |
| Wetland Hydrology Present? Yes 2                      | × No                |                        |  |  |
| Nomans.   |                     |                        |  |  |
|   |                     |                        |  |  |
| <b>VEGETATION</b> – Use scientific names              | of plants.          |                        |  |  |
|   |                     | Dominant Indica        |  | sheet:   |
| Tree Stratum (Plot size: 30 )                         |                     | Species? Statu         | Number of Dominant S                         |  |
| 2   |                     |                        | Total Number of Domin                        | ant  |
| 3   |                     |                        | Species Across All Stra                      | ta: <u>1</u> (B)                                   |
| 4.       5.   |                     |                        | Percent of Dominant Sp That Are OBL, FACW, 6 |  |
|   |                     | = Total Cover          |  |  |
| Sapling/Shrub Stratum (Plot size: 15                  |                     |                        | Prevalence Index wor                         |  |
| 1   |                     |                        |  |  |
| 2.  |                     |                        | F  | $x = \frac{10}{10}$                                |
| 3<br>4  |                     |                        | <del></del>                                  | x 3 =  |
| 5.  |                     |                        | <del></del>                                  | x 4 =  |
|   |                     | = Total Cover          |  | x 5 =  |
| Herb Stratum (Plot size: 5 )                          |                     | V ODI                  | Column Totals: 100                           | (A) <u>105</u> (B)                                 |
| Typha latifolia     Phalaris arundinacea              | 95<br>5             | $\frac{Y}{N}$ OBL FACV | V Prevalence Index                           | _ R/Λ _ 1.05                                       |
|   | <del></del>         |                        | Hydrophytic Vegetation                       |  |
| 3   |                     |                        | X Dominance Test is                          |  |
| 4   |                     |                        | X Prevalence Index is                        |  |
| 6   |                     |                        | Morphological Ada                            | ptations <sup>1</sup> (Provide supporting          |
| 7.  |                     |                        |  | s or on a separate sheet)                          |
| 8   |                     |                        | Problematic Hydro                            | phytic Vegetation <sup>1</sup> (Explain)           |
| 9   |                     |                        |  | l and watland hydrology must                       |
| 10  |                     |                        | <ul> <li>be present, unless distu</li> </ul> | I and wetland hydrology must urbed or problematic. |
| Woody Vine Stratum (Plot size: 15                     |                     | = Total Cover          |  |  |
| 1   | <del></del> ,       |                        | Hydrophytic                                  |  |
| 2   |                     |                        | Vegetation                                   | ν  |
|   |                     | = Total Cover          | Present? Ye                                  | s <u>x</u> No                                      |
| Remarks: (Include photo numbers here or on a          | · <del></del>       |                        |  |  |
| Tromains. (molade prioto numbers here of off a        | . 50parate 31166t.) |                        |  |  |
|   |                     |                        |  |  |

SOIL Sampling Point: S5W021

| Profile Desc             | cription: (Describe                        | e to the dep  | oth needed to docu     | ment the   | indicator         | or confirm       | n the absence of in          | dicators.)                              |
|--------------------------|--|---------------|------------------------|------------|-------------------|------------------|------------------------------|---|
| Depth                    | Matrix                                     |               |                        | ox Feature |                   | -                |                              |   |
| (inches)                 | Color (moist)                              | %             | Color (moist)          | %          | Type <sup>1</sup> | Loc <sup>2</sup> | <u>Texture</u>               | Remarks                                 |
| 0-20                     | 10YR 6/1                                   | 80            | 7.5YR 6/8              | 20         | С                 | М                | silty clay loam              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            | _                 |                  |                              |   |
|                          |  |               | -                      | _          | -                 |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
| 1 <sub>Tymes</sub> C. C. | anacatration D Do                          | nlotion DM    | Dadwood Motrix C       | C Course   | Coot              |                  | roing <sup>2</sup> l coation | . Di Doro Lining M Motriy               |
| Hydric Soil              |  | pielion, Rivi | =Reduced Matrix, C     | S=Covere   | d of Coal         | ed Sand G        |                              | Problematic Hydric Soils <sup>3</sup> : |
| Histosol                 |  |               | Sandy                  | Gleyed M   | atriv (SA)        |                  |                              | e Redox (A16)                           |
|                          | oipedon (A2)                               |               |                        | Redox (S   |                   |                  |                              | nese Masses (F12)                       |
|                          | istic (A3)                                 |               |                        | d Matrix ( |                   |                  | _                            | ain in Remarks)                         |
|                          | en Sulfide (A4)                            |               |                        |            | neral (F1)        |                  |                              |   |
| Stratified               | d Layers (A5)                              |               | Loamy                  | Gleyed M   | atrix (F2)        |                  |                              |   |
| 2 cm Mu                  | uck (A10)                                  |               | X Deplete              | ed Matrix  | (F3)              |                  |                              |   |
|                          | d Below Dark Surfa                         | ce (A11)      |                        | Dark Surf  | . ,               |                  |                              |   |
|                          | ark Surface (A12)                          |               |                        |            | urface (F7        | )                |                              | drophytic vegetation and                |
|                          | Mucky Mineral (S1)                         | 20)           | Redox                  | Depression | ons (F8)          |                  | •                            | rology must be present,                 |
|                          | ucky Peat or Peat (S<br>Layer (if observed |               |                        |            |                   |                  | uniess distu                 | rbed or problematic.                    |
|                          | •  | ):            |                        |            |                   |                  |                              |   |
| Type:                    |  |               | <del></del>            |            |                   |                  |                              | X                                       |
| Depth (in                | ches):                                     |               |                        |            |                   |                  | Hydric Soil Pres             | ent? Yes X No                           |
| Remarks:                 |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
| HYDROLO                  | GY   |               |                        |            |                   |                  |                              |   |
| Wetland Hy               | drology Indicators                         | s:            |                        |            |                   |                  |                              |   |
| Primary India            | cators (minimum of                         | one is requi  | red; check all that a  | pply)      |                   |                  | Secondary Inc                | dicators (minimum of two required)      |
| Surface                  | Water (A1)                                 |               | X Water-Sta            | ained Leav | /es (B9)          |                  | Surface S                    | Soil Cracks (B6)                        |
| l —                      | ater Table (A2)                            |               | <del></del>            | auna (B13  | ` '               |                  |                              | Patterns (B10)                          |
| Saturation               |  |               | True Aqu               |            |                   |                  |                              | on Water Table (C2)                     |
|                          | larks (B1)                                 |               | Hydrogen               |            |                   |                  | Crayfish I                   |   |
|                          | nt Deposits (B2)                           |               |                        |            |                   | ing Roots        |                              | n Visible on Aerial Imagery (C9)        |
|                          | posits (B3)                                |               | Presence               | of Reduc   | ed Iron (C        | 4)               | Stunted o                    | or Stressed Plants (D1)                 |
| Algal Ma                 | at or Crust (B4)                           |               | Recent Ire             | on Reduct  | ion in Tille      | ed Soils (Co     | 6) X Geomorp                 | hic Position (D2)                       |
| Iron Dep                 | posits (B5)                                |               | Thin Muc               | k Surface  | (C7)              |                  | FAC-Neu                      | tral Test (D5)                          |
| X Inundati               | on Vis ble on Aerial                       | Imagery (B    | 7) Gauge or            | Well Data  | a (D9)            |                  |                              |   |
| Sparsely                 | y Vegetated Concar                         | ve Surface (  | B8) Other (Ex          | plain in R | emarks)           |                  |                              |   |
| Field Obser              | vations:                                   |               |                        |            |                   |                  |                              |   |
| Surface Wat              | er Present?                                | Yes           | No X Depth (ir         | nches):    |                   |                  |                              |   |
| Water Table              |  |               | No X Depth (ir         |            |                   |                  |                              |   |
| Saturation P             |  |               | No X Depth (ir         |            |                   |                  | land Hvdrology Pre           | sent? Yes X No                          |
| (includes car            | oillary fringe)                            |               |                        |            |                   |                  |                              |   |
| Describe Re              | corded Data (strear                        | m gauge, m    | onitoring well, aerial | photos, p  | revious in        | spections),      | if available:                |   |
|                          |  |               |                        |            |                   |                  |                              |   |
| Remarks:                 |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |
|                          |  |               |                        |            |                   |                  |                              |   |

| Project/Site: I-69 Bloomington to Martinsville     |                            | City/County: Blooming        | gton/Monroe                                      | Sampling Date: 2/19/2013                  |  |
|--|----------------------------|------------------------------|--|---|--|
| Applicant/Owner: INDOT                             |                            |                              | State: IN Sampling Point: S5W021UP               |   |  |
| Investigator(s): D. White, T. Keefe                |                            | Section, Township, Ra        | ange: 4, 9N 1W                                   |   |  |
| Landform (hillslope, terrace, etc.): Ditch/Depres  | ssion                      | Local relief                 | (concave, convex, none):                         | Concave                                   |  |
| Slope (%): <5% Lat: 39.24397839320                 |                            | Long: <u>-86.534930512</u>   | 60   | Datum: NAD 83                             |  |
| Soil Map Unit Name: Stendal Silt Loam              |                            |                              | NWI classific                                    | ation: UPL                                |  |
| Are climatic / hydrologic conditions on the site t | ypical for this time of ye | ar? Yes x No _               | (If no, explain in R                             | emarks.)                                  |  |
| Are Vegetation, Soil, or Hydrold                   | gy significantly           | disturbed? Are               | "Normal Circumstances" p                         | oresent? Yes X No No                      |  |
| Are Vegetation, Soil, or Hydrold                   | gy naturally pro           | blematic? (If n              | eeded, explain any answe                         | rs in Remarks.)                           |  |
| SUMMARY OF FINDINGS - Attach                       | site map showing           | sampling point               | locations, transects                             | , important features, etc.                |  |
| Hydrophytic Vegetation Present? Yes                | No X                       |                              |  |   |  |
|  | No X                       | Is the Sample within a Wetla |  | No X                                      |  |
| Wetland Hydrology Present? Yes                     | No X                       | within a wella               | ilid? TeS  | NO <u>^</u>                               |  |
| Remarks:   |                            |                              |  |   |  |
|  |                            |                              |  |   |  |
| VEGETATION – Use scientific names                  | of plants                  |                              |  |   |  |
|  |                            | Dominant Indicator           | Dominance Test work                              | sheet:                                    |  |
| Tree Stratum (Plot size: 30 ) 1)                   | % Cover                    | Species? Status              | Number of Dominant Sp<br>That Are OBL, FACW, of  | pecies                                    |  |
| 2  |                            |                              | Total Number of Domin<br>Species Across All Stra |   |  |
| 4.   |                            |                              |  | ( ,                                       |  |
| 5  |                            |                              | Percent of Dominant Sp<br>That Are OBL, FACW, of |   |  |
| Sapling/Shrub Stratum (Plot size: 15               | ,                          | = Total Cover                | Prevalence Index wor                             | ksheet                                    |  |
| 1  | ,                          |                              |  | Multiply by:                              |  |
| 2.   |                            |                              |  | x 1 =                                     |  |
| 3.   |                            |                              | FACW species 25                                  | x = 50                                    |  |
| 4  |                            |                              | FAC species                                      | x 3 =                                     |  |
| 5  |                            |                              | FACU species 95                                  | x 4 = <u>380</u>                          |  |
| 5  |                            | = Total Cover                |  | x 5 =                                     |  |
| Herb Stratum (Plot size: 5 )  1 Festuca sp.        | 75                         | Y FACU                       | Column Totals: 100                               | (A) <u>430</u> (B)                        |  |
| Phalaris arundinacea                               | 25                         | Y FACW                       | Prevalence Index                                 | = B/A = 4.30                              |  |
| 3.   |                            |                              | Hydrophytic Vegetation                           |   |  |
| 4  |                            |                              | Dominance Test is                                |   |  |
| 5  |                            |                              | Prevalence Index is                              |   |  |
| 6  |                            |                              | Morphological Ada                                | ptations <sup>1</sup> (Provide supporting |  |
| 7  |                            |                              |  | s or on a separate sheet)                 |  |
| 8  |                            |                              | Problematic Hydrop                               | ohytic Vegetation <sup>1</sup> (Explain)  |  |
| 9  |                            |                              | <sup>1</sup> Indicators of hydric soi            | I and wetland hydrology must              |  |
| 10   |                            |                              | be present, unless distu                         |   |  |
| Woody Vine Stratum (Plot size: 15                  | 100                        | = Total Cover                |  |   |  |
| 1  | <i>,</i>                   |                              | Hydrophytic                                      |   |  |
| 2.   |                            |                              | Vegetation                                       | a Na X                                    |  |
|  |                            | = Total Cover                | Present? Yes                                     | s No X                                    |  |
| Remarks: (Include photo numbers here or on         | a separate sheet.)         |                              |  |   |  |
| , 1 225 pilete il 2005 il 610                      |                            |                              |  |   |  |
|  |                            |                              |  |   |  |

SOIL Sampling Point: S5W021UPL

| L 5 4  | th needed to document the indicator of  |                                    | ,   |
|--|---|------------------------------------|---|
| Depth Matrix (inches) Color (moist) %  | Redox Features  | Loc <sup>2</sup> Textu             | Domarka   |
|  | Color (moist) % Type <sup>1</sup>   |                                    |   |
| <u>0-18</u> <u>2.5Y 5/3</u> <u>100</u>   |   | silt cla                           | <u>y</u>  |
|  |   |                                    |   |
|  |   |                                    |   |
| <del></del>  |   |                                    |   |
|  |   |                                    |   |
|  |   |                                    |   |
|  |   |                                    |   |
| <del></del>  |   |                                    |   |
| ·  |   |                                    |   |
| <sup>1</sup> Type: C=Concentration, D=Depletion, RM=   | Reduced Matrix, CS=Covered or Coated  | d Sand Grains.                     | <sup>2</sup> Location: PL=Pore Lining, M=Matrix.  |
| Hydric Soil Indicators:  |   | Indic                              | ators for Problematic Hydric Soils <sup>3</sup> :   |
| Histosol (A1)  | Sandy Gleyed Matrix (S4)  | C                                  | Coast Prairie Redox (A16)   |
| Histic Epipedon (A2)   | Sandy Redox (S5)  |                                    | on-Manganese Masses (F12)   |
| Black Histic (A3)  | Stripped Matrix (S6)  |                                    | Other (Explain in Remarks)  |
| Hydrogen Sulfide (A4)  | Loamy Mucky Mineral (F1)  | <del></del>                        | ,   |
| Stratified Layers (A5)   | Loamy Gleyed Matrix (F2)  |                                    |   |
| 2 cm Muck (A10)  | Depleted Matrix (F3)  |                                    |   |
| Depleted Below Dark Surface (A11)  | Redox Dark Surface (F6)   |                                    |   |
| Thick Dark Surface (A12)   | Depleted Dark Surface (F7)  | 3Indi                              | cators of hydrophytic vegetation and  |
| Sandy Mucky Mineral (S1)   | Redox Depressions (F8)  | W                                  | retland hydrology must be present,  |
| 5 cm Mucky Peat or Peat (S3)   |   |                                    | nless disturbed or problematic.   |
| Restrictive Layer (if observed):   |   |                                    | ·   |
| Type:  |   |                                    |   |
| Depth (inches):  |   | Hydrid                             | Soil Present? Yes No X  |
| Remarks:   |   | Tiyani                             | 700111030111. 103 <u> </u>  |
|  |   |                                    |   |
|  |   |                                    |   |
| HYDROLOGY  |   |                                    |   |
| HYDROLOGY Wetland Hydrology Indicators:  |   |                                    |   |
|  | ed; check all that apply)   |                                    | condary Indicators (minimum of two required)  |
| Wetland Hydrology Indicators:  | ed; check all that apply) Water-Stained Leaves (B9)   |                                    | condary Indicators (minimum of two required) Surface Soil Cracks (B6)   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required)   |   |                                    |   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is requir  Surface Water (A1)  | Water-Stained Leaves (B9)   | _                                  | Surface Soil Cracks (B6)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is requir  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  | <ul><li>Water-Stained Leaves (B9)</li><li>Aquatic Fauna (B13)</li><li>True Aquatic Plants (B14)</li></ul>   | _                                  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is requir  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  | Water-Stained Leaves (B9) Aquatic Fauna (B13)   |                                    | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is requir  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)  | Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Livi  | ng Roots (C3)                      | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is requir  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)  | <ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Livi</li> <li>Presence of Reduced Iron (C4</li> </ul>  | ng Roots (C3)                      | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)   | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled   | ng Roots (C3)<br>)<br>I Soils (C6) | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)                       |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is requir  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)   | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7)  | ng Roots (C3)<br>)<br>I Soils (C6) | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required on the image of the image of the image of the image on the image of the  | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9)  | ng Roots (C3)<br>)<br>I Soils (C6) | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)                       |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required to the surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B2)  | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9)  | ng Roots (C3)<br>)<br>I Soils (C6) | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)                       |
| Primary Indicators (minimum of one is requir  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (E  | Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Livi     Presence of Reduced Iron (C4     Recent Iron Reduction in Tilled     Thin Muck Surface (C7)     Gauge or Well Data (D9)  38)     Other (Explain in Remarks)                                      | ng Roots (C3)  I Soils (C6)        | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)                       |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (E1)  Field Observations:  Surface Water Present?  Yes N   | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)   | ng Roots (C3)<br>)<br>I Soils (C6) | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)                       |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (E7)  Field Observations:  Surface Water Present?  Water Table Present?  Yes N   | Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Livi     Presence of Reduced Iron (C4     Recent Iron Reduction in Tilled     Thin Muck Surface (C7)     Gauge or Well Data (D9)     Other (Explain in Remarks)  No X Depth (inches):     Depth (inches): | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B7)  Field Observations:  Surface Water Present?  Water Table Present?  Yes N   | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)   | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)                       |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B7)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No Staturation Present?  | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  No X Depth (inches): No X Depth (inches):                                    | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B7)  Field Observations:  Surface Water Present?  Water Table Present?  Yes N   | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  No X Depth (inches): No X Depth (inches):                                    | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and support of the primary Indicators (minimum of one is required and support of the primary Indicators (minimum of one is required and support of the primary Indicators (Marks | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  No X Depth (inches): No X Depth (inches):                                    | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B7)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No Staturation Present?  | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  No X Depth (inches): No X Depth (inches):                                    | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and sequence of the content of th | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  No X Depth (inches): No X Depth (inches):                                    | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required and support of the primary Indicators (minimum of one is required and support of the primary Indicators (minimum of one is required and support of the primary Indicators (Marks | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  No X Depth (inches): No X Depth (inches):                                    | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B7)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No Saturation Present?  Yes No Saturation Present?  Yes No Saturation Present?  Yes No Saturation Present?  Describe Recorded Data (stream gauge, mo  | Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livi Presence of Reduced Iron (C4 Recent Iron Reduction in Tilled Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)  No X Depth (inches): No X Depth (inches):                                    | ng Roots (C3) ) I Soils (C6)       | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5) |

| Project/Site: I-69 Bloomington to Martins   | sville                 | (           | City/Coun  | ty: Bloomingt            | on/Monroe  | Sampling Date:                 | 10-12-11     |
|---|------------------------|-------------|------------|--------------------------|--|--------------------------------|--------------|
| Applicant/Owner: INDOT                      | Applicant/Owner: INDOT |             |            |                          |  | Sampling Point:                | S5W062a      |
| Investigator(s): K. Schroeder, D. White     |                        |             | Section, 7 | Γownship, Ra             | nge: 8, 9N 1W  |                                |              |
| Landform (hillslope, terrace, etc.): Depr   |                        |             |            |                          | (concave, convex, none):   | Concave                        |              |
| Slope (%): <5% Lat: 39.22911                |                        |             |            |                          |  |                                |              |
| Soil Map Unit Name: Bonnie Silt Loam        |                        |             |            |                          | NWI classific  |                                |              |
| Are climatic / hydrologic conditions on the | ne site typical for    |             |            |                          |  |                                |              |
| Are Vegetation, Soil, or                    |                        |             |            |                          | "Normal Circumstances" p   |                                | No           |
|   |                        |             |            |                          | •  |                                | NO           |
| Are Vegetation, Soil, or                    |                        |             |            |                          | eded, explain any answe  |                                |              |
| SUMMARY OF FINDINGS – A                     | ttach site ma          | ap showing  | sampli     | ng point l               | ocations, transects  | , important fe                 | atures, etc. |
| Hydrophytic Vegetation Present?             | Yes X                  | No          |            |                          |  |                                |              |
| Hydric Soil Present?                        | Yes x                  |             |            | the Sampled              |  | Na                             |              |
| Wetland Hydrology Present?                  |                        |             | Wi         | tnin a wetiar            | nd? Yes X  | No                             | -            |
| Remarks:                                    |                        |             |            |                          |  |                                |              |
|   |                        |             |            |                          |  |                                |              |
|   |                        |             |            |                          |  |                                |              |
| <b>VEGETATION</b> – Use scientific r        | names of plar          | nts.        |            |                          |  |                                |              |
| Tree Stratum (Plot size: 30                 | \                      |             |            | nt Indicator<br>? Status | Dominance Test work  |                                |              |
| 1   |                        | ·           |            |                          | Number of Dominant S<br>That Are OBL, FACW,                        | pecies<br>or FAC: 2            | (A)          |
| 2.  |                        |             |            |                          |  |                                | (//)         |
| 3.  |                        |             |            |                          | Total Number of Domin<br>Species Across All Stra                   |                                | (B)          |
| 4.  |                        |             |            |                          |  |                                |              |
| 5   |                        |             |            |                          | Percent of Dominant Sport That Are OBL, FACW,                      | or FAC: 100                    | (A/B)        |
| 15  |                        |             | = Total C  | over                     |  |                                | ( · /        |
| Sapling/Shrub Stratum (Plot size: 15        |                        |             |            |                          | Prevalence Index wor   |                                | h, h, a      |
| 1   |                        |             |            |                          | Total % Cover of:  OBL species 70                                  | x 1 = $\frac{70}{}$            | ly by:       |
| 2   |                        |             |            |                          | FACW species 25  |                                |              |
| 3   |                        |             |            |                          | FAC species  |                                |              |
| 5   |                        |             |            |                          | FACU species   |                                |              |
| <u> </u>                                    |                        |             | = Total C  |                          |  | x 5 =                          |              |
| (   | )                      |             |            |                          | Column Totals: 95  |                                |              |
| 1. Lemna minor                              |                        | 70          | Y          | OBL                      |  | 1 26                           |              |
| 2. Lysimachia nummularia                    |                        | 25          | Υ          | FACW                     | Prevalence Index   | -                              |              |
| 3   |                        |             |            |                          | Hydrophytic Vegetation X Dominance Test is                         |                                |              |
| 4   |                        |             |            |                          | X Prevalence Index i   |                                |              |
| 5   |                        |             |            |                          | Morphological Ada  |                                | supporting   |
| 6   |                        |             |            |                          |  | s or on a separate             |              |
| 8   |                        |             |            |                          | Problematic Hydro  | phytic Vegetation <sup>1</sup> | (Explain)    |
| 9   |                        |             |            |                          |  |                                |              |
| 10  |                        |             |            |                          | <sup>1</sup> Indicators of hydric soil<br>be present, unless distr |                                |              |
|   |                        |             | = Total C  | over                     | be present, unless dist  |                                | uo.          |
| Woody Vine Stratum (Plot size: 15           | )                      |             |            |                          |  |                                |              |
| 1   |                        |             |            |                          | Hydrophytic Vegetation   |                                |              |
| 2   |                        |             |            |                          |  | s X No _                       |              |
|   |                        |             | = Total C  | over                     |  |                                |              |
| Remarks: (Include photo numbers her         | e or on a separa       | ate sheet.) |            |                          |  |                                |              |
|   |                        |             |            |                          |  |                                |              |
|   |                        |             |            |                          |  |                                |              |

SOIL Sampling Point: S5W062a

| Profile Des                  | cription: (Describe             | to the dep   | th needed to docu      | ment the         | indicator                      | or confi         | rm the absence of in | dicators.)   |
|------------------------------|---------------------------------|--------------|------------------------|------------------|--------------------------------|------------------|----------------------|--|
| Depth                        | Matrix                          |              |                        | ox Feature       |                                | 2                |                      |  |
| (inches)                     | Color (moist)                   | %            | Color (moist)          | %                | Type'                          | Loc <sup>2</sup> |                      | Remarks  |
| 0-11                         | 2.5Y 6/2                        | 80           | 10YR 5/8               | _ 20             | _ <u>C</u>                     | PL               | Silt loam            |  |
| 11-20                        | N 2.5/0                         | 90           | 7.5YR 5/6              | 10               | D                              | М                | Silt loam            |  |
|                              | -                               |              |                        |                  |                                |                  |                      |  |
| -                            | -                               |              |                        |                  |                                |                  |                      |  |
|                              | ·                               |              |                        |                  |                                |                  |                      |  |
|                              |                                 |              |                        | _                |                                |                  |                      |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |
| 1- 0.0                       |                                 |              |                        |                  |                                |                  | 2                    |  |
|                              | Concentration, D=De Indicators: | pletion, RM: | =Reduced Matrix, C     | S=Covere         | ed or Coate                    | ed Sand          |                      | : PL=Pore Lining, M=Matrix. roblematic Hydric Soils <sup>3</sup> : |
| _                            |                                 |              |                        |                  |                                |                  |                      | •  |
| Histoso                      |                                 |              |                        | Gleyed M         |                                |                  |                      | e Redox (A16)  |
|                              | Epipedon (A2)                   |              |                        | Redox (S         |                                |                  |                      | nese Masses (F12)  |
|                              | listic (A3)<br>en Sulfide (A4)  |              |                        | ed Matrix (      | ວ <sub>ຽ)</sub><br>ineral (F1) |                  | Other (Expla         | nin in Remarks)  |
|                              | ed Layers (A5)                  |              |                        | -                | latrix (F2)                    |                  |                      |  |
| 2 cm M                       | • , ,                           |              |                        | ed Matrix        |                                |                  |                      |  |
|                              | ed Below Dark Surfa             | ce (A11)     |                        | Dark Surf        | . ,                            |                  |                      |  |
|                              | Park Surface (A12)              | 00 (/ (/ 1/  |                        |                  | urface (F7                     | )                | 3Indicators of hy    | drophytic vegetation and   |
|                              | Mucky Mineral (S1)              |              |                        | Depressi         |                                | ,                | •                    | ology must be present,   |
|                              | ucky Peat or Peat (             | S3)          | <del></del>            |                  | ` ,                            |                  | •                    | rbed or problematic.   |
| Restrictive                  | Layer (if observed              | ):           |                        |                  |                                |                  |                      | •  |
| Type:                        |                                 |              |                        |                  |                                |                  |                      |  |
| Depth (ir                    | nches):                         |              |                        |                  |                                |                  | Hydric Soil Pres     | ent? Yes X No  |
| Remarks:                     | ,                               |              |                        |                  |                                |                  |                      |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |
| HYDROLO                      | OGY                             |              |                        |                  |                                |                  |                      |  |
| Wetland Hy                   | drology Indicators              | s:           |                        |                  |                                |                  |                      |  |
| Primary Ind                  | icators (minimum of             | one is requi | red; check all that a  | pply)            |                                |                  | Secondary Inc        | dicators (minimum of two required)                                 |
| X Surface                    | e Water (A1)                    |              | Water-Sta              | ained Lea        | ves (B9)                       |                  | Surface S            | soil Cracks (B6)   |
|                              | ater Table (A2)                 |              | Aquatic F              |                  | , ,                            |                  |                      | Patterns (B10)   |
| X Saturat                    |                                 |              | True Aqu               |                  |                                |                  |                      | on Water Table (C2)  |
|                              | Marks (B1)                      |              | X Hydrogen             |                  |                                |                  |                      | Burrows (C8)   |
|                              | ent Deposits (B2)               |              | X Oxidized             |                  |                                | ing Root         |                      | n Visible on Aerial Imagery (C9)                                   |
|                              | eposits (B3)                    |              |                        |                  | ed Iron (C                     |                  |                      | r Stressed Plants (D1)   |
|                              | lat or Crust (B4)               |              |                        |                  | tion in Tille                  |                  |                      | hic Position (D2)  |
|                              | posits (B5)                     |              | Thin Muc               |                  |                                | ,                |                      | tral Test (D5)   |
|                              | tion Vis ble on Aerial          | Imagery (B   |                        |                  | ` '                            |                  | <del>_</del>         | , ,  |
|                              | ly Vegetated Conca              |              | · -                    |                  |                                |                  |                      |  |
| Field Obse                   | rvations:                       | •            | , <u> </u>             |                  |                                |                  |                      |  |
| Surface Wa                   | iter Present?                   | Yes X        | No Depth (ir           | nches): 0        | -4"                            |                  |                      |  |
| Water Table                  |                                 |              | No Depth (ir           |                  |                                | _                |                      |  |
|                              |                                 |              | No Depth (ir           |                  |                                | _                | etland Hydrology Pre | cent? Vec X  |
| Saturation F<br>(includes ca | resent?<br>apillary fringe)     | 162          | ino Deptin (Ir         | iches): <u> </u> |                                | _   we           | enanu myurology Pre  | sent? Yes X No   |
| Describe Re                  | ecorded Data (stream            | m gauge, mo  | onitoring well, aerial | photos, p        | revious ins                    | spections        | s), if available:    |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |
| Remarks:                     |                                 |              |                        |                  |                                |                  |                      |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |
|                              |                                 |              |                        |                  |                                |                  |                      |  |

| Project/Site: I-69 Bloomington to Martinsville  |                  | City/County: Bloomingt             |                     | on/Monroe   | Sampling Date: 10-12-11                    |        |
|---|------------------|------------------------------------|---------------------|---|--|--------|
| Project/Site: I-69 Bloomington to Martinsville Applicant/Owner: INDOT   |                  | , , <u> </u>                       |                     | State: IN   | Sampling Point: S5W06                      | 32b    |
|   |                  | Section, Township, Range: 8, 9N 1W |                     |   |  |        |
| Landform (hillslope, terrace, etc.):  |                  |                                    |                     |   | None                                       |        |
| Slope (%): <u>&lt;5%</u> Lat: <u>39.22959394990</u>   |                  |                                    |                     |   |  |        |
|   |                  | <u> </u>                           |                     |   |  |        |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) |                  |                                    |                     |   |  |        |
| Are Vegetation, Soil, or Hydrology significantly disturbed?   |                  |                                    |                     |   |  |        |
| Are Vegetation, Soil, or Hydrology n  |                  |                                    |                     |   |  |        |
| SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.           |                  |                                    |                     |   |  |        |
| Hydrophytic Vegetation Present? Yes X No  | 0                |                                    | 4 011               | A   |  |        |
| Hydric Soil Present? Yes X No   |                  |                                    | the Sampled         | area<br>nd? Yes <u>X</u>                                    | No   |        |
| Wetland Hydrology Present? Yes X No   |                  | within a wetian                    |                     | iu: 165 <u>···</u>  | NO   |        |
| Remarks:  |                  |                                    |                     |   |  |        |
|   |                  |                                    |                     |   |  |        |
|   |                  |                                    |                     |   |  |        |
| <b>VEGETATION</b> – Use scientific names of plants.   |                  |                                    |                     |   |  |        |
| Tree Stratum (Plot size: 30 )   | Absolute % Cover |                                    | nt Indicator Status | Dominance Test work   |  |        |
| 1 Fraxinus pennsylvanica  | 20               | Y                                  | FACW                | Number of Dominant S<br>That Are OBL, FACW,                 |  | (A)    |
| 2. Acer saccharinum   | 20               | Υ                                  | FACW                |   |  | (八)    |
| 3. Ulmus americana  | 5                | N                                  | FACW                | Total Number of Domin<br>Species Across All Stra            | ^  | (B)    |
| 4   |                  |                                    |                     | ·   |  | (-)    |
| 5   |                  |                                    |                     | Percent of Dominant Sport That Are OBL, FACW,               |  | (A/B)  |
| 45  |                  | = Total Cover                      |                     |   |  | ( /    |
| Sapling/Shrub Stratum (Plot size: 15 )  | 15               | V                                  | FACW                | Prevalence Index wor  |  |        |
| 1. Acer negundo 2. Ulmus americana  | 10               | Y<br>Y                             | FACW                | Total % Cover of:   |  |        |
| 3. Acer saccharinum   | 5                | <u> </u> N                         | FACW                |   | x 1 = 20<br>x 2 = 190                      |        |
| **-   | · <u> </u>       |                                    |                     |   | $x = \frac{15}{15}$                        |        |
| 4<br>5.   |                  |                                    |                     |   | x 4 =                                      |        |
|   | 30               | = Total Cover                      |                     |   | x 5 =                                      | _      |
| Herb Stratum (Plot size: 5  |                  |                                    |                     | Column Totals: 120  |  | (B)    |
| 1. Laportea canadensis  | 20               | Y                                  | OBL                 |   |  |        |
| 2. Lysimachia nummularia  | 15               | Y                                  | FACW                | Prevalence Index  |  | _      |
| 3. Pilea pumila   | 5                | N                                  | FACW_               | Hydrophytic Vegetation Indicators: X Dominance Test is >50% |  |        |
| 4   |                  |                                    |                     | X Prevalence Index i  |  |        |
| 5   |                  |                                    |                     |   | s <u>=</u> 3.0<br>ptations¹ (Provide suppo | rtina  |
| 6   |                  |                                    |                     | data in Remarks   | s or on a separate sheet)                  | itting |
| 7   |                  | -                                  |                     | Problematic Hydro   | phytic Vegetation <sup>1</sup> (Expla      | ւin)   |
| 8<br>9  |                  |                                    |                     |   |  |        |
| 10  |                  |                                    |                     |   | and wetland hydrology                      | must   |
|   | 40               | = Total C                          | over                | be present, unless distr                                    | Tibed of problematic.                      |        |
| Woody Vine Stratum (Plot size: 15 )   |                  |                                    |                     |   |  |        |
| 1. toxicodendron radicans   | 5                | N                                  | FAC                 | Hydrophytic<br>Vegetation                                   |  |        |
| 2   |                  |                                    |                     |   | s_X No                                     |        |
|   | 5                | _ = Total Cover                    |                     |   |  |        |
| Remarks: (Include photo numbers here or on a separate sheet.)   |                  |                                    |                     |   |  |        |
|   |                  |                                    |                     |   |  |        |
|   |                  |                                    |                     |   |  |        |

SOIL Sampling Point: S5W062b

| Danth  | B. 4 1 1   |                                     | 1  | day Farre  |   |                  |   |  |
|--|--|-------------------------------------|--|--|---|------------------|---|--|
| Depth<br>(inches)  | Matrix Color (moist)   | %                                   | Color (moist)  | dox Feature<br>%   |   | Loc <sup>2</sup> | Texture   | Remarks  |
| 0-4  | 10YR 4/3   | 100                                 |  |  | .,,,,,  |                  | Silt loam   | · · · · · · · · · · · · · · · · · · ·  |
| 4-20   | 10YR5/2  | 80                                  | 10YR 4/6   | 20   | D   | M                | Silt loam   |  |
| 120  | 101110/2   |                                     | 101111/1/0   |  | - —   |                  |   |  |
|  |  |                                     |  |  |   |                  |   |  |
|  |  |                                     |  |  |   |                  |   |  |
|  |  |                                     |  |  | _   |                  |   |  |
|  |  |                                     |  |  |   |                  |   |  |
|  |  |                                     |  |  |   |                  |   |  |
| ¹Type: C=Cor   | ncentration D-De   | nletion RI                          | M=Reduced Matrix,  | CS-Covere  | d or Coate  | nd Sand G        | Grains <sup>2</sup> Locati  | ion: PL=Pore Lining, M=Matrix.   |
| Hydric Soil In   |  | piotion, rei                        | VI-I COGGOCG WIGHTA,   | 00-007010  | 74 01 OOUL  | od Odila C       |   | r Problematic Hydric Soils <sup>3</sup> :  |
| Histosol (   | A1)  |                                     | Sand   | y Gleyed M   | atrix (S4)  |                  | Coast Pra   | airie Redox (A16)  |
| Histic Epi   | pedon (A2)   |                                     |  | y Redox (S   |   |                  | Iron-Man  | ganese Masses (F12)  |
| Black His  |  |                                     |  | oed Matrix (   |   |                  | Other (Ex   | rplain in Remarks)   |
|  | Sulfide (A4)   |                                     |  | ny Mucky M   | . ,   |                  |   |  |
| Stratified 2 cm Muc  | Layers (A5)  |                                     |  | ny Gleyed Meted Matrix   |   |                  |   |  |
|  | Below Dark Surfa   | ice (A11)                           |  | x Dark Surf  |   |                  |   |  |
|  | rk Surface (A12)   |                                     |  | eted Dark S  |   | )                | <sup>3</sup> Indicators of  | hydrophytic vegetation and   |
|  | ucky Mineral (S1)  |                                     |  | x Depression   |   |                  |   | ydrology must be present,  |
|  | cky Peat or Peat (   |                                     |  |  |   |                  | unless di   | sturbed or problematic.  |
| Restrictive La   | ayer (if observed  | l):                                 |  |  |   |                  |   |  |
| Туре:  |  |                                     |  |  |   |                  |   | V  |
|  |  |                                     |  |  |   |                  | Hardele Oall De   | X X  |
| Depth (inch<br>Remarks:  | hes):  |                                     |  |  |   |                  | Hydric Soil Pr  | esent? Yes X No  |
| Remarks:   |  |                                     |  |  |   |                  | Hydric Soli Pr  | esent? Yes <u>^</u> No   |
| Remarks:   |  | 3:                                  |  |  |   |                  | Hydric Soli Pr  | esent? Yes / No  |
| Remarks:  HYDROLOG  Wetland Hydr   | SY<br>rology Indicators  |                                     | uired; check all that  | apply)   |   |                  |   | Indicators (minimum of two required  |
| Remarks:  HYDROLOG  Wetland Hydr   | GY<br>rology Indicators<br>ators (minimum of   |                                     | V  | apply)   | ves (B9)  |                  | Secondary   |  |
| HYDROLOG Wetland Hydi Primary Indica Surface V   | GY<br>rology Indicators<br>ators (minimum of   |                                     | X Water-S  |  | . ,   |                  | Secondary Surfac  | Indicators (minimum of two required  |
| HYDROLOG Wetland Hydi Primary Indica Surface V   | GY rology Indicators ators (minimum of Vater (A1) er Table (A2)  |                                     | X Water-S<br>Aquatic   | Stained Lea  | 3)  |                  | Secondary Surfac Draina   | Indicators (minimum of two required e Soil Cracks (B6)   |
| HYDROLOG Wetland Hydi Primary Indica Surface V High Wate   | rology Indicators<br>ators (minimum of<br>Vater (A1)<br>er Table (A2)<br>n (A3)  |                                     | X Water-S Aquatic True Ac  | Stained Lear<br>Fauna (B1  | 3)<br>s (B14)   |                  | Secondary Surfac Draina Dry-Se                                      | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10)   |
| HYDROLOG  Wetland Hydro  Primary Indica  Surface V  High Wate  Saturation  X Water Ma  | rology Indicators<br>ators (minimum of<br>Vater (A1)<br>er Table (A2)<br>n (A3)  |                                     | X Water-S Aquatic True Ac Hydroge  | Stained Lear<br>Fauna (B13<br>Juatic Plants  | 3)<br>s (B14)<br>Odor (C1)  | ring Roots       | Secondary Surfac Draina Dry-Se Crayfis                              | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2)  |
| HYDROLOG  Wetland Hydi  Primary Indica  Surface V  High Wate  Saturation  X Water Ma  Sediment  Drift Depo   | rology Indicators<br>ators (minimum of<br>Vater (A1)<br>er Table (A2)<br>n (A3)<br>arks (B1)<br>t Deposits (B2)<br>posits (B3)   |                                     | X Water-S Aquatic True Ac Hydroge Oxidize  | Stained Lear<br>Fauna (B13<br>juatic Plants<br>en Sulfide C<br>d Rhizospho<br>ce of Reduc  | 3)<br>s (B14)<br>Odor (C1)<br>eres on Liv<br>ed Iron (C                         | 4)               | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte           | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)  |
| HYDROLOG  Wetland Hydi  Primary Indica  Surface V High Wate Saturation  X Water Ma Sediment Drift Depo   | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) or Crust (B4)   |                                     | X Water-S Aquatic True Ac Hydroge Oxidize Presenc Recent                                     | Stained Lear<br>Fauna (B13<br>Juatic Plants<br>en Sulfide C<br>d Rhizospho<br>ce of Reduc<br>Iron Reduc  | 3) s (B14) Odor (C1) eres on Liv ed Iron (C- tion in Tille                      | 4)               | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte G6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)                   |
| HYDROLOG  Wetland Hydrolog  Primary Indica  Surface V  High Water  Saturation  X Water Ma  Sediment  Drift Depo  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5)  | one is req                          | X Water-S Aquatic True Ac Hydroge Oxidize Presenc Recent Thin Mu                             | Stained Lear<br>Fauna (B1;<br>juatic Plants<br>en Sulfide C<br>d Rhizospho<br>ce of Reduct<br>Iron Reduct<br>ick Surface   | B) B (B14) Door (C1) Beres on Lived Iron (C-1) B (C7)                           | 4)               | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte G6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)  |
| HYDROLOG  Wetland Hydro  Primary Indica  Surface V  High Wate  Saturation  X Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundation  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) c Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Vis ble on Aeria   | one is req                          | X Water-S Aquatic True Ac Hydroge Oxidize Presenc Recent Thin Mu B7) Gauge 6                 | Stained Lear<br>Fauna (B13<br>juatic Plants<br>en Sulfide C<br>d Rhizospho<br>ce of Reduct<br>Iron Reduct<br>ick Surface<br>or Well Data   | B) S (B14) Odor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9)          | 4)               | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte G6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)                   |
| HYDROLOG  Wetland Hydro  Primary Indica  Surface V  High Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundation  Sparsely  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aeria Vegetated Conca   | one is req                          | X Water-S Aquatic True Ac Hydroge Oxidize Presenc Recent Thin Mu B7) Gauge 6                 | Stained Lear<br>Fauna (B13<br>juatic Plants<br>en Sulfide C<br>d Rhizospho<br>ce of Reduct<br>Iron Reduct<br>ick Surface<br>or Well Data   | B) S (B14) Odor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9)          | 4)               | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte G6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)                   |
| HYDROLOG  Wetland Hydi  Primary Indica  Surface V  High Wate  Saturation  X Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundation  Sparsely   | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aeria Vegetated Conca ations:                                   | one is req                          | X Water-S Aquatic True Ac Hydroge Oxidizer Presence Recent Thin Mu B7) Gauge ( (B8) Other (B | Stained Lear<br>Fauna (B13<br>Juatic Plants<br>en Sulfide C<br>d Rhizospho<br>ce of Reduct<br>Iron Reduct<br>ick Surface<br>or Well Data<br>Explain in R   | B) S (B14) Odor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks)  | 4)<br>d Soils (C | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte G6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)                   |
| HYDROLOG  Wetland Hydromany Indication  Surface V High Water Mater | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present?                        | one is req                          | X   Water-S  | Stained Lear<br>Fauna (B13<br>Juatic Plants<br>en Sulfide C<br>d Rhizospho<br>ce of Reduction Reduction<br>lick Surface<br>or Well Data<br>Explain in R  | B) S (B14) Odor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks)  | 4)<br>d Soils (C | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte G6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)                   |
| HYDROLOG  Wetland Hydro  Primary Indica  Surface V High Water Saturation  X Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely  Field Observa  Surface Water   | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) er Deposits (B2) posits (B3) er Crust (B4) posits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present?                       | I Imagery ( ve Surface Yes Yes      | X   Water-S  | Stained Lear Fauna (B1; uatic Plants en Sulfide Cd Rhizosphote of Reduction Reduction Reduction Reduction Region Well Data Explain in R (inches):(inches):(inches):(inches):   | B) s (B14) cloor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks) | 4)<br>d Soils (C | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte 6) Geome  | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5) |
| HYDROLOG  Wetland Hydromany Indication  Surface V High Water Mater | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present? Present?             | I Imagery ( ve Surface Yes Yes      | X   Water-S  | Stained Lear Fauna (B1; uatic Plants en Sulfide Cd Rhizosphote of Reduction Reduction Reduction Reduction Region Well Data Explain in R (inches):(inches):(inches):(inches):   | B) s (B14) cloor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks) | 4)<br>d Soils (C | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte 6) Geome  | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) th Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2)                   |
| HYDROLOG  Wetland Hydro Primary Indica Surface V High Water Saturation X Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely  Field Observer Surface Water Water Table F Saturation Pre (includes capi  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) er Deposits (B2) osits (B3) er Crust (B4) osits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present? Present? llary fringe)  | I Imagery ( ve Surface  Yes Yes Yes | X   Water-S  | Stained Lear Fauna (B1; juatic Plants en Sulfide Cd Rhizosphote of Reduction | B) s (B14) cloor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks) | 4) d Soils (C    | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte (6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5) |
| HYDROLOG  Wetland Hydro Primary Indica Surface V High Water Saturation X Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely  Field Observer Surface Water Water Table F Saturation Pre (includes capi  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) er Deposits (B2) osits (B3) er Crust (B4) osits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present? Present? llary fringe)  | I Imagery ( ve Surface  Yes Yes Yes | X   Water-S  | Stained Lear Fauna (B1; juatic Plants en Sulfide Cd Rhizosphote of Reduction | B) s (B14) cloor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks) | 4) d Soils (C    | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte (6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5) |
| HYDROLOG  Wetland Hydro Primary Indica Surface V High Water Saturation X Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely  Field Observer Surface Water Water Table F Saturation Pre (includes capi  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) c Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present? Present? llary fringe) | I Imagery ( ve Surface  Yes Yes Yes | X   Water-S  | Stained Lear Fauna (B1; juatic Plants en Sulfide Cd Rhizosphote of Reduction | B) s (B14) cloor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks) | 4) d Soils (C    | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte (6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5) |
| HYDROLOG  Wetland Hydi  Primary Indica  Surface V  High Wate  Saturation  X Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundation  Sparsely  Field Observa  Surface Water  Water Table F  Saturation Pre  (includes capi  Describe Reco   | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) c Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present? Present? llary fringe) | I Imagery ( ve Surface  Yes Yes Yes | X   Water-S  | Stained Lear Fauna (B1; juatic Plants en Sulfide Cd Rhizosphote of Reduction | B) s (B14) cloor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks) | 4) d Soils (C    | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte (6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5) |
| HYDROLOG  Wetland Hydi  Primary Indica  Surface V  High Water  Saturation  X Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundation  Sparsely  Field Observa  Surface Water  Water Table F  Saturation Pre  (includes capi  Describe Reco  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) c Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Vis ble on Aeria Vegetated Conca ations: r Present? Present? llary fringe) | I Imagery ( ve Surface  Yes Yes Yes | X   Water-S  | Stained Lear Fauna (B1; juatic Plants en Sulfide Cd Rhizosphote of Reduction | B) s (B14) cloor (C1) eres on Liv ed Iron (C- tion in Tille (C7) a (D9) emarks) | 4) d Soils (C    | Secondary Surfac Draina Dry-Se Crayfis (C3) Satura Stunte (6) Geome | Indicators (minimum of two required e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5) |

| Project/Site: I-69 Bloomington to Martinsville               |              | City/Co | unty: Bloomingt                   | Sampling Date: 2/1   | 19/2013                           |            |  |
|--|--------------|---------|-----------------------------------|--|-----------------------------------|------------|--|
| Applicant/Owner: INDOT                                       |              |         |                                   | State: IN  | Sampling Point: S5W062UPL         |            |  |
| Investigator(s): D. White, T. Keefe                          |              | Section | , Township, Ra                    | nge: 8, 9N 1W  |                                   |            |  |
|  |              |         |                                   | (concave, convex, none):   | Concave                           |            |  |
|  |              |         |                                   | 0  |                                   |            |  |
| Soil Map Unit Name: Haymond Silt Loam, Stendal silt lo       |              |         |                                   | NWI classific  |                                   |            |  |
| Are climatic / hydrologic conditions on the site typical for |              |         |                                   |  |                                   |            |  |
| Are Vegetation, Soil, or Hydrology                           | •            |         |                                   | Normal Circumstances" p  | ŕ                                 | No         |  |
|  | -            |         |                                   |  |                                   | 140        |  |
| Are Vegetation, Soil, or Hydrology                           |              |         |                                   | eded, explain any answe  |                                   |            |  |
| SUMMARY OF FINDINGS – Attach site m                          | ap showing   | samp    | oling point le                    | ocations, transects  | , important feat                  | ures, etc. |  |
| Hydrophytic Vegetation Present? Yes                          | No X         | ١.      | la tha Cammiad                    | Anna   |                                   |            |  |
| Hydric Soil Present? Yes                                     | No X         |         | ls the Sampled<br>within a Wetlar |  | No X                              |            |  |
|  | No X         | '       | willilli a vveliai                | iu: 165  | NO <u>· · ·</u>                   |            |  |
| Remarks:   |              |         |                                   |  |                                   |            |  |
|  |              |         |                                   |  |                                   |            |  |
|  |              |         |                                   |  |                                   |            |  |
| <b>VEGETATION</b> – Use scientific names of pla              |              |         |                                   |  |                                   |            |  |
| Tree Stratum (Plot size: 30 )                                |              |         | nant Indicator es? Status         | Dominance Test work  |                                   |            |  |
| 1  |              |         |                                   | Number of Dominant S<br>That Are OBL, FACW,                        |                                   | (A)        |  |
| 2.   |              |         |                                   |  |                                   |            |  |
| 3.   |              |         |                                   | Total Number of Domin<br>Species Across All Stra                   |                                   | (B)        |  |
| 4  |              |         |                                   |  |                                   |            |  |
| 5  |              |         |                                   | Percent of Dominant Sp<br>That Are OBL, FACW,                      |                                   | (A/B)      |  |
| 0 1 10 10 1 15   |              | = Total | Cover                             |  |                                   |            |  |
| Sapling/Shrub Stratum (Plot size: 15                         |              |         |                                   | Prevalence Index wor  Total % Cover of:                            |                                   |            |  |
| 1  |              |         |                                   | OBL species  |                                   |            |  |
| 2  |              |         |                                   | FACW species   |                                   |            |  |
| 3<br>4   |              |         |                                   |  | x 3 =                             |            |  |
| 5  |              |         |                                   | FACU species 100   |                                   |            |  |
|  |              | = Total |                                   | -  | x 5 =                             |            |  |
| Herb Stratum (Plot size: 5                                   |              |         |                                   | Column Totals: 100   |                                   | (B)        |  |
| 1. Festuca sp.   | 60           | Y       | FACU                              |  | D/A 1                             |            |  |
| 2. Galium aparine  | 25           | Y       | FACU                              | Prevalence Index   | <u> </u>                          |            |  |
| 3. Solidago canadensis                                       | 15           | N       | FACU FACU                         | Hydrophytic Vegetation Dominance Test is                           |                                   |            |  |
| 4  |              |         |                                   | Prevalence Index i   |                                   |            |  |
| 5  |              |         |                                   | Morphological Ada  |                                   | ıpportina  |  |
| 6  |              |         |                                   |  | s or on a separate sh             |            |  |
| 8  |              |         |                                   | Problematic Hydro  | phytic Vegetation <sup>1</sup> (E | Explain)   |  |
| 9  |              |         |                                   |  |                                   |            |  |
| 10.  |              |         |                                   | <sup>1</sup> Indicators of hydric soil<br>be present, unless distr |                                   |            |  |
|  |              | = Total | Cover                             | be present, unless distr   |                                   | •          |  |
| Woody Vine Stratum (Plot size: 15                            |              |         |                                   |  |                                   |            |  |
| 1  |              |         |                                   | Hydrophytic Vegetation   |                                   |            |  |
| 2  |              |         |                                   |  | s No X                            | _          |  |
|  |              | = Total | Cover                             |  |                                   |            |  |
| Remarks: (Include photo numbers here or on a separ           | rate sheet.) |         |                                   | •  |                                   |            |  |
|  |              |         |                                   |  |                                   |            |  |
|  |              |         |                                   |  |                                   |            |  |

SOIL Sampling Point: S5W062UPL

| Profile Des  | cription: (Descr                     | ibe to the dep   | th needed to d                        | ocument the               | indicator         | or confirn       | n the absence | of indicators.)                  |               |
|--------------|--------------------------------------|------------------|---------------------------------------|---------------------------|-------------------|------------------|---------------|----------------------------------|---------------|
| Depth        | Matri                                |                  | F                                     | Redox Feature             | es                |                  |               |                                  |               |
| (inches)     | Color (moist)                        |                  | Color (moist                          | ) %                       | Type <sup>1</sup> | Loc <sup>2</sup> | Texture       | Remarks                          |               |
| 0-18         | 10YR 5/3                             | 100              |                                       |                           |                   |                  | Silt loam     |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
| -            | -                                    |                  |                                       |                           |                   |                  |               |                                  |               |
|              | -                                    |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
| -            |                                      | <del></del>      |                                       |                           |                   |                  |               |                                  |               |
|              | -                                    |                  |                                       |                           |                   |                  |               |                                  |               |
|              | oncentration, D=I                    | Depletion, RM=   | Reduced Matri                         | x, CS=Covere              | d or Coate        | d Sand G         |               | cation: PL=Pore Lining, M=Mat    |               |
| Hydric Soil  | Indicators:                          |                  |                                       |                           |                   |                  | Indicators    | for Problematic Hydric Soils     | ³:            |
| Histoso      | ` '                                  |                  |                                       | ndy Gleyed M              | . ,               |                  |               | Prairie Redox (A16)              |               |
|              | pipedon (A2)                         |                  |                                       | ndy Redox (S              |                   |                  |               | langanese Masses (F12)           |               |
|              | istic (A3)                           |                  |                                       | pped Matrix (             |                   |                  | Other         | (Explain in Remarks)             |               |
|              | en Sulfide (A4)                      |                  |                                       | amy Mucky Mi              |                   |                  |               |                                  |               |
|              | d Layers (A5)<br>uck (A10)           |                  |                                       | amy Gleyed Moleted Matrix |                   |                  |               |                                  |               |
|              | d Below Dark Sui                     | face (A11)       |                                       | dox Dark Surf             |                   |                  |               |                                  |               |
|              | ark Surface (A12)                    |                  |                                       | oleted Dark S             |                   |                  | 3Indicators   | s of hydrophytic vegetation and  |               |
|              | Mucky Mineral (S                     |                  |                                       | dox Depression            |                   |                  |               | d hydrology must be present,     |               |
|              | ucky Peat or Peat                    |                  | <u> </u>                              |                           | ( -)              |                  |               | s disturbed or problematic.      |               |
|              | Layer (if observe                    |                  |                                       |                           |                   |                  |               | ·                                |               |
| Type:        |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              | ches):                               |                  | <u> </u>                              |                           |                   |                  | Hydric Soi    | I Present? Yes No                | X             |
| Remarks:     |                                      |                  | <del></del>                           |                           |                   |                  | ,             |                                  |               |
| rtomanto.    |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
| HYDROLO      | GY                                   |                  |                                       |                           |                   |                  |               |                                  |               |
| Wetland Hy   | drology Indicate                     | ors:             |                                       |                           |                   |                  |               |                                  |               |
| Primary Indi | cators (minimum                      | of one is requir | ed; check all th                      | at apply)                 |                   |                  | Second        | ary Indicators (minimum of two   | required)     |
| -            | Water (A1)                           |                  |                                       | -Stained Leav             | /es (B9)          |                  |               | face Soil Cracks (B6)            |               |
| _            | ater Table (A2)                      |                  |                                       | ic Fauna (B13             |                   |                  |               | inage Patterns (B10)             |               |
| Saturati     | ` ,                                  |                  |                                       | Aquatic Plants            | ,                 |                  | ' <del></del> | -Season Water Table (C2)         |               |
| ·            | /larks (B1)                          |                  | · · · · · · · · · · · · · · · · · · · | gen Sulfide C             | ` '               |                  |               | yfish Burrows (C8)               |               |
|              | nt Deposits (B2)                     |                  |                                       | zed Rhizosphe             |                   | ina Roots        |               | uration Visible on Aerial Imager | v (C9)        |
| Drift De     |                                      |                  |                                       | nce of Reduc              |                   | -                | • ,           | nted or Stressed Plants (D1)     | <i>y</i> (00) |
|              | at or Crust (B4)                     |                  |                                       | nt Iron Reduct            |                   |                  |               | omorphic Position (D2)           |               |
| Iron De      |                                      |                  |                                       | /luck Surface             |                   | 300000           |               | C-Neutral Test (D5)              |               |
|              | ion Vis ble on Aer                   | ial Imagery (B7  |                                       | e or Well Data            |                   |                  | 170           | 5 Neutral Test (D5)              |               |
|              | y Vegetated Cond                     |                  |                                       | (Explain in R             |                   |                  |               |                                  |               |
| Field Obser  |                                      | cave Surface (L  | Other                                 | (Lxpiaiii iii iv          | emarks)           |                  |               |                                  |               |
|              |                                      | V                | X                                     | l. (' l \                 |                   |                  |               |                                  |               |
| Surface Wa   |                                      |                  | No X Dept                             |                           |                   |                  |               |                                  |               |
| Water Table  |                                      |                  | No X Dept                             |                           |                   |                  |               |                                  | Υ             |
| Saturation F |                                      | Yes I            | No X Dept                             | h (inches):               |                   | Wetl             | and Hydrolog  | y Present? Yes No                | <u>^</u>      |
|              | pillary fringe)<br>corded Data (stre | am gauge mo      | nitoring well ag                      | erial photos n            | revious ins       | pections)        | if available: |                                  |               |
| Dogoribo Ne  | במו במונג (פוול                      | gaago, mo        |                                       | α. ρποιου, ρ              | . 511505 1115     | r 00010110),     | available.    |                                  |               |
| Demonstra    |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
| Remarks:     |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |
|              |                                      |                  |                                       |                           |                   |                  |               |                                  |               |

| Project/Site: 1-69 Bloomington to Martinsville | e                |             | City/Coun | ity: Monroe   |  | Sampling Date:                            | 10-14-11      |
|--|------------------|-------------|-----------|---------------|--|---|---------------|
| Applicant/Owner: INDOT                         |                  |             | -         | •             | State: IN  |   |               |
| Investigator(s): K. Schroeder, D. White        |                  |             |           |               |  | , 0                                       |               |
| Landform (hillslope, terrace, etc.): Floodpla  |                  |             |           |               | (concave, convex, none)                          | Concave                                   |               |
| Slope (%): <5% Lat: 39.23352232                |                  |             | Long: -86 | 6.5420555981  | 0  | Datum: Nad 83                             |               |
| Soil Map Unit Name: Stendal Silt Loam          |                  |             |           |               | NWI classific                                    |   |               |
| Are climatic / hydrologic conditions on the    |                  |             |           |               |  |   |               |
| Are Vegetation, Soil, or Hy                    |                  |             |           |               |  |   | No            |
| Are Vegetation, Soil, or Hy                    |                  |             |           |               |  |   | 110           |
| SUMMARY OF FINDINGS – Atta                     |                  |             |           |               |  |   | eatures, etc. |
| Hydrophytic Vogotation Procent?                | Voc. X           | No          |           |               |  |   |               |
|  | Yes x<br>Yes x   |             |           | the Sampled   |  |   |               |
| Wetland Hydrology Present?                     |                  |             | wi        | thin a Wetlar | nd? Yes X  | No  | _             |
| Remarks:                                       |                  |             | l         |               |  |   |               |
|  |                  |             |           |               |  |   |               |
| VEGETATION – Use scientific nar                | mes of plants    | S.          |           |               |  |   |               |
| 20   |                  | Absolute    |           | nt Indicator  | Dominance Test worl                              | sheet:                                    |               |
| Tree Stratum (Plot size: 30                    |                  |             |           | ? Status      | Number of Dominant S<br>That Are OBL, FACW,      |   | (A)           |
| 2.<br>3.                                       |                  |             |           |               | Total Number of Domir<br>Species Across All Stra | nant<br>ata: <u>1</u>                     | (B)           |
| 4  |                  |             |           |               | Percent of Dominant S<br>That Are OBL, FACW,     | pecies                                    | (A/B)         |
|  |                  |             |           | over          |  |   | (,,,,)        |
| Sapling/Shrub Stratum (Plot size: 15           |                  |             |           |               | Prevalence Index wor                             |   |               |
| 1  |                  |             |           |               | Total % Cover of:                                |   |               |
| 2  |                  |             |           |               | OBL species 92 5                                 | x 1 = 92                                  |               |
| 3  |                  |             |           |               | FAC species                                      |   |               |
| 4  |                  |             |           |               | FACU species                                     |   |               |
| 5  |                  |             | = Total C |               | UPL species                                      |   |               |
| Herb Stratum (Plot size: 5                     | )                |             | - rotar o | 0701          | Column Totals: 97                                |   |               |
| 1. Scirpus validus                             |                  | 85          | Υ         | OBL           |  |   | ( /           |
| 2. Typha latifolia                             |                  | _ 2         | N         | OBL           | Prevalence Index                                 |   |               |
| 3. Carex lupulina                              |                  | _ 5         | N         | OBL           | Hydrophytic Vegetati                             |   |               |
| 4. Polygonum pensylvanicum                     |                  | 5           | N         | FACW          | X Dominance Test is                              |   |               |
| 5  |                  |             |           |               | X Prevalence Index                               |   |               |
| 6  |                  |             |           |               | Morphological Ada<br>data in Remark              | aptations (Provide<br>is or on a separate | e sheet)      |
| 7  |                  |             |           |               | Problematic Hydro                                | phytic Vegetation                         | ¹ (Explain)   |
| 8  |                  |             |           |               |  |   |               |
| 9  |                  |             | -         |               | <sup>1</sup> Indicators of hydric so             |   |               |
| 10   |                  | ~=          | = Total C |               | be present, unless dist                          | urbed or problema                         | atic.         |
| Woody Vine Stratum (Plot size: 15              | )                | <del></del> | = Total C | over          |  |   |               |
| 1.   |                  |             |           |               | Hydrophytic                                      |   |               |
| 2  |                  |             |           |               | Vegetation Present? Yes                          | es X No                                   |               |
|  |                  |             | = Total C | over          |  |   |               |
| Remarks: (Include photo numbers here of        | or on a senarate | sheet.)     |           |               |  |   |               |
| (  | s a soparate     | 2           |           |               |  |   |               |
|  |                  |             |           |               |  |   |               |

SOIL Sampling Point: S5W066

| Profile Des            | cription: (Describe                     | e to the dep | th needed to docu      | ment the   | indicator         | or confi         | rm the absence of i          | indicators.)   |
|------------------------|---|--------------|------------------------|------------|-------------------|------------------|------------------------------|--|
| Depth                  | Matrix                                  |              |                        | ox Feature |                   |                  | _                            |  |
| (inches)               | Color (moist)                           | %            | Color (moist)          | %          | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                      | Remarks  |
| 0-4                    | 10YR 5/2                                | 95           | 7.5YR 5/6              | 5          |                   | М                | Silt loam                    |  |
| 4-20                   | 7.5Y 6/1                                | 85           | 7.5YR 5/6              | 15         |                   | M                | Silty clay loam              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
|                        | -                                       |              | -                      | _          |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
| <sup>1</sup> Type: C=C | oncentration, D=De                      | pletion. RM  | =Reduced Matrix, C     | S=Covere   | ed or Coate       | ed Sand (        | Grains. <sup>2</sup> Locatio | on: PL=Pore Lining, M=Matrix.                        |
| Hydric Soil            |   | protion, run |                        | 0 0010.0   | ,                 |                  |                              | Problematic Hydric Soils <sup>3</sup> :              |
| Histosol               | I (A1)                                  |              | Sandv                  | Gleyed M   | atrix (S4)        |                  | Coast Pra                    | irie Redox (A16)                                     |
|                        | pipedon (A2)                            |              |                        | Redox (S   |                   |                  |                              | anese Masses (F12)                                   |
| Black H                | istic (A3)                              |              | Strippe                | d Matrix ( | S6)               |                  | Other (Exp                   | olain in Remarks)                                    |
|                        | en Sulfide (A4)                         |              |                        | -          | ineral (F1)       |                  |                              |  |
|                        | d Layers (A5)                           |              | <del></del>            |            | latrix (F2)       |                  |                              |  |
|                        | uck (A10)                               | (8.4.4)      |                        | ed Matrix  |                   |                  |                              |  |
| -                      | d Below Dark Surfa                      | ce (A11)     | <del></del>            | Dark Surf  | . ,               |                  | 31                           |  |
|                        | ark Surface (A12)  Mucky Mineral (S1)   |              |                        | Depression | urface (F7)       | )                |                              | hydrophytic vegetation and varology must be present, |
|                        | ucky Peat or Peat (\$                   | 33)          | Kedox                  | Depression | 5118 (1-0)        |                  |                              | turbed or problematic.                               |
|                        | Layer (if observed                      |              |                        |            |                   |                  | 1                            |  |
| Type:                  | , | •            |                        |            |                   |                  |                              |  |
| Depth (in              |   |              |                        |            |                   |                  | Hydric Soil Pre              | esent? Yes X No                                      |
| Remarks:               |   |              |                        |            |                   |                  | Tiyano con i re              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
| HYDROLO                |   |              |                        |            |                   |                  |                              |  |
| Wetland Hy             | drology Indicators                      | <b>:</b> :   |                        |            |                   |                  |                              |  |
| Primary Indi           | cators (minimum of                      | one is requi | red; check all that a  | pply)      |                   |                  | Secondary I                  | ndicators (minimum of two required)                  |
|                        | Water (A1)                              |              | X Water-Sta            |            | . ,               |                  |                              | Soil Cracks (B6)                                     |
|                        | ater Table (A2)                         |              | Aquatic F              |            |                   |                  | _                            | ge Patterns (B10)                                    |
| X Saturati             |   |              | True Aqua              |            |                   |                  |                              | ason Water Table (C2)                                |
|                        | /larks (B1)                             |              | Hydrogen               |            | , ,               |                  |                              | n Burrows (C8)                                       |
|                        | nt Deposits (B2)                        |              | X Oxidized             |            |                   | -                |                              | ion Visible on Aerial Imagery (C9)                   |
|                        | posits (B3)                             |              |                        |            | ed Iron (C        |                  |                              | or Stressed Plants (D1)                              |
| _                      | at or Crust (B4)                        |              | <del></del>            |            | tion in Tille     | d Soils (C       | · —                          | rphic Position (D2)                                  |
|                        | posits (B5)                             | Imagan, (D   | Thin Mucl              |            | . ,               |                  | FAC-NE                       | eutral Test (D5)                                     |
|                        | ion Vis ble on Aerial                   |              | · -                    |            |                   |                  |                              |  |
|                        | y Vegetated Conca                       | ve Surrace ( | B8) Other (Ex          | piain in K | emarks)           | 1                |                              |  |
| Field Obser            |   | V            | Na X Bartle Ca         |            |                   |                  |                              |  |
| Surface Wat            |   |              | No X Depth (ir         |            |                   | -                |                              |  |
| Water Table            |   |              | No Depth (ir           |            |                   | <b>−</b>         |                              | Y  |
| Saturation P           | resent?<br>pillary fringe)              | Yes _^       | No Depth (ir           | nches):    | unace             | We               | etland Hydrology Pr          | resent? Yes X No No No                               |
| Describe Re            | ecorded Data (stream                    | m gauge, m   | onitoring well, aerial | photos, p  | revious ins       | pections         | ), if available:             |  |
|                        |   |              |                        |            |                   |                  |                              |  |
| Remarks:               |   |              |                        |            |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |
|                        |   |              |                        |            |                   |                  |                              |  |

| Project/Site: I-69 Bloomington to Martinsville                   |             | City/Co | ounty: | Monroe       |   | Sampling Date: 2-                | -19-2013     |
|--|-------------|---------|--------|--------------|---|----------------------------------|--------------|
| Applicant/Owner: INDOT   |             |         |        |              | State: IN                                     |                                  |              |
| Investigator(s): D. White, T. Keefe                              |             |         |        |              | nge: 8, 9N 1W                                 |                                  |              |
|  |             |         |        |              | (concave, convex, none):                      | Concave                          |              |
| Slope (%): <5% Lat: 39.23387443860                               |             |         |        |              |   |                                  |              |
| Soil Map Unit Name: Stendal Silt Loam                            |             |         |        |              | NWI classific                                 |                                  |              |
| Are climatic / hydrologic conditions on the site typical for thi |             |         |        |              |   |                                  |              |
| Are Vegetation, Soil, or Hydrology:                              |             |         |        |              | Normal Circumstances" p                       |                                  | No           |
|  |             |         |        |              | ·   |                                  | NO           |
| Are Vegetation, Soil, or Hydrology                               |             |         |        |              | eded, explain any answe                       |                                  |              |
| SUMMARY OF FINDINGS – Attach site map                            | showing     | sam     | pling  | g point le   | ocations, transects                           | , important fea                  | itures, etc. |
| Hydrophytic Vegetation Present? Yes N                            | lo <u>x</u> |         | le th  | e Sampled    | Aroa  |                                  |              |
| Hydric Soil Present? Yes N                                       |             |         |        | in a Wetlar  |   | No ×                             |              |
| Wetland Hydrology Present? Yes N                                 | 10 <u>x</u> |         | WILLI  | iii a wellai | iu: 165                                       |                                  |              |
| Remarks:   |             |         |        |              |   |                                  |              |
|  |             |         |        |              |   |                                  |              |
| VECETATION . He established a second plants                      |             |         |        |              |   |                                  |              |
| <b>VEGETATION</b> – Use scientific names of plants               | Absolute    | Dom     | inant  | Indicator    | Dominance Test work                           | rohooti                          |              |
| <u>Tree Stratum</u> (Plot size: 30                               | % Cover     | Spec    | ies?   | Status       | Number of Dominant Sport Are OBL, FACW, of    | pecies                           | (A)          |
| 1<br>2   |             |         |        |              | Total Number of Domin                         |                                  | (A)          |
| 3  |             |         |        |              | Species Across All Stra                       | 4                                | (B)          |
| 4.         5.  |             |         |        |              | Percent of Dominant Sp<br>That Are OBL, FACW, | pecies<br>or FAC: 0              | (A/B)        |
| 2 11 12 1 2 1 15   |             | = Tota  | al Cov | er           | Prevalence Index wor                          |                                  |              |
| Sapling/Shrub Stratum (Plot size: 15                             |             |         |        |              | Total % Cover of:                             |                                  | by:          |
| 1  |             |         |        |              | OBL species                                   |                                  |              |
| 2  |             |         |        |              | FACW species                                  |                                  |              |
| 4  |             |         |        |              | FAC species                                   |                                  |              |
| 5.   |             |         |        |              | FACU species 95                               |                                  |              |
| <u> </u>   |             | = Tota  |        |              | ·   | x 5 =                            |              |
| Herb Stratum (Plot size: 5                                       |             |         |        |              | Column Totals: 95                             |                                  | (B)          |
| 1. Festuca sp.   | <u>75</u>   | Y       |        | FACU         |   | <b>5</b> 4                       |              |
| 2. Glechoma hederacea 3. Taraxacum officinale                    |             | N       |        | FACU         | Prevalence Index                              | ·                                |              |
|  | 5           | N       |        | FACU         | Hydrophytic Vegetation Dominance Test is      |                                  |              |
| 4  |             |         |        |              | Prevalence Index is                           |                                  |              |
| 5  |             |         |        |              | Morphological Ada                             |                                  | upporting    |
| 6  |             | -       |        |              |   | s or on a separate s             |              |
| 7  |             | . ——    |        |              | Problematic Hydro                             | phytic Vegetation <sup>1</sup> ( | Explain)     |
| 8  |             |         |        |              |   |                                  |              |
| 9  |             | -       |        |              | <sup>1</sup> Indicators of hydric soi         |                                  |              |
| 10.  |             | = Tota  | al Cov | er           | be present, unless distu                      | irbed or problemation            | C.           |
| Woody Vine Stratum (Plot size: 15                                |             |         |        | ·            |   |                                  |              |
| 1  |             |         |        |              | Hydrophytic<br>Vegetation                     |                                  |              |
| 2  |             |         |        |              |   | s No <u>×</u>                    |              |
|  |             | = Tota  | al Cov | er           |   |                                  |              |
| Remarks: (Include photo numbers here or on a separate            | sheet.)     |         |        |              |   |                                  |              |
|  |             |         |        |              |   |                                  |              |
|  |             |         |        |              |   |                                  |              |

SOIL Sampling Point: S5W066UPL

|                   |                              | e to the de       |                         |                         |                         | or confir        | m the absence of in          | idicators.)                             |
|-------------------|------------------------------|-------------------|-------------------------|-------------------------|-------------------------|------------------|------------------------------|---|
| Depth<br>(inches) | Matrix Color (moist)         | %                 | Color (moist)           | ox Feature<br>%         | es<br>Type <sup>1</sup> | Loc <sup>2</sup> | -<br>Texture                 | Remarks                                 |
| 0-8               | 10YR 5/4                     | 97                | 10YR 5/8                | 2                       |                         | M                | Silty Clay                   | romano                                  |
| 8-20              | 2.5YR 6/2                    | <del></del><br>75 | 10YR 6/8                | <br>25                  |                         | M                | Silty clay                   |   |
| 0-20              | 2.511( 0/2                   |                   | 10110/0                 |                         | _                       | IVI              | Only clay                    |   |
|                   |                              |                   |                         |                         | _                       |                  |                              |   |
|                   |                              | _                 |                         |                         |                         |                  |                              |   |
|                   |                              |                   |                         |                         |                         |                  |                              |   |
|                   | -                            |                   |                         |                         |                         | -                |                              |   |
| -                 | <u> </u>                     | _                 |                         | _                       |                         |                  |                              |   |
|                   | <u> </u>                     |                   |                         |                         |                         |                  |                              |   |
|                   |                              | pletion, RN       | M=Reduced Matrix, C     | S=Covere                | ed or Coate             | ed Sand G        |                              | n: PL=Pore Lining, M=Matrix.            |
| -                 | Indicators:                  |                   |                         |                         |                         |                  |                              | Problematic Hydric Soils <sup>3</sup> : |
| Histoso           |                              |                   |                         | Gleyed M                |                         |                  |                              | rie Redox (A16)                         |
|                   | Epipedon (A2)<br>Histic (A3) |                   |                         | Redox (S<br>ed Matrix ( |                         |                  |                              | anese Masses (F12)<br>lain in Remarks)  |
|                   | en Sulfide (A4)              |                   |                         |                         | ineral (F1)             |                  | Other (Exp                   | iaiii iii Reiliaiks)                    |
|                   | ed Layers (A5)               |                   |                         | Gleyed M                |                         |                  |                              |   |
| l —               | luck (A10)                   |                   |                         | ed Matrix               |                         |                  |                              |   |
|                   | ed Below Dark Surfa          | ice (A11)         |                         | Dark Surf               |                         |                  |                              |   |
| Thick D           | Oark Surface (A12)           |                   | Deplet                  | ed Dark S               | urface (F7              | )                | <sup>3</sup> Indicators of h | ydrophytic vegetation and               |
|                   | Mucky Mineral (S1)           |                   | Redox                   | Depression              | ons (F8)                |                  | •                            | drology must be present,                |
|                   | lucky Peat or Peat (         |                   |                         |                         |                         |                  | unless dist                  | urbed or problematic.                   |
| Restrictive       | Layer (if observed           | l):               |                         |                         |                         |                  |                              |   |
| Type:             |                              |                   |                         |                         |                         |                  |                              | V                                       |
| Depth (ir         | nches):                      |                   |                         |                         |                         |                  | Hydric Soil Pre              | sent? Yes No X                          |
| Remarks:          |                              |                   |                         |                         |                         |                  |                              |   |
|                   |                              |                   |                         |                         |                         |                  |                              |   |
| HYDROLO           | OGY                          |                   |                         |                         |                         |                  |                              |   |
| Wetland Hy        | ydrology Indicators          | S:                |                         |                         |                         |                  |                              |   |
| Primary Ind       | icators (minimum of          | one is requ       | uired; check all that a | apply)                  |                         |                  | Secondary Ir                 | ndicators (minimum of two required)     |
| Surface           | e Water (A1)                 |                   | Water-St                | ained Lea               | ves (B9)                |                  | Surface                      | Soil Cracks (B6)                        |
| High W            | ater Table (A2)              |                   | Aquatic F               | auna (B1                | 3)                      |                  | Drainage                     | e Patterns (B10)                        |
| Saturat           | tion (A3)                    |                   | True Aqu                | atic Plants             | s (B14)                 |                  | Dry-Sea                      | son Water Table (C2)                    |
| Water I           | Marks (B1)                   |                   | Hydrogei                | n Sulfide C             | Odor (C1)               |                  | Crayfish                     | Burrows (C8)                            |
| Sedime            | ent Deposits (B2)            |                   | Oxidized                | Rhizosph                | eres on Liv             | ing Roots        | s (C3) Saturation            | on Visible on Aerial Imagery (C9)       |
| Drift De          | eposits (B3)                 |                   | Presence                | of Reduc                | ed Iron (C              | 4)               | Stunted                      | or Stressed Plants (D1)                 |
| Algal M           | lat or Crust (B4)            |                   | Recent Ir               | on Reduc                | tion in Tille           | d Soils (C       | C6) Geomor                   | phic Position (D2)                      |
|                   | eposits (B5)                 |                   | Thin Muc                | k Surface               | (C7)                    |                  | FAC-Ne                       | utral Test (D5)                         |
| Inunda            | tion Vis ble on Aeria        | l Imagery (E      | B7) Gauge o             | r Well Data             | a (D9)                  |                  |                              |   |
| Sparse            | ly Vegetated Conca           | ve Surface        | (B8) Other (Ex          | kplain in R             | emarks)                 |                  |                              |   |
| Field Obse        |                              |                   | V                       |                         |                         |                  |                              |   |
| Surface Wa        | iter Present?                | Yes               | No X Depth (i           | nches):                 |                         | _                |                              |   |
| Water Table       |                              |                   | No X Depth (i           |                         |                         |                  |                              |   |
| Saturation F      | Present?<br>apillary fringe) | Yes               | No X Depth (i           | nches):                 |                         | We               | tland Hydrology Pro          | esent? Yes No X                         |
|                   |                              | m gauge, m        | nonitoring well, aeria  | l photos, p             | revious ins             | pections)        | ), if available:             |   |
|                   |                              |                   |                         |                         |                         |                  |                              |   |
| Remarks:          |                              |                   |                         |                         |                         |                  |                              |   |
|                   |                              |                   |                         |                         |                         |                  |                              |   |
|                   |                              |                   |                         |                         |                         |                  |                              |   |
|                   |                              |                   |                         |                         |                         |                  |                              |   |
| 1                 |                              |                   |                         |                         |                         |                  |                              |   |

| Applicant/Owner: NDOT State: N Sampling Point: S5W068 Investigator(s): K. Schroeder, D. White Section, Township, Range: 5, 9N 1W  | Project/Site: I-69 Bloomington to Martinsville             |          | City/County | Monroe      |  | Sampling Date: 10-14-11     |  |  |
|---|--|----------|-------------|-------------|--|-----------------------------|--|--|
| Investigator(s): K. Schroeder, D. White   Section, Township, Range: 5, 9N 11V   | Applicant/Owner: INDOT                                     |          |             |             |  |                             |  |  |
| Signed   Wish   Signed   Sig  | Investigator(s): K. Schroeder, D. White                    |          |             |             |  |                             |  |  |
| Slope (%): 45%   Lat: 39.23/98214240   Long: **96.53806938780   Datum: NAD B3   |  |          |             |             | •                                      | Concave                     |  |  |
| Soil Map Unit Name: Bonnie Silt Loam  Are climatic / hydrologic conditions on the site typical for this time of year? Yes X   |  |          |             |             |  |                             |  |  |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (ff no, explain in Remarks.)  Are Vegetation Soil or Hydrology inplificantly disturbed? Are Normal Circumstances' present? Yes X No Are Normal Circumstances' present? Yes X No (in readed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in readed, explain any answers in Remarks.)  SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations) Are Sampling sampling point locations (in read any showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No (in read any showing sampling point locations) Are Sampling sampling point locations (in Remarks) (in read any showing sampling point locations (in Remarks) (in |  |          |             |             |  |                             |  |  |
| Are Vegetation  |  |          |             |             |  |                             |  |  |
| Summary   Soi   |  |          |             |             |  |                             |  |  |
| SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?  | -  |          |             |             |  |                             |  |  |
| Hydrocytine Stratum   Plot size: 30   |  |          |             |             |  |                             |  |  |
| Hydrocytine Stratum   Plot size: 30   | Hydrophytic Vagetation Present? Vas X                      | No       |             |             |  |                             |  |  |
| VEGETATION - Use scientific names of plants.     Dominant Indicator   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:   3   (A)   |  |          |             | •           |  |                             |  |  |
| VEGETATION – Use scientific names of plants.           Tree Stratum (Plot size: 30 )         Absolute % Cover Species?         Dominant Indicator % Cover Species?         Dominant Species That Are OBL, FACW, or FAC: 3 (A)           1   |  |          | with        | in a Wetlar | nd? Yes <u>*</u>                       | No                          |  |  |
| Absolute   Dominant Indicator   Species   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:   3   (A)   |  |          |             |             |  |                             |  |  |
| Absolute   Dominant Indicator   Species   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:   3   (A)   |  |          |             |             |  |                             |  |  |
| Absolute   Dominant Indicator   Species   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:   3   (A)   | VEGETATION – Use scientific names of plants                |          |             |             |  |                             |  |  |
| Tree Stratum (Plot size: 30   | Test in the second finance of plants                       |          | Dominant    | Indicator   | Dominance Test work                    | sheet:                      |  |  |
| 2.  |  | % Cover  | Species?    | Status      | Number of Dominant Sp                  | pecies                      |  |  |
| Species Across All Strata:   5   (B)  |  |          |             |             |  |                             |  |  |
| Sapling/Shrub Stratum (Plot size: 15   15   17   UPL   18   16   16   16   16   16   16   16  |  |          |             |             |  | ta: <u>5</u> (B)            |  |  |
| Sapling/Shrub Stratum (Plot size: 15   )  |  |          |             |             |  |                             |  |  |
| Sapling/Shrub Stratum (Plot size: 15  | 5.   |          | - Total Cov | /er         | That Are OBL, FACW, o                  | or FAC: 60 (A/B)            |  |  |
| 2   | Sapling/Shrub Stratum (Plot size: 15                       |          | - Total Co  | 761         | Prevalence Index work                  | ksheet:                     |  |  |
| A   |  |          | Υ           |             |  |                             |  |  |
| 4.  | 2. Lonicera maackii  | 5        | Υ           | UPL         |  |                             |  |  |
| S   | 3  |          |             |             |  |                             |  |  |
| Herb Stratum (Plot size: 5   )   25   | 4  |          |             |             |  |                             |  |  |
| Herb Stratum (Plot size: 5  | 5  |          |             |             | · ·                                    |                             |  |  |
| 1. Phalaris arundinacea       25       Y       FACW         2. Typha latifolia       20       Y       OBL       Prevalence Index = B/A = 2.19         3. Juncus effusus       15       Y       OBL       Hydrophytic Vegetation Indicators:         4. Solidago canadensis       10       N       FACU       X       Dominance Test is >50%         5. Polygonum pensylvanicum       10       N       FACW       X       Prevalence Index = B/A = 2.19         6. Carex lupulina       5       N       OBL       X       Prevalence Index is >50%         7. Cyperus esculentus       5       N       FACW       Aster ericoides Aster ericoides       5       N       FACU       Problematic Hydrophytic Vegetation¹ (Explain)         9.       95       = Total Cover       Hydrophytic Vegetation Present?       Hydrophytic Vegetation Present?       Hydrophytic Vegetation Present?       No  | Herb Stratum (Plot size: 5                                 | 10       | = Total Cov | /er         |  |                             |  |  |
| 3. Juncus effusus   | 1 Phalaris arundinacea                                     | 25       | Υ           | FACW        | Column Totals: 103                     | (A) <u>230</u> (B)          |  |  |
| Solidago canadensis   10  | 2. Typha latifolia   | 20       | Υ           | OBL         | Prevalence Index                       | = B/A = 2.19                |  |  |
| 5. Polygonum pensylvanicum       10       N       FACW       X       Prevalence Index is ≤3.0¹  | 3. Juncus effusus  | 15       | Υ           | OBL         | Hydrophytic Vegetation                 | n Indicators:               |  |  |
| 6. Carex lupulina 7. Cyperus esculentus 5 N FACW 8. Aster ericoides 9   | 4. Solidago canadensis                                     | 10       | N           | FACU        | X Dominance Test is                    | >50%                        |  |  |
| 7. Cyperus esculentus  8. Aster ericoides  9  | 5. Polygonum pensylvanicum                                 | 10       | N           | FACW        | X Prevalence Index is                  | s ≤3.0 <sup>1</sup>         |  |  |
| 8. Aster ericoides  9   | 6. Carex lupulina  | 5        | N           | OBL         |  |                             |  |  |
| 9   |  | 5        | N           | FACW        |  | • /                         |  |  |
| 10  | 8. Aster ericoides   | 5        | N           | FACU        | Problematic Hydrop                     | onytic vegetation (Explain) |  |  |
| 10  | 9  |          |             |             | <sup>1</sup> Indicators of hydric soil | and wetland hydrology must  |  |  |
| Woody Vine Stratum (Plot size: 15   1.  | 10   |          |             |             |  |                             |  |  |
| 1   | Woody Vino Stratum (Plot size: 15                          | 95       | = Total Cov | ver .       |  |                             |  |  |
| 2 = Total Cover Vegetation Present? Yes X No  |  |          |             |             | Hydrophytic                            |                             |  |  |
| = Total Cover   |  |          |             |             | Vegetation                             | ٧                           |  |  |
| Remarks: (Include photo numbers here or on a separate sheet.)   |  |          | = Total Cov | /er         | Present? Yes                           | 3 <u>^</u> NO               |  |  |
| Transaction (include priore trained or on a separate sheet.)  | Remarks: (Include photo numbers here or on a separate      | sheet )  |             |             |  |                             |  |  |
|   | Transitio. (Include priote numbers field of oil a separate | 311001.) |             |             |  |                             |  |  |
|   |  |          |             |             |  |                             |  |  |

SOIL Sampling Point: S5W068

|   |   |  | p  | incin the  | maioatoi   | 01 00111111       | m the absence of inc   |   |
|---|---|--|--|--|--|-------------------|--|---|
| Depth   | Matrix  |  |  | ox Feature   |  |                   |  |   |
| (inches)  | Color (moist)   | %  | Color (moist)  | %  | Type'  | _Loc <sup>2</sup> | <u>Texture</u>   | Remarks   |
| 0-10  | 10YR 4/2  | 98   | 10YR 6/8   | 2  |  | М                 | Silty clay loam  |   |
| 10-20   | 2.5Y 7/1  | 80   | 10YR 5/8   | 20   |  | М                 | clay loam  |   |
|   |   |  |  |  |  |                   |  |   |
|   |   |  |  |  |  |                   |  |   |
|   |   |  |  |  | - <del> </del>   |                   |  |   |
|   |   |  |  |  |  |                   |  |   |
|   |   |  |  |  |  |                   |  |   |
|   | · -   |  | · -  |  |  |                   |  |   |
| <sup>1</sup> Type: C=C  | concentration, D=De   | pletion, RM                                    | M=Reduced Matrix, C  | S=Covere   | d or Coate   | d Sand G          | Grains. <sup>2</sup> Location  | : PL=Pore Lining, M=Matrix.   |
| Hydric Soil   | Indicators:   |  |  |  |  |                   | Indicators for P   | roblematic Hydric Soils <sup>3</sup> :  |
| Histoso   | I (A1)  |  | Sandy  | Gleyed M   | atrix (S4)   |                   |  | e Redox (A16)   |
|   | pipedon (A2)  |  |  | Redox (S   |  |                   |  | nese Masses (F12)   |
|   | listic (A3)   |  |  | ed Matrix (  |  |                   | Other (Expla   | ain in Remarks)   |
|   | en Sulfide (A4)   |  |  |  | neral (F1)   |                   |  |   |
| Stratifie<br>2 cm M   | d Layers (A5)   |  |  | Gleyed M<br>ed Matrix  |  |                   |  |   |
|   | ed Below Dark Surfa   | ce (A11)                                       |  | Dark Surf  | . ,  |                   |  |   |
| -   | ark Surface (A12)   | 00 (7111)                                      |  |  | urface (F7)  | )                 | <sup>3</sup> Indicators of hy  | drophytic vegetation and  |
|   | Mucky Mineral (S1)  |  |  | Depression   |  |                   |  | ology must be present,  |
| 5 cm M  | ucky Peat or Peat (S  | S3)  |  |  |  |                   | unless distu   | rbed or problematic.  |
| Restrictive   | Layer (if observed)   | ):   |  |  |  |                   |  |   |
| Type:   |   |  |  |  |  |                   |  |   |
| Depth (in   | nches):   |  |  |  |  |                   | Hydric Soil Pres   | ent? Yes X No   |
| Remarks:  |   |  |  |  |  |                   | <u></u>  |   |
|   |   |  |  |  |  |                   |  |   |
|   |   |  |  |  |  |                   |  |   |
|   |   |  |  |  |  |                   |  |   |
|   |   |  |  |  |  |                   |  |   |
|   |   |  |  |  |  |                   |  |   |
| HYDROLC   | OGY   |  |  |  |  |                   |  |   |
|   | OGY<br>rdrology Indicators  | ::   |  |  |  |                   |  |   |
| Wetland Hy  | drology Indicators  |  | uired; check all that a  | pply)  |  |                   | Secondary Inc  | dicators (minimum of two required)  |
| Wetland Hy<br>Primary Indi  | drology Indicators  |  | uired; check all that a  |  | ves (B9)   |                   |  | dicators (minimum of two required) soil Cracks (B6)   |
| Wetland Hy Primary Indi Surface   | rdrology Indicators<br>cators (minimum of   |  | V  | ained Lea  | ` '  |                   | Surface S  | · · · · · ·   |
| Primary Indi  | rdrology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)  |  | X Water-Sta  | ained Lea<br>auna (B1  | 3)   |                   | Surface S Drainage   | soil Cracks (B6)  |
| Wetland Hy Primary Indi Surface High W. X Saturati  | rdrology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)  |  | X Water-Sta Aquatic F  | ained Lea<br>auna (B1:<br>atic Plants  | 3)<br>s (B14)  |                   | Surface S<br>Drainage<br>Dry-Seas  | oil Cracks (B6)<br>Patterns (B10)   |
| Wetland Hy Primary Indi Surface High W. X Saturati Water M  | rdrology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>ion (A3)  |  | X Water-Sta Aquatic F True Aqu   | ained Lea<br>auna (B1:<br>atic Plants<br>Sulfide C   | B)<br>s (B14)<br>Odor (C1)   | ing Roots         | Surface S Drainage Dry-Sease Crayfish E  | Patterns (B10) on Water Table (C2)  |
| Wetland Hy Primary Indi Surface High W. X Saturati Water M Sedime   | rdrology Indicators<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>ion (A3)<br>Marks (B1)  |  | X Water-Sta Aquatic F True Aqu Hydroger X Oxidized   | ained Lea<br>auna (B1)<br>atic Plants<br>Sulfide C<br>Rhizosph   | B)<br>s (B14)<br>Odor (C1)   | •                 | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation                                | Foil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)  |
| Wetland Hy Primary Indi Surface High W. X Saturati Water N Sedime Drift De  | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2)   |  | X Water-Sta Aquatic F True Aqu Hydroger X Oxidized Presence  | ained Lear<br>fauna (B1)<br>atic Plants<br>Sulfide C<br>Rhizospho<br>of Reduc  | B)<br>S (B14)<br>Odor (C1)<br>eres on Liv  | 4)                | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o                      | Foil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9)  |
| Wetland Hy Primary Indi Surface High W. X Saturati Water N Sedime Drift De Algal M  | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3)   |  | X Water-Sta Aquatic F True Aqu Hydroger X Oxidized Presence  | ained Lear<br>fauna (B1:<br>atic Plants<br>a Sulfide C<br>Rhizosphe<br>of Reduction Reduction  | B) S (B14) Odor (C1) Peres on Lived Iron (C4) Stion in Tille   | 4)                | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o                      | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) thic Position (D2)               |
| Wetland Hy Primary Indi Surface High W. X Saturati Water N Sedime Drift De Algal M Iron De Inundat  | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial  | one is requ                                    | X Water-Sta Aquatic F True Aqu Hydroger X Oxidized Presence Recent In Thin Muc   | ained Lea<br>fauna (B1;<br>atic Plants<br>a Sulfide C<br>Rhizosph<br>of Reduc<br>on Reduc<br>k Surface                                     | B) s (B14) cloor (C1) eres on Liv ed Iron (C4) clion in Tille (C7)   | 4)                | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp              | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) thic Position (D2)               |
| Wetland Hy Primary Indi Surface High W. X Saturati Water N Sedime Drift De Algal M Iron De Inundat  | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5)  | one is requ                                    | X Water-Sta Aquatic F True Aqu Hydroger X Oxidized Presence Recent In Thin Muc   | ained Lea<br>fauna (B1;<br>atic Plants<br>Sulfide C<br>Rhizospho<br>of Reduct<br>on Reduct<br>k Surface                                    | B)  S (B14)  Door (C1)  Heres on Lived Iron (C4)  Historian in Tille  Historian (C7)  Historian (C7)  Historian (C7)  Historian (C7) | 4)                | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp              | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) thic Position (D2)               |
| Wetland Hy Primary Indi Surface High W. X Saturati Water N Sedime Drift De Algal M Iron De Inundat  | cators (minimum of water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavervations:  | one is requ<br>Imagery (E<br>ve Surface        | X Water-Sta Aquatic F True Aqu Hydroger X Oxidized Presence Recent In Thin Muc 37) Gauge or (B8) Other (Ex   | ained Lear fauna (B1) atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data   | B) s (B14) cdor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | t)<br>d Soils (C  | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp              | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) thic Position (D2)               |
| Wetland Hy Primary Indi  Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel   | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavervations: ter Present?            | one is requ<br>Imagery (E<br>ve Surface<br>Yes | X   Water-Sta   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent In   Thin Muc   37)   Gauge or (B8)   Other (Ex   No   X   Depth (iii   | ained Lear fauna (B1) atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data cplain in R                                 | B) s (B14) odor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | 4)<br>d Soils (C  | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp              | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) thic Position (D2)               |
| Wetland Hy Primary Indi  Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel   | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavervations: ter Present?             | Imagery (Eve Surface Yes Yes                   | X   Water-Sta  | ained Lear fauna (B1; atic Plants Sulfide C Rhizosphor of Reduct on Reduct k Surface Well Data cplain in R                                 | B) s (B14) odor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | t)<br>d Soils (C  | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o G6) Geomorp FAC-Neur | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| Wetland Hy Primary Indi Surface High W X Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obser Surface Water Table Saturation F                              | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavervations: ter Present? Present?    | Imagery (Eve Surface Yes Yes                   | X   Water-Sta   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent In   Thin Muc   37)   Gauge or (B8)   Other (Ex   No   X   Depth (iii   | ained Lear fauna (B1; atic Plants Sulfide C Rhizosphor of Reduct on Reduct k Surface Well Data cplain in R                                 | B) s (B14) odor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | t)<br>d Soils (C  | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o G6) Geomorp FAC-Neur | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) thic Position (D2)               |
| Wetland Hy Primary Indi  Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca            | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavery rvations: ter Present? Present? | Imagery (Eve Surface Yes Yes Yes _X            | X   Water-Sta   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent Irr   Thin Muc   S7)   Gauge or (B8)   Other (Ex   No   X   Depth (ir   No   Depth (ir   No | ained Lear fauna (B1: atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data cplain in R aches): nches): nches): nches): | B) s (B14) bdor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | 4) d Soils (C     | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp FAC-Neur     | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| Wetland Hy Primary Indi  Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca            | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavery rvations: ter Present? Present? | Imagery (Eve Surface Yes Yes Yes _X            | X   Water-Sta  | ained Lear fauna (B1: atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data cplain in R aches): nches): nches): nches): | B) s (B14) bdor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | 4) d Soils (C     | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp FAC-Neur     | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| Wetland Hy Primary Indi Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavery rvations: ter Present? Present? | Imagery (Eve Surface Yes Yes Yes _X            | X   Water-Sta   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent Irr   Thin Muc   S7)   Gauge or (B8)   Other (Ex   No   X   Depth (ir   No   Depth (ir   No | ained Lear fauna (B1: atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data cplain in R aches): nches): nches): nches): | B) s (B14) bdor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | 4) d Soils (C     | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp FAC-Neur     | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| Wetland Hy Primary Indi  Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca            | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavery rvations: ter Present? Present? | Imagery (Eve Surface Yes Yes Yes _X            | X   Water-Sta   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent Irr   Thin Muc   S7)   Gauge or (B8)   Other (Ex   No   X   Depth (ir   No   Depth (ir   No | ained Lear fauna (B1: atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data cplain in R aches): nches): nches): nches): | B) s (B14) bdor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | 4) d Soils (C     | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp FAC-Neur     | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| Wetland Hy Primary Indi Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavery rvations: ter Present? Present? | Imagery (Eve Surface Yes Yes Yes _X            | X   Water-Sta   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent Irr   Thin Muc   S7)   Gauge or (B8)   Other (Ex   No   X   Depth (ir   No   Depth (ir   No | ained Lear fauna (B1: atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data cplain in R aches): nches): nches): nches): | B) s (B14) bdor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | 4) d Soils (C     | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp FAC-Neur     | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| Wetland Hy Primary Indi Surface High W. X Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obser Surface Wa Water Table Saturation F (includes ca Describe Re | rdrology Indicators cators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aerial by Vegetated Concavery rvations: ter Present? Present? | Imagery (Eve Surface Yes Yes Yes _X            | X   Water-Sta   Aquatic F   True Aqu   Hydroger   X   Oxidized   Presence   Recent Irr   Thin Muc   S7)   Gauge or (B8)   Other (Ex   No   X   Depth (ir   No   Depth (ir   No | ained Lear fauna (B1: atic Plants a Sulfide C Rhizosph of Reduct on Reduct k Surface Well Data cplain in R aches): nches): nches): nches): | B) s (B14) bdor (C1) eres on Liv ed Iron (C4) cion in Tille (C7) a (D9) emarks)  | 4) d Soils (C     | Surface S Drainage Dry-Sease Crayfish E S (C3) Saturation Stunted o Geomorp FAC-Neur     | coil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) on Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |

| Project/Site: I-69 Bloomington to Martinsville                    |               | City/Cou  | nty: Monroe     | Sampling Date: 2-19-2013              |   |
|---|---------------|-----------|-----------------|---------------------------------------|---|
| Applicant/Owner: INDOT  |               |           |                 |                                       | Sampling Point: S5W068UPL   |
| Investigator(s): D. White, T. Keefe                               |               |           |                 |                                       |   |
| Landform (hillslope, terrace, etc.): Floodplain                   |               |           | Local relief (  | (concave, convex, none):              | Concave   |
| Slope (%): <5% Lat: 39.23822260270                                |               |           |                 |                                       |   |
|   |               | _         |                 | NWI classific                         |   |
| Are climatic / hydrologic conditions on the site typical for this |               |           |                 |                                       |   |
| Are Vegetation, Soil, or Hydrologysi                              |               |           |                 |                                       |   |
| Are Vegetation, Soil, or Hydrology na                             |               |           |                 |                                       |   |
| SUMMARY OF FINDINGS – Attach site map s                           | showing       | samp      | ling point lo   | ocations, transects                   | , important features, etc.  |
| Hydrophytic Vegetation Present? Yes No                            | , X           |           |                 | _                                     |   |
| Hydric Soil Present? Yes No                                       |               |           | s the Sampled   |                                       | No <u>×</u>   |
| Wetland Hydrology Present? Yes No                                 |               | , w       | rithin a Wetlan | id? fes                               | NO <u>^</u>   |
| Remarks:  |               | •         |                 |                                       |   |
|   |               |           |                 |                                       |   |
| <b>VEGETATION</b> – Use scientific names of plants.               |               |           |                 |                                       |   |
| Ose scientific harnes of plants.                                  | Absolute      | Domin     | ant Indicator   | Dominance Test work                   | sheet:  |
| <u>Tree Stratum</u> (Plot size: <u>30</u> )                       |               |           | s? Status       | Number of Dominant Sp                 |   |
| 1   |               |           |                 | That Are OBL, FACW,                   |   |
| 2   |               |           |                 | Total Number of Domin                 | ant   |
| 3   |               |           |                 | Species Across All Stra               | 0   |
| 4   |               |           |                 | Percent of Dominant Sp                | pecies  |
| 5   |               | Total     |                 | That Are OBL, FACW, of                | or FAC: 0 (A/B)   |
| Sapling/Shrub Stratum (Plot size: 15 )                            |               | = 10(a)   | Cover           | Prevalence Index wor                  | ksheet:   |
| 1   |               |           |                 | Total % Cover of:                     | Multiply by:  |
| 2   |               | -         |                 |                                       | x 1 =   |
| 3   |               | -         |                 |                                       | x 2 = 20  |
| 4   | · <del></del> |           |                 |                                       | x 3 =   |
| 5   |               |           |                 | · ·                                   | x 4 = 340   |
| Herb Stratum (Plot size: 5 )                                      |               | = Total ( | Cover           |                                       | x = 5 = 60  |
| 1. Festusca sp.   | 50            | Υ         | FACU            | Column Totals: 95                     | (A) <u>360</u> (B)  |
| 2. Solidago canadensis  | 20            | Υ         | FACU            | Prevalence Index                      | = B/A = 3.79  |
| 3. Aster ericoides  | 15            | N         | FACU            | Hydrophytic Vegetation                | on Indicators:  |
| 4. Polygonum pensylvanicum  | 10            | N         | FACW            | Dominance Test is                     |   |
| 5   |               | -         |                 | Prevalence Index is                   |   |
| 6   | · <del></del> |           |                 | Morphological Ada                     | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |
| 7   |               |           |                 |                                       | ohytic Vegetation <sup>1</sup> (Explain)                            |
| 8   |               |           |                 |                                       | (   |
| 9   |               |           |                 | <sup>1</sup> Indicators of hydric soi | l and wetland hydrology must  |
| 10  | 0.5           | = Total ( |                 | be present, unless distu              | irbed or problematic.   |
| Woody Vine Stratum (Plot size: 15                                 |               | = 10(a)   | Cover           |                                       |   |
| 1.  |               |           |                 | Hydrophytic                           |   |
| 2   |               |           |                 | Vegetation Present? Yes               | s No <sup>X</sup>   |
|   |               | = Total   | Cover           |                                       |   |
| Remarks: (Include photo numbers here or on a separate s           | sheet.)       |           |                 | <u> </u>                              |   |
|   |               |           |                 |                                       |   |
|   |               |           |                 |                                       |   |

SOIL Sampling Point: S5W068UPL

| Depth                  | Matrix                                    |              |                         | x Feature              | S                 |                  |                          |                        |                    |
|------------------------|---|--------------|-------------------------|------------------------|-------------------|------------------|--------------------------|------------------------|--------------------|
| (inches)               | Color (moist)                             |              | Color (moist)           | %                      | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                  | Remar                  | ks                 |
| 0-10                   | 10YR 4/3                                  | 100          | -                       |                        |                   |                  | Silty clay loam          |                        |                    |
| 10-20                  | 10YR 5/3                                  | 80           | 10YR 5/6                | 20                     |                   | М                | clay loam                |                        |                    |
|                        |   |              |                         |                        |                   |                  |                          |                        |                    |
|                        |   |              |                         |                        |                   |                  |                          |                        |                    |
|                        |   |              |                         |                        |                   |                  |                          |                        |                    |
|                        | -   |              |                         |                        |                   |                  |                          |                        |                    |
|                        | -   |              |                         |                        |                   |                  |                          |                        |                    |
| <sup>1</sup> Type: C=C | oncentration, D=De                        | epletion, RM | =Reduced Matrix, CS     | S=Covere               | d or Coate        | d Sand G         | rains. <sup>2</sup> Loca | tion: PL=Pore Lining   | g, M=Matrix.       |
| Hydric Soil            | Indicators:                               |              |                         |                        |                   |                  |                          | or Problematic Hyd     |                    |
| Histosol               | ` '                                       |              |                         | Gleyed Ma              |                   |                  |                          | rairie Redox (A16)     |                    |
|                        | pipedon (A2)                              |              |                         | Redox (S5              |                   |                  |                          | nganese Masses (F1     | 2)                 |
|                        | istic (A3)                                |              |                         | d Matrix (S            |                   |                  | Other (E                 | Explain in Remarks)    |                    |
|                        | en Sulfide (A4)<br>d Layers (A5)          |              |                         | Mucky Mii<br>Gleyed Mi |                   |                  |                          |                        |                    |
|                        | uck (A10)                                 |              |                         | ed Matrix (            |                   |                  |                          |                        |                    |
|                        | d Below Dark Surfa                        | ace (A11)    |                         | Dark Surfa             |                   |                  |                          |                        |                    |
| Thick Da               | ark Surface (A12)                         |              |                         |                        | ırface (F7)       |                  |                          | of hydrophytic vegeta  |                    |
|                        | Mucky Mineral (S1)                        |              | Redox                   | Depressio              | ns (F8)           |                  |                          | hydrology must be p    |                    |
|                        | ucky Peat or Peat (<br>Layer (if observed |              |                         |                        |                   |                  | unless d                 | disturbed or problema  | atic.              |
|                        | • •                                       | •            |                         |                        |                   |                  |                          |                        |                    |
| Depth (in              | oboo):                                    |              |                         |                        |                   |                  | Hydric Soil P            | Present? Yes           | No X               |
| Remarks:               | Ciles)                                    |              |                         |                        |                   |                  | Hydric 30ii F            | resent: res            |                    |
| rtomanto.              |   |              |                         |                        |                   |                  |                          |                        |                    |
|                        |   |              |                         |                        |                   |                  |                          |                        |                    |
| HYDROLO                | GY  |              |                         |                        |                   |                  |                          |                        |                    |
|                        | drology Indicator                         | s:           |                         |                        |                   |                  |                          |                        |                    |
| Primary Indi           | cators (minimum of                        | one is requ  | ired; check all that ap | oply)                  |                   |                  | Secondar                 | y Indicators (minimur  | m of two required) |
| Surface                | Water (A1)                                |              | Water-Sta               | ined Leav              | es (B9)           |                  | Surfa                    | ce Soil Cracks (B6)    |                    |
| High Wa                | ater Table (A2)                           |              | Aquatic Fa              | auna (B13              | 5)                |                  | Drain                    | age Patterns (B10)     |                    |
| Saturati               | on (A3)                                   |              | True Aqua               | atic Plants            | (B14)             |                  | Dry-S                    | Season Water Table (   | (C2)               |
| Water M                |   |              | Hydrogen                |                        |                   |                  |                          | ish Burrows (C8)       |                    |
|                        | nt Deposits (B2)                          |              | Oxidized F              |                        |                   | •                |                          | ation Visible on Aeria |                    |
| 1                      | posits (B3)                               |              | Presence                |                        | ,                 | ,                | <del></del>              | ed or Stressed Plants  | ` '                |
| _                      | at or Crust (B4)                          |              | Recent Iro              |                        |                   | a Soils (C6      |                          | norphic Position (D2)  |                    |
| Iron Dep               | on Vis ble on Aeria                       | l Imagary (E | Thin Muck 37) Gauge or  |                        |                   |                  | FAC-                     | Neutral Test (D5)      |                    |
|                        | y Vegetated Conca                         |              | · -                     |                        |                   |                  |                          |                        |                    |
| Field Obser            | -   | Janace       | (                       | a INC                  |                   |                  |                          |                        |                    |
| Surface Wat            |   | Yes          | No X Depth (in          | ches):                 |                   |                  |                          |                        |                    |
| Water Table            |   |              | No X Depth (in          |                        |                   |                  |                          |                        |                    |
| Saturation P           |   |              | No X Depth (in          |                        |                   |                  | and Hydrology            | Present? Yes           | No X               |
| (includes cap          | pillary fringe)                           |              |                         |                        |                   |                  |                          |                        |                    |
| Describe Re            | corded Data (strea                        | m gauge, m   | onitoring well, aerial  | photos, pr             | evious ins        | pections),       | if available:            |                        |                    |
| Remarks:               |   |              |                         |                        |                   |                  |                          |                        |                    |
| nomano.                |   |              |                         |                        |                   |                  |                          |                        |                    |
|                        |   |              |                         |                        |                   |                  |                          |                        |                    |
|                        |   |              |                         |                        |                   |                  |                          |                        |                    |
|                        |   |              |                         |                        |                   |                  |                          |                        |                    |

| Project/Site: I-69 Bloomington to Marti      | insville                |              | City/County | y: Monroe                  | Sampling Date: 10-13-11                           |   |
|--|-------------------------|--------------|-------------|----------------------------|---|---|
| Applicant/Owner: INDOT                       |                         |              |             |                            |   | Sampling Point: S5W069e                               |
| Investigator(s): K. Schroeder, D. White      | е                       |              |             |                            | nge: 4 and 5, 9N 1W                               |   |
| Landform (hillslope, terrace, etc.): Flo     |                         |              |             |                            | (concave, convex, none):                          | Concave   |
| Slope (%): <2% Lat: 39.2386                  |                         |              |             |                            |   |   |
| Soil Map Unit Name: Bonnie Silt Loan         | n                       |              |             |                            | NWI classific                                     | ation: PEMC   |
| Are climatic / hydrologic conditions on      |                         |              |             |                            |   |   |
| Are Vegetation, Soil,                        | or Hydrologys           | ignificantly | disturbed?  | Are "                      | Normal Circumstances" p                           | resent? Yes X No                                      |
| Are Vegetation, Soil,                        | or Hydrologyn           | aturally pro | blematic?   | (If ne                     | eded, explain any answe                           | rs in Remarks.)                                       |
| SUMMARY OF FINDINGS -                        | Attach site map         | showing      | samplin     | ng point le                | ocations, transects                               | , important features, etc.                            |
| Hydrophytic Vegetation Present?              | Yes X No                | 0            |             |                            |   |   |
| Hydric Soil Present?                         | Yes X No                |              |             | he Sampled<br>nin a Wetlar |   | No  |
| Wetland Hydrology Present?                   | Yes x No                |              | With        | iin a wetiar               | id? fes <u>^</u>                                  | NO  |
| Remarks:                                     |                         |              |             |                            |   |   |
|  |                         |              |             |                            |   |   |
| VEGETATION – Use scientific                  | names of plants.        |              |             |                            |   |   |
|  |                         | Absolute     | Dominant    | t Indicator                | Dominance Test work                               | sheet:  |
| Tree Stratum (Plot size: 30                  |                         | % Cover      | Species?    | Status                     | Number of Dominant Sp<br>That Are OBL, FACW, o    | pecies  |
| 2<br>3                                       |                         |              |             |                            | Total Number of Domini<br>Species Across All Stra | 0   |
| 4.   |                         |              |             |                            | ,   |   |
| 5  |                         |              |             |                            | Percent of Dominant Sp<br>That Are OBL, FACW, of  |   |
|  | 15                      |              | = Total Co  | ver                        | Prevalence Index worl                             |   |
| Sapling/Shrub Stratum (Plot size:            |                         |              |             |                            |   | Multiply by:  |
| 2.   |                         |              |             |                            |   | $x 1 = \frac{75}{}$                                   |
| 3  |                         |              |             |                            |   | x 2 = 20  |
| 4.   |                         |              |             |                            |   | x 3 =   |
| 5  |                         |              |             |                            |   | x 4 =   |
|  |                         |              | = Total Co  |                            | UPL species                                       | x 5 =   |
| Herb Stratum (Plot size: 5                   | )                       | 40           | Υ           | OBL                        | Column Totals: 85                                 | (A) <u>95</u> (B)                                     |
| 1. Leersia oryzoides 2. Polygonum sagittatum |                         | 25           | Y           | OBL                        | Prevalence Index                                  | – R/Δ – 1.17  |
| 2. Fleocharis acicularis                     |                         | 10           | N           | OBL                        | Hydrophytic Vegetation                            |   |
| d Carex sp.                                  |                         | 10           | N           | FACW                       | X Dominance Test is                               |   |
| 5  |                         |              |             | ·                          | X Prevalence Index is                             |   |
| 6  |                         |              |             |                            |   | otations <sup>1</sup> (Provide supporting             |
| 7  |                         |              |             |                            | data in Remarks                                   | s or on a separate sheet)                             |
| 8.   |                         |              |             |                            | Problematic Hydror                                | ohytic Vegetation <sup>1</sup> (Explain)              |
| 9  |                         |              |             |                            | 1   |   |
| 10   |                         |              |             |                            | be present, unless distu                          | l and wetland hydrology must<br>irbed or problematic. |
| 15   |                         | 85           | = Total Co  | ver                        | , ,   |   |
| Woody Vine Stratum (Plot size: 15            |                         |              |             |                            | Hydrophytic                                       |   |
| 1  |                         |              |             |                            | Vegetation  | V   |
| 2  |                         |              | = Total Co  | ver                        | Present? Yes                                      | s <u>X</u> No   |
| Devede (lede)                                |                         |              |             |                            |   |   |
| Remarks: (Include photo numbers h            | iere or on a separate s | sneet.)      |             |                            |   |   |
|  |                         |              |             |                            |   |   |
|  |                         |              |             |                            |   |   |

SOIL Sampling Point: S5W069e

|                             |   | to the dep     |                           |                   |  | or confi         | rm the absence of indi         | cators.)                         |
|-----------------------------|---|----------------|---------------------------|-------------------|--|------------------|--------------------------------|----------------------------------|
| Depth                       | Matrix                                    | 0/             |                           | ox Feature        | -  | Loc <sup>2</sup> | _ Touture                      | Domonico                         |
| (inches)<br>0-6             | <u>Color (moist)</u><br>2.5Y7/1           | <u>%</u><br>85 | Color (moist)<br>10YR 5/8 | _ <u>%</u><br>15  | Type'  | M                | Texture  Silty clay loam       | Remarks                          |
|                             | <del> </del>                              |                |                           |                   |  |                  |                                |                                  |
| 6-20                        | 2.5Y 8/1                                  | 75             | 10YR 5/8                  | 25                | <u> C                                   </u> | М                | Silty clay loam                |                                  |
|                             |   |                |                           |                   |  |                  |                                |                                  |
|                             | -   |                |                           |                   |  |                  |                                |                                  |
|                             | · ·                                       |                |                           | _                 | _  |                  |                                |                                  |
|                             | <del>-</del>                              |                |                           |                   | _  |                  |                                | _                                |
|                             |   |                |                           | _                 |  |                  |                                |                                  |
|                             |   | _              |                           | _                 |  |                  |                                |                                  |
| <sup>1</sup> Type: C=C      | Concentration, D=De                       | pletion, RM=   | Reduced Matrix, C         | S=Covere          | ed or Coate                                  | ed Sand          | Grains. <sup>2</sup> Location: | PL=Pore Lining, M=Matrix.        |
|                             | Indicators:                               |                |                           |                   |  |                  |                                | blematic Hydric Soils³:          |
| Histoso                     | ol (A1)                                   |                | Sandy                     | Gleyed M          | atrix (S4)                                   |                  | Coast Prairie                  | Redox (A16)                      |
|                             | pipedon (A2)                              |                |                           | Redox (S          |  |                  |                                | se Masses (F12)                  |
|                             | listic (A3)                               |                |                           | d Matrix (        |  |                  | Other (Explain                 | n in Remarks)                    |
|                             | en Sulfide (A4)                           |                |                           |                   | ineral (F1)                                  |                  |                                |                                  |
|                             | ed Layers (A5)                            |                |                           |                   | fatrix (F2)                                  |                  |                                |                                  |
| 2 cm M                      | luck (A10)<br>ed Below Dark Surfa         | 00 (011)       |                           | ed Matrix         | . ,  |                  |                                |                                  |
|                             | ed Below Dark Surfa<br>Park Surface (A12) | ce (ATT)       |                           | Dark Surf         | ace (F6)<br>urface (F7                       | `                | 3Indicators of byd             | rophytic vegetation and          |
|                             | Mucky Mineral (S1)                        |                |                           | Depression        |  | )                | _                              | logy must be present,            |
|                             | lucky Peat or Peat (\$                    | S3)            | 11000%                    | Боргосон          | 3110 (1 0)                                   |                  | •                              | ed or problematic.               |
|                             | Layer (if observed                        |                |                           |                   |  |                  |                                | •                                |
| Type:                       |   |                |                           |                   |  |                  |                                |                                  |
|                             | nches):                                   |                |                           |                   |  |                  | Hydric Soil Preser             | nt? Yes X No                     |
| Remarks:                    |   |                | <del></del>               |                   |  |                  | 1.7                            |                                  |
|                             |   |                |                           |                   |  |                  |                                |                                  |
| HYDROLO                     | OGY                                       |                |                           |                   |  |                  |                                |                                  |
| Wetland Hy                  | drology Indicators                        | :              |                           |                   |  |                  |                                |                                  |
| Primary Ind                 | icators (minimum of                       | one is requir  | ed; check all that a      | pply)             |  |                  | Secondary Indic                | cators (minimum of two required) |
| Surface                     | e Water (A1)                              |                | Water-Sta                 | ained Lea         | ves (B9)                                     |                  | Surface So                     | il Cracks (B6)                   |
| High W                      | ater Table (A2)                           |                | Aquatic F                 | auna (B1          | 3)   |                  | Drainage P                     | atterns (B10)                    |
| X Saturat                   | ion (A3)                                  |                | True Aqu                  | atic Plants       | s (B14)                                      |                  | Dry-Seasor                     | n Water Table (C2)               |
| Water I                     | Marks (B1)                                |                | Hydrogen                  | Sulfide C         | Odor (C1)                                    |                  | Crayfish Bu                    | rrows (C8)                       |
| Sedime                      | ent Deposits (B2)                         |                | X Oxidized                | Rhizosph          | eres on Liv                                  | ing Root         | ts (C3) Saturation \           | Visible on Aerial Imagery (C9)   |
| Drift De                    | eposits (B3)                              |                | Presence                  | of Reduc          | ed Iron (C                                   | 4)               | Stunted or                     | Stressed Plants (D1)             |
| Algal M                     | lat or Crust (B4)                         |                | Recent Ir                 | on Reduc          | tion in Tille                                | d Soils (        | C6) Geomorphi                  | c Position (D2)                  |
| Iron De                     | posits (B5)                               |                | Thin Muc                  | k Surface         | (C7)   |                  | FAC-Neutra                     | al Test (D5)                     |
|                             | tion Vis ble on Aerial                    |                | -                         | Well Data         | a (D9)                                       |                  |                                |                                  |
| Sparse                      | ly Vegetated Concar                       | /e Surface (I  | 38) Other (Ex             | plain in R        | emarks)                                      |                  |                                |                                  |
| Field Obse                  |   |                | V                         |                   |  |                  |                                |                                  |
| Surface Wa                  |   |                | No X Depth (ir            |                   |  |                  |                                |                                  |
| Water Table                 |   |                | No Depth (ir              |                   |  |                  |                                |                                  |
| Saturation F                |   | Yes X I        | No Depth (ir              | nches): <u>4'</u> | '  | We               | etland Hydrology Prese         | ent? Yes X No                    |
| (includes ca<br>Describe Re | apillary fringe)<br>ecorded Data (streai  | n gauge, mo    | onitoring well, aerial    | photos, p         | revious ins                                  | spections        | s), if available:              |                                  |
|                             | `   | 0 0 7          | <b>3</b>                  |                   |  |                  | ,,                             |                                  |
| Remarks:                    |   |                |                           |                   |  |                  |                                |                                  |
|                             |   |                |                           |                   |  |                  |                                |                                  |
|                             |   |                |                           |                   |  |                  |                                |                                  |
|                             |   |                |                           |                   |  |                  |                                |                                  |
|                             |   |                |                           |                   |  |                  |                                |                                  |

| Project/Site: I-69 Bloomington to Mart   | insville              |                     | City/Cou | ınty: Monroe             |  | Sampling Date: 2/19/2013                           |
|--|-----------------------|---------------------|----------|--------------------------|--|--|
| Applicant/Owner: INDOT   |                       |                     |          |                          |  | Sampling Point: S5W069eUPL                         |
| Investigator(s): D. White, T. Keefe  |                       |                     |          |                          |  |  |
| Landform (hillslope, terrace, etc.): Flo   | odplain               |                     |          | Local relief             | (concave, convex, none):                         | Concave  |
| Slope (%): <2% Lat: 39.238   |                       |                     |          | Datum: NAD 83            |  |  |
| Soil Map Unit Name: Bonnie Silt Loar   |                       |                     |          |                          | NWI classific                                    |  |
| Are climatic / hydrologic conditions or  |                       |                     |          |                          |  |  |
| Are Vegetation, Soil,  |                       | •                   |          |                          |  | •  |
| Are Vegetation, Soil, Coll, Soil, Coll, Coll |                       |                     |          |                          | eded, explain any answe                          |  |
|  |                       |                     |          |                          |  | •  |
| SUMMARY OF FINDINGS –  | Attach site map       | showing             | samp     | ling point lo            | ocations, transects                              | , important features, etc.                         |
| Hydrophytic Vegetation Present?  | Yes N                 | No X                |          | s the Sampled            | Aron   |  |
| Hydric Soil Present?   | Yes N                 | No <u>x</u>         |          | vithin a Wetlan          |  | No _ <sup>X</sup>                                  |
| Wetland Hydrology Present?   | Yes N                 | No <u>x</u>         | •        | vitiliii a vvetiaii      | iu: 165  |  |
| Remarks:   |                       |                     |          |                          |  |  |
|  |                       |                     |          |                          |  |  |
|  |                       |                     |          |                          |  |  |
| VEGETATION – Use scientific  | names of plants       |                     |          |                          |  |  |
| Tree Stratum (Plot size: 30  | )                     | Absolute<br>% Cover |          | ant Indicator ss? Status | Dominance Test work                              |  |
| 1  |                       |                     |          |                          | Number of Dominant Sp<br>That Are OBL, FACW, of  |  |
| 2.   |                       |                     |          |                          |  |  |
| 3  |                       |                     |          |                          | Total Number of Domin<br>Species Across All Stra | 0  |
| 4  |                       |                     |          |                          | Dancart of Dancinout Co                          |  |
| 5  |                       |                     |          |                          | Percent of Dominant Sp<br>That Are OBL, FACW, of |  |
| Continue/Chart Charter / Diet sine   | 15                    |                     | = Total  | Cover                    | Prevalence Index wor                             |  |
| Sapling/Shrub Stratum (Plot size: _  |                       |                     |          |                          |  | Multiply by:                                       |
| 1<br>2   |                       |                     |          |                          |  | x 1 =  |
| 3  |                       |                     |          |                          |  | x 2 = 10   |
| 4.   |                       |                     |          |                          |  | x 3 =  |
| 5  |                       |                     |          |                          |  | x 4 = <u>300</u>                                   |
|  |                       |                     |          |                          | UPL species                                      | x 5 =  |
| Herb Stratum (Plot size: 5  Glechoma hederacea   | )                     | 40                  | Υ        | FACU                     | Column Totals: 80                                | (A) <u>310</u> (B)                                 |
| 1. Festuca sp.   |                       | 15                  | Y        | FACU                     | Prevalence Index                                 | - R/Δ - 3.88                                       |
| 3. Aster ericoides   |                       | 10                  | N        | FACU                     | Hydrophytic Vegetation                           |  |
| 4 Solidago canadensis  |                       | 5                   | N        | FACU                     | Dominance Test is                                |  |
| 5. Eupatorium altisimum  |                       | 5                   | N        | FACU                     | Prevalence Index is                              |  |
| 6. Carex sp.   |                       | 5                   | N        | FACW                     | Morphological Ada                                | ptations <sup>1</sup> (Provide supporting          |
| 7.   |                       |                     |          |                          |  | s or on a separate sheet)                          |
| 8.   |                       |                     |          |                          | Problematic Hydrop                               | ohytic Vegetation <sup>1</sup> (Explain)           |
| 9  |                       |                     |          |                          | 11   | Landon de adhodada accesso                         |
| 10   |                       |                     |          |                          | be present, unless distu                         | I and wetland hydrology must urbed or problematic. |
| Was do V() = 0151000 (Dist size 15   |                       | 80                  | = Total  | Cover                    | '  | <u> </u>   |
| Woody Vine Stratum (Plot size: 15  |                       |                     |          |                          | Hydrophytic                                      |  |
| 1  |                       |                     |          |                          | Vegetation                                       | V  |
| 2  |                       |                     |          | Cover                    | Present? Yes                                     | s No X   |
|  |                       |                     | - rotar  |                          |  |  |
| Remarks: (Include photo numbers h  | iere or on a separate | sheet.)             |          |                          |  |  |
|  |                       |                     |          |                          |  |  |
|  |                       |                     |          |                          |  |  |

SOIL Sampling Point: S5W069eUPL

| Profile Des   |  |  |                                       |  |  |  |                   |  |  |
|---|--|--|---------------------------------------|--|--|--|-------------------|--|--|
| Depth   | Matr   |  |                                       |  | x Feature  |  |                   |  |  |
| (inches)  | Color (moist   | ) %  | Cold                                  | or (moist)   | %  | Type <sup>1</sup>  | Loc <sup>2</sup>  | Texture  | Remarks  |
| 0-20  | 7.5YR 4/3  | 40   | 7.5YF                                 | R4/6   | 35   |  | М                 | Silty clay loam  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
|   | -  |  |                                       |  |  |  |                   |  | -  |
| -   |  |  |                                       |  |  |  |                   |  | · -  |
|   |  |  |                                       |  |  |  | . <u> </u>        |  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
|   | -  |  |                                       |  |  |  |                   | -  |  |
|   | <del>-</del>   |  |                                       |  | ·  |  |                   |  | · <del></del>  |
|   |  |  |                                       |  |  |  |                   | -  |  |
| <sup>1</sup> Type: C=C  | Concentration, D=  | Depletion, I                               | RM=Reduc                              | ed Matrix, CS  | S=Covere   | d or Coate   | ed Sand G         | rains. <sup>2</sup> Lo                                   | ocation: PL=Pore Lining, M=Matrix.   |
| Hydric Soil   | Indicators:  |  |                                       |  |  |  |                   | Indicators   | s for Problematic Hydric Soils <sup>3</sup> :  |
| Histoso   | ol (A1)  |  |                                       | Sandy 0  | Sleyed Ma  | atrix (S4)   |                   | Coas   | t Prairie Redox (A16)  |
| Histic E  | pipedon (A2)   |  |                                       | Sandy F  | Redox (S5  | 5)   |                   | Iron-N   | Manganese Masses (F12)   |
| Black H   | Histic (A3)  |  |                                       | Stripped   | d Matrix (S  | 86)  |                   | Other  | (Explain in Remarks)   |
| Hydrog  | en Sulfide (A4)  |  |                                       | Loamy I  | Mucky Mir  | neral (F1)   |                   |  |  |
|   | ed Layers (A5)   |  |                                       |  | Gleyed Ma  |  |                   |  |  |
|   | luck (A10)   |  |                                       | X Deplete  | d Matrix (   | F3)  |                   |  |  |
| -   | ed Below Dark Su   |  |                                       |  | Dark Surfa   | , ,  |                   | 2  |  |
|   | Oark Surface (A12  | ,  |                                       |  | d Dark Su  |  | )                 |  | rs of hydrophytic vegetation and   |
|   | Mucky Mineral (S   | ,  |                                       | Redox [  | Depressio  | ns (F8)  |                   |  | nd hydrology must be present,  |
|   | lucky Peat or Pea  |  |                                       |  |  |  |                   | unles  | s disturbed or problematic.  |
| Restrictive   | Layer (if observ   | ed):                                       |                                       |  |  |  |                   |  |  |
| Type:   |  |  |                                       |  |  |  |                   |  | V  |
| Depth (ir   | nches):  |  |                                       |  |  |  |                   | Hydric Soi   | il Present? Yes No X   |
| Remarks:  |  |  |                                       |  |  |  |                   | •  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
|   |  |  |                                       |  |  |  |                   |  |  |
| HYDROLO   |  |  |                                       |  |  |  |                   |  |  |
|   | OGY<br>ydrology Indicate   | ors:                                       |                                       |  |  |  |                   |  |  |
| Wetland Hy  |  |  | equired; che                          | eck all that ap  | oply)  |  |                   | Second   | lary Indicators (minimum of two required)  |
| Wetland Hy<br>Primary Indi  | ydrology Indicate  |  | equired; che                          | eck all that ap<br>_ Water-Sta   | •  | es (B9)  |                   |  | dary Indicators (minimum of two required) rface Soil Cracks (B6)   |
| Wetland Hy Primary Indi Surface   | ydrology Indicate  |  | equired; che                          | •  | ined Leav  |  |                   | Su   |  |
| Wetland Hy Primary Indi Surface High W  | ydrology Indicate<br>icators (minimum<br>e Water (A1)<br>/ater Table (A2)  |  | equired; che<br>                      | _ Water-Stai<br>_ Aquatic Fa   | ined Leav<br>una (B13  | )  |                   | Su<br>Dra  | rface Soil Cracks (B6)   |
| Wetland Hy Primary Indi Surface High W Saturat  | ydrology Indicators (minimum e Water (A1) // (ater Table (A2) // (A3)  |  | equired; che<br><br>                  | Water-Stal Aquatic Fa True Aqua  | ined Leav<br>una (B13<br>tic Plants  | )<br>(B14)   |                   | Su<br>Dra<br>Dry   | rface Soil Cracks (B6)<br>ainage Patterns (B10)<br>y-Season Water Table (C2)   |
| Wetland Hy Primary Indi Surface High W Saturat Water M  | ydrology Indicators (minimum e Water (A1) /ater Table (A2) cion (A3) Warks (B1)  |  | equired; che<br>_<br>_<br>_<br>_      | Water-Stal Aquatic Fall True Aqual Hydrogen  | ined Leav<br>auna (B13<br>tic Plants<br>Sulfide O  | )<br>(B14)<br>dor (C1)   | ring Roots        | Su<br>Dra<br>Dry<br>Cra                                  | rface Soil Cracks (B6)<br>ainage Patterns (B10)<br>y-Season Water Table (C2)<br>ayfish Burrows (C8)  |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime   | ydrology Indicators (minimum e Water (A1) /ater Table (A2) cion (A3) Marks (B1) ent Deposits (B2)  |  | equired; che<br>—<br>—<br>—<br>—      | Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F   | ined Leav<br>auna (B13<br>tic Plants<br>Sulfide O  | )<br>(B14)<br>dor (C1)<br>res on Liv   | -                 | Su<br>Dra<br>Cra<br>Cra<br>(C3) Sa                       | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)   |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De  | ydrology Indicators (minimum e Water (A1) Vater Table (A2) vicion (A3) Marks (B1) ent Deposits (B2) eposits (B3)   |  | -<br>-<br>-<br>-                      | Water-Stal Aquatic Fall True Aqual Hydrogen Oxidized Fall Presence   | ined Leav<br>auna (B13<br>tic Plants<br>Sulfide O<br>Rhizosphe   | )<br>(B14)<br>dor (C1)<br>res on Lived Iron (C   | 4)                | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu                | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)   |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M  | ydrology Indicators (minimum e Water (A1) /ater Table (A2) rion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)   |  | -<br>-<br>-<br>-<br>-<br>-            | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence   | ined Leav<br>auna (B13<br>tic Plants<br>Sulfide O<br>Rhizosphe<br>of Reduce<br>n Reducti   | (B14)<br>(B14)<br>dor (C1)<br>res on Lived Iron (C<br>on in Tille                            | 4)                | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge       | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De  | ydrology Indicators (minimum e Water (A1) /ater Table (A2) rion (A3) Warks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5)  | of one is re                               | -<br>-<br>-<br>-<br>-<br>-            | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck                                  | ined Leavenna (B13 tic Plants Sulfide OR Reduce n Reducti Surface (  | (B14)<br>(B14)<br>dor (C1)<br>res on Lived Iron (C<br>on in Tille<br>(C7)                    | 4)                | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge       | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)   |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat  | ydrology Indicators (minimum e Water (A1) /ater Table (A2) rion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Ae   | of one is re                               |                                       | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or                         | ined Leave<br>auna (B13<br>tic Plants<br>Sulfide O<br>Rhizosphe<br>of Reduce<br>n Reducti<br>Surface (                             | (B14)<br>dor (C1)<br>res on Lived Iron (Con in Tille<br>(C7)<br>(D9)                         | 4)                | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge       | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel  | ydrology Indicators (minimum e Water (A1) later Table (A2) later Table (A2) later Table (B1) later Table (B2) later Deposits (B2) later Deposits (B3) later Crust (B4) later Crust (B4) later Crust (B5) later Office (B5) later Off | of one is re                               |                                       | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck                                  | ined Leave<br>auna (B13<br>tic Plants<br>Sulfide O<br>Rhizosphe<br>of Reduce<br>n Reducti<br>Surface (                             | (B14)<br>dor (C1)<br>res on Lived Iron (Con in Tille<br>(C7)<br>(D9)                         | 4)                | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge       | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hy Primary Indi  Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel   | ydrology Indicators (minimum e Water (A1) /ater Table (A2) /ater Table (A2) /ater Table (A2) /ater Table (B1) /ater Table (B2) /ater Table (B2) /ater Crust (B3) /ater Crust (B4) /ater Crust (B4) /ater Crust (B5) /ater Crust (B5) /ater Crust (B5) /ater Crust (B6)  | of one is re                               |                                       | Water-Stal Aquatic Fall True Aqual Hydrogen Oxidized Fall Presence Recent Iro Thin Muck Gauge or V                 | ined Leavauna (B13 tic Plants Sulfide Or Rhizosphe of Reduce n Reducti Surface (Well Data blain in Reducti n Reducti               | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4)<br>ed Soils (C | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge       | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hy Primary Indi  Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel  Field Obset Surface Wa                                     | ydrology Indicators (minimum e Water (A1) later Table (A2) later Table (A2) later Table (A2) later Deposits (B2) leposits (B3) later Crust (B4) leposits (B5) ltion Vis ble on Ael ly Vegetated Convertions: later Present?  | of one is re                               | (B7)ce (B8)                           | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp            | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re                             | (B14)<br>(B14)<br>dor (C1)<br>res on Lived Iron (C<br>on in Tille<br>(C7)<br>(D9)<br>emarks) | 4)<br>d Soils (C  | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge       | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table                           | ydrology Indicators (minimum e Water (A1) /ater Table (A2) /ater Table (A2) /ater Table (A2) /ater Table (A2) /ater Deposits (B2) /aposits (B3) /ater Crust (B4) /aposits (B5) /ater Original (B5) /ater Vis ble on Aer /ater Present? /ater Present?  | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) Ce (B8) No X No X                | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp            | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches):               | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge<br>FA | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |
| Wetland Hy Primary Indi Surface High W Saturat Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table Saturation F              | ydrology Indicators (minimum e Water (A1) /ater Table (A2) /ater Table (A2) /ater Table (A2) /ater Table (A2) /ater Deposits (B2) /aposits (B3) /ater Crust (B4) /aposits (B5) /ater Orust (B4) /aposits (B5) /ater Orust (B4) /aposits (B5) /ater Present? /apresent?   | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) Ce (B8) No X No X                | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp            | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches):               | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dra<br>Dry<br>Cra<br>(C3) Sa<br>Stu<br>6) Ge<br>FA | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca | ydrology Indicators (minimum e Water (A1) l'ater Table (A2) licion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aer ly Vegetated Con- rvations: ter Present? e Present? epillary fringe)  | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) ce (B8) No X No X No X No X No X | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp Depth (inc | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches): ches): ches): | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dro<br>Cro<br>(C3) Sa<br>Stu<br>6) Ge<br>FA        | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca | ydrology Indicators (minimum e Water (A1) /ater Table (A2) /ater Table (A2) /ater Table (A2) /ater Table (A2) /ater Deposits (B2) /aposits (B3) /ater Crust (B4) /aposits (B5) /ater Orust (B4) /aposits (B5) /ater Orust (B4) /aposits (B5) /ater Present? /apresent?   | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) ce (B8) No X No X No X No X No X | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp Depth (inc | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches): ches): ches): | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dro<br>Cro<br>(C3) Sa<br>Stu<br>6) Ge<br>FA        | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obsel Surface Wa Water Table Saturation F (includes ca | ydrology Indicators (minimum e Water (A1) l'ater Table (A2) licion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aer ly Vegetated Con- rvations: ter Present? e Present? epillary fringe)  | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) ce (B8) No X No X No X No X No X | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp Depth (inc | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches): ches): ches): | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dro<br>Cro<br>(C3) Sa<br>Stu<br>6) Ge<br>FA        | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obset Surface Wa Water Table Saturation F (includes ca | ydrology Indicators (minimum e Water (A1) l'ater Table (A2) licion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aer ly Vegetated Con- rvations: ter Present? e Present? epillary fringe)  | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) ce (B8) No X No X No X No X No X | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp Depth (inc | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches): ches): ches): | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dro<br>Cro<br>(C3) Sa<br>Stu<br>6) Ge<br>FA        | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obsel Surface Wa Water Table Saturation F (includes ca | ydrology Indicators (minimum e Water (A1) l'ater Table (A2) licion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aer ly Vegetated Con- rvations: ter Present? e Present? epillary fringe)  | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) ce (B8) No X No X No X No X No X | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp Depth (inc | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches): ches): ches): | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dro<br>Cro<br>(C3) Sa<br>Stu<br>6) Ge<br>FA        | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obsel Surface Wa Water Table Saturation F (includes ca | ydrology Indicators (minimum e Water (A1) l'ater Table (A2) licion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aer ly Vegetated Con- rvations: ter Present? e Present? epillary fringe)  | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) ce (B8) No X No X No X No X No X | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp Depth (inc | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches): ches): ches): | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (C     | Su<br>Dro<br>Cro<br>(C3) Sa<br>Stu<br>6) Ge<br>FA        | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |
| Wetland Hy Primary Indi Surface High W Saturat Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obsel Surface Wa Water Table Saturation F (includes ca | ydrology Indicators (minimum e Water (A1) l'ater Table (A2) licion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Vis ble on Aer ly Vegetated Con- rvations: ter Present? e Present? epillary fringe)  | rial Imagery<br>cave Surface<br>Yes<br>Yes | (B7) ce (B8) No X No X No X No X No X | Water-Stal Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck Gauge or V Other (Exp Depth (inc | ined Leavauna (B13 tic Plants Sulfide Oo Rhizosphe of Reduce n Reducti Surface ( Well Data blain in Re ches): ches): ches): ches): | (B14) (B14) dor (C1) res on Lived Iron (C on in Tille (C7) (D9) emarks)                      | 4) d Soils (Co    | Su<br>Dro<br>Cro<br>(C3) Sa<br>Stu<br>6) Ge<br>FA        | rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) C-Neutral Test (D5) |

| Project/Site: I-69 Bloomington to Martinsville               |              | City/County | /: Monroe    |  | Sampling Date: 10-13-11                  |
|--|--------------|-------------|--------------|--|--|
| Applicant/Owner: INDOT                                       |              |             |              |  | Sampling Point: S5W069f                  |
| Investigator(s): K. Schroeder, D. White                      |              |             |              | nge: 4 and 5, 9N 1W                              |  |
|  |              |             |              | (concave, convex, none):                         | Concave                                  |
| Slope (%): <2% Lat: 39.23825632030                           |              |             |              |  |  |
|  |              | _           |              | NWI classific                                    |  |
| Are climatic / hydrologic conditions on the site typical for |              |             |              |  |  |
| Are Vegetation, Soil, or Hydrology                           |              |             |              |  |  |
| Are Vegetation, Soil, or Hydrology                           |              |             |              | eeded, explain any answe                         |  |
| SUMMARY OF FINDINGS – Attach site m                          |              |             |              |  |  |
| Hydrophytic Vegetation Present? Yes X                        | No           |             |              |  |  |
|  | No           |             | ne Sampled   |  | No                                       |
|  | No           | With        | nin a Wetlar | 1a? Yes <u>^</u>                                 | No                                       |
| Remarks:   |              | •           |              |  |  |
|  |              |             |              |  |  |
| VEGETATION – Use scientific names of pla                     | ants.        |             |              |  |  |
|  | Absolute     | Dominant    | Indicator    | Dominance Test work                              | sheet:                                   |
| Tree Stratum (Plot size: 30 )                                | % Cover      |             |              | Number of Dominant Sp<br>That Are OBL, FACW, of  |  |
| 2  |              |             |              | Total Number of Domin                            | ant                                      |
| 3  |              |             |              | Species Across All Stra                          | ta: <u>3</u> (B)                         |
| 4.       5.  |              | -           |              | Percent of Dominant Sp<br>That Are OBL, FACW, of |  |
|  |              | = Total Co  | ver          |  |  |
| Sapling/Shrub Stratum (Plot size: 15                         | _)           |             |              | Prevalence Index work                            |  |
| 1. Cephalanthus occidentalis                                 |              |             |              |  | Multiply by:                             |
| 2  |              |             |              |  | $x = \frac{85}{40}$                      |
| 3  |              |             |              |  | x 2 = 40                                 |
| 4  |              |             |              |  | x 3 =<br>x 4 =                           |
| 5  | 20           | = Total Co  | ver          |  | x 5 =                                    |
| Herb Stratum (Plot size: 5                                   |              | = 10tai 00  | VOI          | Column Totals: 105                               |  |
| 1. Polygonum hydropiper                                      | 30           | Υ           | OBL          |  |  |
| 2. Leersia oryzoides   | 20           | Υ           | OBL          | Prevalence Index                                 |  |
| 3. Eleocharis acicularis                                     | 15           | N           | OBL          | Hydrophytic Vegetatio                            |  |
| 4. Lysimachia nummularia                                     |              | N           | FACW         | X Dominance Test is                              |  |
| Polygonum lapathifolium     Bidens frondosa                  | 5<br>5       | N<br>N      | FACW         | X Prevalence Index is                            | s ≤3.0°<br>otations¹ (Provide supporting |
|  | <del></del>  |             | FACW         |  | or on a separate sheet)                  |
| 7  |              |             | ·            | Problematic Hydro                                | ohytic Vegetation <sup>1</sup> (Explain) |
| 8  |              |             |              |  |  |
| 9  |              |             |              |  | and wetland hydrology must               |
| 10   |              | = Total Co  | ver          | be present, unless distu                         | rbed or problematic.                     |
| Woody Vine Stratum (Plot size: 15 )                          |              | = 10tal C0  | VCI          |  |  |
| 1  |              |             |              | Hydrophytic                                      |  |
| 2  |              |             |              | Vegetation<br>Present? Yes                       | s <u>X</u> No                            |
|  |              | = Total Co  | ver          |  |  |
| Remarks: (Include photo numbers here or on a sepa            | rate sheet.) |             |              | 1  |  |
|  |              |             |              |  |  |
|  |              |             |              |  |  |

SOIL Sampling Point: S5W069f

| Profile Desc | cription: (Describe                         | e to the dep  | th needed to docu                             | ment the               | indicator                 | or confi         | rm the absence of i   | ndicators.)   |  |  |
|--------------|---|---------------|---|------------------------|---------------------------|------------------|-----------------------|---|--|--|
| Depth        | Matrix                                      |               |   | ox Feature             |                           |                  | _                     |   |  |  |
| (inches)     | Color (moist)                               | %             | Color (moist)                                 | %                      | Type <sup>1</sup>         | Loc <sup>2</sup> | <u>Texture</u>        | Remarks   |  |  |
| 0-6          | 2.5Y6/1                                     | 65            | 7.5YR 4/6                                     | 35                     |                           | M                | Silty clay            |   |  |  |
| 6-20         | 2.5Y 7/1                                    | 60            | 10YR 6/1                                      | 40                     |                           | М                | Silty clay loam       |   |  |  |
|              |   |               |   |                        |                           |                  |                       |   |  |  |
|              |   |               |   |                        |                           |                  |                       |   |  |  |
|              |   |               |   |                        |                           |                  |                       |   |  |  |
|              |   | <del>-</del>  |   |                        |                           |                  |                       |   |  |  |
| l            |   |               |   |                        |                           |                  |                       | _   |  |  |
| -            |   |               |   |                        |                           |                  |                       |   |  |  |
|              |   | pletion, RM=  | Reduced Matrix, C                             | S=Covere               | ed or Coate               | ed Sand (        |                       | n: PL=Pore Lining, M=Matrix.                              |  |  |
| Hydric Soil  |   |               |   |                        |                           |                  |                       | Problematic Hydric Soils <sup>3</sup> :                   |  |  |
| Histosol     | ` '   |               |   | Gleyed M<br>Redox (S   |                           |                  |                       | rie Redox (A16)   |  |  |
|              | pipedon (A2)<br>listic (A3)                 |               |   | d Matrix (             |                           |                  |                       | anese Masses (F12)<br>Ilain in Remarks)                   |  |  |
|              | en Sulfide (A4)                             |               |   |                        | ineral (F1)               |                  | Other (Exp            | iair ii remane,   |  |  |
|              | d Layers (A5)                               |               |   |                        | latrix (F2)               |                  |                       |   |  |  |
|              | uck (A10)                                   |               |   | ed Matrix              |                           |                  |                       |   |  |  |
|              | d Below Dark Surfa                          | ce (A11)      |   | Dark Surf              | ` '                       |                  | 3                     |   |  |  |
|              | ark Surface (A12)                           |               |   | ed Dark S<br>Depressio | urface (F7)               | )                |                       | hydrophytic vegetation and                                |  |  |
|              | Mucky Mineral (S1)<br>ucky Peat or Peat (\$ | S3)           | Redux   | Depression             | ) IIS (FO)                |                  |                       | drology must be present,<br>urbed or problematic.         |  |  |
|              | Layer (if observed                          |               |   |                        |                           |                  |                       | <u></u>   |  |  |
| Type:        | ·   |               |   |                        |                           |                  |                       |   |  |  |
| Depth (in    | iches):                                     |               |   |                        |                           |                  | Hydric Soil Pre       | sent? Yes X No  |  |  |
| Remarks:     | , -   |               | <u></u>                                       |                        |                           |                  |                       |   |  |  |
|              |   |               |   |                        |                           |                  |                       |   |  |  |
| HYDROLO      | GY  |               |   |                        |                           |                  |                       |   |  |  |
| Wetland Hy   | drology Indicators                          | s:            |   |                        |                           |                  |                       |   |  |  |
| Primary Indi | cators (minimum of                          | one is requi  | red; check all that a                         | pply)                  |                           |                  | Secondary Ir          | ndicators (minimum of two required)                       |  |  |
|              | Water (A1)                                  |               | Water-Sta                                     |                        | ` '                       |                  |                       | Soil Cracks (B6)  |  |  |
|              | ater Table (A2)                             |               | Aquatic F                                     |                        |                           |                  | _                     | e Patterns (B10)  |  |  |
| X Saturati   |   |               | True Aqua                                     |                        | , ,                       |                  |                       | son Water Table (C2)                                      |  |  |
|              | Marks (B1)                                  |               | Hydrogen X Oxidized                           |                        |                           | ina Doot         | Crayfish Burrows (C8) |   |  |  |
| ·            | nt Deposits (B2)<br>posits (B3)             |               |   |                        | eres on Liv<br>ed Iron (C |                  |                       | on Visible on Aerial Imagery (C9) or Stressed Plants (D1) |  |  |
|              | at or Crust (B4)                            |               | <del></del>                                   |                        | tion in Tille             |                  |                       | phic Position (D2)  |  |  |
| _            | posits (B5)                                 |               | Thin Mucl                                     |                        |                           | a 00110 (C       |                       | utral Test (D5)   |  |  |
| ·            | ion Vis ble on Aeria                        | I Imagery (B  | <del></del>                                   |                        |                           |                  |                       | and: 1001 (20)  |  |  |
|              | y Vegetated Conca                           |               | ,   |                        |                           |                  |                       |   |  |  |
| Field Obser  | rvations:                                   | <u> </u>      | <u>,                                     </u> |                        | · · ·                     |                  |                       |   |  |  |
| Surface Wat  | ter Present?                                | Yes           | No X Depth (ir                                | nches):                |                           |                  |                       |   |  |  |
| Water Table  |   |               | No X Depth (ir                                |                        |                           |                  |                       |   |  |  |
| Saturation P | Present?                                    | Yes X         | No Depth (ir                                  | nches): 4'             | 1                         | We               | etland Hydrology Pr   | esent? Yes X No   |  |  |
| (includes ca | pillary fringe)                             | m gallao ma   | onitoring well, aerial                        | nhotos n               | rovious ins               | noctions         | ) if available:       |   |  |  |
| Describe Ke  | ะบานยน บลเล (รเโยสเ                         | iii gauge, mc | onitoring well, aerlar                        | ρποιος, β              | revious ins               | pections         | oj, ii avaliable.     |   |  |  |
| Remarks:     |   |               |   |                        |                           |                  |                       |   |  |  |
| rtomarks.    |   |               |   |                        |                           |                  |                       |   |  |  |
|              |   |               |   |                        |                           |                  |                       |   |  |  |
|              |   |               |   |                        |                           |                  |                       |   |  |  |
|              |   |               |   |                        |                           |                  |                       |   |  |  |

| Project/Site: I-69 Bloomington to Martinsville   | City/Count | ty: Monroe |                      | Sampling Date:                              | 10-13-11                       |              |
|--|------------|------------|----------------------|---|--------------------------------|--------------|
| •  |            |            |                      | State: IN                                   |                                |              |
| Investigator(s): K. Schroeder, D. White  |            |            |                      |   |                                |              |
|  |            |            |                      | (concave, convex, none):                    | Concave                        |              |
| Slope (%): <2% Lat: 39.23784935830   |            |            |                      |   |                                |              |
|  |            |            |                      | NWI classific                               |                                |              |
| Are climatic / hydrologic conditions on the site typical for this  |            |            |                      |   |                                |              |
| Are Vegetation, Soil, or Hydrology signs of the sign of th |            |            |                      |   |                                | No           |
| Are Vegetation, Soil, or Hydrology na  |            |            |                      |   |                                |              |
| SUMMARY OF FINDINGS – Attach site map s  | howing     | sampli     | ng point lo          | ocations, transects                         | , important fe                 | atures, etc. |
| Hydrophytic Vegetation Present? Yes X No   | )          | lo 4       | the Sampled          | Aron  |                                |              |
| Hydric Soil Present? Yes x No  |            |            | -                    |   | No                             |              |
| Wetland Hydrology Present? Yes x No  |            | WIL        | illili a vvetiali    | 165   |                                | •            |
| Remarks:   |            |            |                      |   |                                |              |
|  |            |            |                      |   |                                |              |
|  |            |            |                      |   |                                |              |
| <b>VEGETATION</b> – Use scientific names of plants.  |            |            |                      | ·   |                                |              |
| <u>Tree Stratum</u> (Plot size: 30 )   |            |            | nt Indicator  Status | Dominance Test work                         |                                |              |
| 1  |            |            |                      | Number of Dominant S<br>That Are OBL, FACW, |                                | (A)          |
| 2  |            |            |                      | Total Number of Domin                       | nant                           |              |
| 3  |            |            |                      | Species Across All Stra                     | ita: 1                         | (B)          |
| 4  |            |            |                      | Percent of Dominant S                       | pecies                         |              |
| 5  |            |            |                      | That Are OBL, FACW,                         | or FAC: 100                    | (A/B)        |
| Sapling/Shrub Stratum (Plot size: 15 )   |            | = Total Co | over                 | Prevalence Index wor                        | ksheet:                        |              |
| 1  |            |            |                      | Total % Cover of:                           | Multiply                       | / by:        |
| 2  |            |            |                      | OBL species 27                              | x 1 = <u>27</u>                |              |
| 3  |            |            |                      | FACW species 4                              | x 2 = <u>8</u>                 |              |
| 4  |            |            |                      | FAC species                                 |                                |              |
| 5  |            |            |                      | FACU species                                |                                |              |
| Herb Stratum (Plot size: <sup>5</sup>  |            | = Total Co | over                 | UPL species                                 |                                |              |
| Herb Stratum (Plot size: 5   | 25         | Υ          | OBL                  | Column Totals: 31                           | (A) <u>35</u>                  | (B)          |
| 2. Carex sp.   | 2          | N          | FACW                 | Prevalence Index                            | = B/A = 1.13                   |              |
| 3. Polygonum hydropiper  | 2          | N          | OBL                  | Hydrophytic Vegetation                      | on Indicators:                 |              |
| 4. Eleocharis tenuis   | 2          | N          | FACW                 | X Dominance Test is                         | >50%                           |              |
| 5  |            |            |                      | X Prevalence Index i                        | s ≤3.0 <sup>1</sup>            |              |
| 6  |            |            |                      | Morphological Ada                           | ptations <sup>1</sup> (Provide | supporting   |
| 7  |            |            |                      |   | s or on a separate             | ,            |
| 8  |            |            |                      | Problematic Hydro                           | priytic vegetation             | (Explain)    |
| 9  |            |            |                      | <sup>1</sup> Indicators of hydric soi       | il and wetland hydr            | ology must   |
| 10   | ~ 4        |            |                      | be present, unless distr                    |                                |              |
| Woody Vine Stratum (Plot size: 15 )  | 31         | = Total Co | over                 |   |                                |              |
| 1  |            |            |                      | Hydrophytic                                 |                                |              |
| 2  |            |            |                      | Vegetation                                  | Υ                              |              |
|  |            | = Total Co | over                 | Present? Ye                                 | s <u>X</u> No                  |              |
| Remarks: (Include photo numbers here or on a separate si   | heet )     |            |                      |   |                                |              |
| Troniano. (moidae prioto nambers nere oi on a separate si  | 1001.)     |            |                      |   |                                |              |
| Mostly open water void of vegetation.  |            |            |                      |   |                                |              |

SOIL Sampling Point: S5W069g

|                        | -  | _                 |                                       |                          |                   | or confir  | m the absence of in           | ndicators.)  |
|------------------------|--|-------------------|---------------------------------------|--------------------------|-------------------|------------|-------------------------------|--|
| Depth (inches)         | Matrix                                   |                   | Color (moist)                         | lox Feature              | Type <sup>1</sup> | Loc²       | -<br>Texture                  | Domonico   |
| (inches)<br>0-12       | Color (moist)<br>2.5Y6/1                 | <u>%</u><br>80    | 10YR 5/8                              | <u>%</u><br>20           | Type              | M          |                               | Remarks  |
|                        |  |                   | 1011 3/6                              |                          | -                 | IVI        | Silty clay                    |  |
| 12-20                  | 10Y 4/1                                  | 100               |                                       |                          |                   |            | clay                          |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |
| -                      |  | <u> </u>          |                                       |                          |                   |            | <u> </u>                      | _  |
| -                      | <u> </u>                                 |                   |                                       |                          |                   | -          |                               |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |
| <sup>1</sup> Type: C=C | Concentration, D=D                       | epletion, RM=     | Reduced Matrix, C                     | S=Covere                 | d or Coate        | ed Sand G  | Grains. <sup>2</sup> Location | n: PL=Pore Lining, M=Matrix.                       |
|                        | Indicators:                              | ,                 | ,                                     |                          |                   |            |                               | Problematic Hydric Soils <sup>3</sup> :            |
| Histoso                | ol (A1)                                  |                   | Sandy                                 | Gleyed M                 | atrix (S4)        |            | Coast Prair                   | rie Redox (A16)                                    |
| Histic E               | Epipedon (A2)                            |                   |                                       | Redox (S                 |                   |            | Iron-Manga                    | anese Masses (F12)                                 |
| Black F                | Histic (A3)                              |                   | Strippe                               | ed Matrix (              | S6)               |            | Other (Exp                    | lain in Remarks)                                   |
|                        | en Sulfide (A4)                          |                   |                                       | Mucky Mi                 |                   |            |                               |  |
| ·                      | ed Layers (A5)                           |                   |                                       | Gleyed M                 |                   |            |                               |  |
| 2 cm M                 | , ,                                      |                   |                                       | ed Matrix                | . ,               |            |                               |  |
|                        | ed Below Dark Surfa                      | ace (A11)         |                                       | Dark Surf                | , ,               |            | 31 - 12 - 1 6 1-              | ordered order or materials and                     |
|                        | Dark Surface (A12)<br>Mucky Mineral (S1) |                   |                                       | ed Dark So<br>Depression |                   | )          |                               | ydrophytic vegetation and drology must be present, |
|                        | lucky Peat or Peat (                     |                   | Redux                                 | Depression               | ) IIS (FO)        |            |                               | urbed or problematic.                              |
|                        | Layer (if observed                       | . ,               |                                       |                          |                   |            | unicss dist                   | urbed of problematic.                              |
|                        |  | •                 |                                       |                          |                   |            |                               |  |
| , , <u> </u>           | nches):                                  |                   | <u> </u>                              |                          |                   |            | Hydric Soil Pre               | sent? Yes X No                                     |
| Remarks:               | iciles).                                 |                   |                                       |                          |                   |            | Hydric 30ii Fre               | Selit: 165 140                                     |
|                        |  |                   |                                       |                          |                   |            |                               |  |
| HYDROLO                | OGY                                      |                   |                                       |                          |                   |            |                               |  |
| Wetland Hy             | ydrology Indicator                       | s:                |                                       |                          |                   |            |                               |  |
| Primary Ind            | icators (minimum o                       | f one is require  | ed; check all that a                  | apply)                   |                   |            | Secondary Ir                  | ndicators (minimum of two required)                |
| X Surface              | e Water (A1)                             |                   | Water-St                              | ained Leav               | /es (B9)          |            | Surface                       | Soil Cracks (B6)                                   |
| High W                 | ater Table (A2)                          |                   | Aquatic F                             | auna (B13                | 3)                |            | Drainage                      | e Patterns (B10)                                   |
| Saturat                | tion (A3)                                |                   | True Aqu                              | atic Plants              | (B14)             |            | Dry-Sea                       | son Water Table (C2)                               |
| Water I                | Marks (B1)                               |                   | Hydrogei                              | n Sulfide C              | dor (C1)          |            | Crayfish                      | Burrows (C8)                                       |
| Sedime                 | ent Deposits (B2)                        |                   | Oxidized                              | Rhizosphe                | eres on Liv       | ing Roots  | s (C3) Saturation             | on Visible on Aerial Imagery (C9)                  |
| Drift De               | eposits (B3)                             |                   | Presence                              | of Reduc                 | ed Iron (C        | 4)         | Stunted                       | or Stressed Plants (D1)                            |
| Algal M                | lat or Crust (B4)                        |                   | Recent Ir                             | on Reduct                | ion in Tille      | d Soils (C | C6) Geomor                    | phic Position (D2)                                 |
| Iron De                | eposits (B5)                             |                   | · · · · · · · · · · · · · · · · · · · | k Surface                | . ,               |            | FAC-Ne                        | utral Test (D5)                                    |
| Inunda                 | tion Vis ble on Aeria                    | al Imagery (B7    | ) Gauge o                             | r Well Data              | a (D9)            |            |                               |  |
| Sparse                 | ly Vegetated Conca                       | ave Surface (B    | 8) Other (E:                          | xplain in R              | emarks)           |            |                               |  |
| Field Obse             | rvations:                                | V                 |                                       |                          |                   |            |                               |  |
| Surface Wa             | iter Present?                            |                   | lo Depth (i                           |                          |                   | _          |                               |  |
| Water Table            | e Present?                               |                   | lo Depth (i                           |                          |                   | _          |                               |  |
| Saturation F           |  | Yes X N           | lo Depth (i                           | nches): Sı               | urface            | Wet        | tland Hydrology Pro           | esent? Yes X No                                    |
| (includes ca           | apillary fringe)<br>ecorded Data (strea  | an gougo moi      | oitoring wall paria                   | I nhoton n               | rovious inc       | nootiona   | ) if available:               |  |
| Describe Re            | ecorded Data (Strea                      | iiii gauge, iiioi | illoring well, aeria                  | гриотов, р               | revious iris      | spections) | ), ii avallable.              |  |
| Remarks:               |  |                   |                                       |                          |                   |            |                               |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |
|                        |  |                   |                                       |                          |                   |            |                               |  |

| Project/Site: I-69 Bloomington to Mart           | insville                  |                | City/Co | unty: Monroe                      |  | Sampling Date: 2-19-2013                  |
|--|---------------------------|----------------|---------|-----------------------------------|--|---|
| Applicant/Owner: INDOT                           |                           |                |         |                                   |  | Sampling Point: S5W069gUPL                |
| Investigator(s): D. White, T. Keefe              |                           |                |         |                                   |  |   |
| Landform (hillslope, terrace, etc.): Flo         | oodplain                  |                |         | Local relief                      | (concave, convex, none):                         | Concave                                   |
| Slope (%): <2% Lat: 39.238                       |                           |                |         |                                   | Datum: NAD 83                                    |   |
| Soil Map Unit Name: Bonnie Silt Loar             |                           |                |         |                                   | NWI classific                                    |   |
| Are climatic / hydrologic conditions or          |                           |                |         |                                   |  |   |
| Are Vegetation, Soil,                            | or Hydrology              | significantly  | disturb | ed? Are "                         | Normal Circumstances" p                          | eresent? Yes X No No                      |
| Are Vegetation, Soil,                            | or Hydrology              | naturally pro  | blemat  | ic? (If ne                        | eded, explain any answe                          | rs in Remarks.)                           |
| SUMMARY OF FINDINGS -                            | Attach site map           | showing        | samı    | pling point l                     | ocations, transects                              | , important features, etc.                |
| Hydrophytic Vegetation Present?                  | Yes N                     | No X           |         | la tha Camalad                    | A  |   |
| Hydric Soil Present?                             | Yes N                     | No <u>x</u>    |         | Is the Sampled<br>within a Wetlar |  | No _ <sup>X</sup>                         |
| Wetland Hydrology Present?                       | Yes N                     | No <u>x</u>    |         | within a wetian                   | 163  |   |
| Remarks:   |                           |                |         |                                   |  |   |
|  |                           |                |         |                                   |  |   |
| <b>VEGETATION</b> – Use scientific               | c names of plants         | S.             |         |                                   |  |   |
| T Observer (District 30                          | `                         | Absolute       |         | nant Indicator                    | Dominance Test work                              | sheet:                                    |
| Tree Stratum (Plot size: 30                      |                           |                |         | ies? Status                       | Number of Dominant Sp<br>That Are OBL, FACW, of  |   |
| 2  |                           |                |         |                                   | Total Number of Domin<br>Species Across All Stra | 4   |
| 4<br>5   |                           |                |         |                                   | Percent of Dominant Sp<br>That Are OBL, FACW, o  |   |
|  |                           |                |         | l Cover                           |  |   |
| Sapling/Shrub Stratum (Plot size: _              |                           |                |         |                                   | Prevalence Index work                            |   |
| 1  |                           |                |         |                                   |  | Multiply by:<br>x 1 =                     |
| 2.<br>3.   |                           |                |         |                                   |  | x 2 = 20                                  |
| 4.   |                           |                |         |                                   |  | x 3 =                                     |
| 5  |                           |                |         |                                   |  | x 4 = 160                                 |
|  |                           |                |         |                                   | UPL species                                      | x 5 =                                     |
| Herb Stratum (Plot size: 5  1 Glechoma hederacea | )                         | 40             | Υ       | FACU                              | Column Totals: 50                                | (A) <u>180</u> (B)                        |
| Carex sp.  |                           | <del></del>    | N       | FACW                              | Prevalence Index                                 | = R/A = 3.6                               |
| 3. Phalaris arundinacea                          |                           | _ <del>5</del> | N       | FACW                              | Hydrophytic Vegetation                           |   |
| 4.   |                           |                |         | <del></del>                       | Dominance Test is                                |   |
| 5  |                           |                |         |                                   | Prevalence Index is                              |   |
| 6  |                           |                |         |                                   | Morphological Ada                                | ptations <sup>1</sup> (Provide supporting |
| 7  |                           |                |         |                                   |  | s or on a separate sheet)                 |
| 8  |                           |                |         |                                   | Problematic Hydrop                               | ohytic Vegetation <sup>1</sup> (Explain)  |
| 9  |                           |                |         |                                   | <sup>1</sup> Indicators of hydric soi            | l and wetland hydrology must              |
| 10   |                           |                |         |                                   | be present, unless distu                         |   |
| Woody Vine Stratum (Plot size: 15                | )                         | 50             | = Total | l Cover                           |  |   |
| 1  |                           |                |         |                                   | Hydrophytic                                      |   |
| 2  |                           |                |         |                                   | Vegetation                                       | a Na X                                    |
|  |                           |                |         | l Cover                           | Present? Yes                                     | s No X                                    |
| Remarks: (Include photo numbers I                | <br>nere or on a separate | sheet.)        |         |                                   |  |   |
| ,          |                           | ,              |         |                                   |  |   |
| Mostly open water void of vegeta                 | tion.                     |                |         |                                   |  |   |

SOIL Sampling Point: S5W069gUPL

| Depth  | Matri   | Х              |                      | edox Features                | S               |            |   |  |  |
|--|---|----------------|----------------------|------------------------------|-----------------|------------|---|--|--|
| (inches)   | Color (moist)   |                | Color (moist)        |                              |                 | .oc²       | Texture   | Remarks  |  |
| 0-8  | 10YR 4/4  | 95             | 10YR 5/8             | 5                            | M               |            | Silty clay  |  |  |
| 8-20   | 10YR 4/6  | 95             | 10YR6/8              | 5                            | M               |            | Silty clay  |  |  |
|  |   |                |                      |                              |                 |            |   |  |  |
|  |   |                |                      |                              |                 |            |   |  |  |
|  |   |                |                      |                              |                 |            |   |  |  |
|  |   |                |                      |                              | · <del></del>   |            |   |  |  |
|  |   |                | -                    |                              |                 |            |   |  |  |
|  |   |                | · -                  |                              | ·               |            |   |  |  |
|  |   | Depletion, RN  | M=Reduced Matrix     | , CS=Covered                 | d or Coated Sa  | and Grai   |   | eation: PL=Pore Lining, M=Matrix.                        |  |
| Hydric Soil  |   |                | 0                    | de Olever d'Ma               | (O.4)           |            |   | for Problematic Hydric Soils <sup>3</sup> :              |  |
| Histoso  | i (A1)<br>pipedon (A2)  |                |                      | dy Gleyed Ma<br>dy Redox (S5 |                 |            |   | Prairie Redox (A16)<br>anganese Masses (F12)             |  |
|  | istic (A3)  |                |                      | ped Matrix (S                |                 |            |   | Explain in Remarks)                                      |  |
|  | en Sulfide (A4)   |                |                      | my Mucky Mir                 |                 |            |   | ,,_,   |  |
|  | d Layers (A5)   |                |                      | my Gleyed Ma                 |                 |            |   |  |  |
|  | uck (A10)   |                |                      | leted Matrix (I              |                 |            |   |  |  |
|  | d Below Dark Sui  |                |                      | ox Dark Surfa                | , ,             |            | 3, ,, ,   |  |  |
| Thick Dark Surface (A12) Depleted Dark Surface (F7)<br>Sandy Mucky Mineral (S1) Redox Depressions (F8) |   |                |                      |                              |                 |            |   | of hydrophytic vegetation and hydrology must be present, |  |
|  | 5 cm Mucky Peat or Peat (S3)                                  |                |                      |                              |                 |            |   | disturbed or problematic.                                |  |
|  | 5 cm Mucky Peat or Peat (53) lestrictive Layer (if observed): |                |                      |                              |                 |            |   |  |  |
|  | •   | •              |                      |                              |                 |            |   |  |  |
|  | ches):  |                |                      |                              |                 |            | Hydric Soil   | Present? Yes No X  |  |
| Remarks:   |   |                |                      |                              |                 |            |   |  |  |
| LIVEROLO   | acv.  |                |                      |                              |                 |            |   |  |  |
| HYDROLO Wetland Hy   | drology Indicate  | ors.           |                      |                              |                 |            |   |  |  |
| •  | -   |                | uired; check all tha | t apply)                     |                 |            | Seconda   | ary Indicators (minimum of two required)                 |  |
| Surface  | •   | or one is requ |                      | Stained Leave                | es (B9)         |            |   | ace Soil Cracks (B6)                                     |  |
|  | ater Table (A2)   |                |                      | c Fauna (B13)                |                 |            |   | nage Patterns (B10)                                      |  |
| Saturati   |   |                |                      | quatic Plants                |                 |            | Drainage Patterns (B10) Dry-Season Water Table (C2) |  |  |
|  | Marks (B1)  |                |                      | en Sulfide Od                |                 |            |   | rfish Burrows (C8)                                       |  |
| Sedime   | nt Deposits (B2)  |                | Oxidize              | ed Rhizosphe                 | res on Living I | Roots (C   | 3) Satu   | ration Visible on Aerial Imagery (C9)                    |  |
| Drift De   | posits (B3)   |                | Preser               | ice of Reduce                | ed Iron (C4)    |            | Stun  | nted or Stressed Plants (D1)                             |  |
| Algal M  | at or Crust (B4)  |                | Recen                | t Iron Reducti               | on in Tilled So | oils (C6)  | Geo   | morphic Position (D2)                                    |  |
| Iron De  |   |                |                      | uck Surface (                | (C7)            |            | FAC   | -Neutral Test (D5)                                       |  |
|  | ion Vis ble on Aer  |                |                      | or Well Data                 |                 |            |   |  |  |
|  | y Vegetated Cond  | cave Surface   | (B8) Other (         | Explain in Re                | emarks)         | 1          |   |  |  |
| Field Obser  |   | .,             | Y -                  |                              |                 |            |   |  |  |
| Surface Wat  |   |                | No X Depth           |                              |                 |            |   |  |  |
| Water Table  |   |                | No X Depth           |                              |                 |            |   | D V  |  |
| Saturation F   | resent?<br>pillary fringe)                                    | Yes            | No X Depth           | (inches):                    |                 | Wetlar     | nd Hydrology  | y Present? Yes No X                                      |  |
| Describe Re  | ecorded Data (stre  | eam gauge, n   | nonitoring well, aeı | rial photos, pr              | evious inspec   | tions), if | available:  |  |  |
|  | •   | - 1            |                      | ·                            |                 | •          |   |  |  |
| Remarks:   |   |                |                      |                              |                 |            |   |  |  |
|  |   |                |                      |                              |                 |            |   |  |  |
|  |   |                |                      |                              |                 |            |   |  |  |
|  |   |                |                      |                              |                 |            |   |  |  |
|  |   |                |                      |                              |                 |            |   |  |  |

| Project/Site: I-69 Section 5                              |                    | (                 | City/Co     | unty: Monroe     | Sampling Date: 7/10/12   |             |               |          |
|---|--------------------|-------------------|-------------|------------------|--|-------------|---------------|----------|
| Applicant/Owner: INDOT                                    |                    |                   |             |                  | State: IN  | Sampling    | Point: W069i- | ·1       |
| Investigator(s): J. Dabkowski                             |                    |                   | Section     | , Township, Rai  | nge: <u>4,9N,1W</u>  |             |               |          |
| Landform (hillslope, terrace, etc.): Floodp               | lain               |                   |             | Local relief     | (concave, convex, none):   | Concave     |               |          |
| Slope (%): <5% Lat: 39.1418                               |                    | I                 |             |                  |  |             | AD 83         |          |
| Soil Map Unit Name: Bonnie silt loam (Bo                  | ))                 |                   |             |                  | NWI classific  |             |               |          |
| Are climatic / hydrologic conditions on the               | site typical for   | this time of yea  | ar? Yes     | s No _           | X (If no, explain in R   | emarks.)    |               |          |
| Are Vegetation, Soil, or Hy                               | ydrology           | _ significantly   | disturbe    | ed? Are "        | 'Normal Circumstances" p   | resent? Y   | es X N        | o        |
| Are Vegetation, Soil, or Hy                               | ydrology           | _ naturally prol  | blemati     | c? (If ne        | eded, explain any answe  | rs in Rema  | rks.)         |          |
| SUMMARY OF FINDINGS - Atta                                | ach site ma        | p showing         | samp        | oling point le   | ocations, transects  | , importa   | ant feature   | s, etc.  |
| Hydrophytic Vegetation Present?                           | Yesx               | No                |             |                  |  |             |               |          |
| Hydric Soil Present?                                      | Yesx               |                   |             | s the Sampled    |  |             |               |          |
| Wetland Hydrology Present?                                | Yesx               | No                | '           | within a Wetlar  | 1d? Yes^   | No_         |               |          |
| Remarks: This data point met all three wetland criteria a | and is within a we | etland. This data | a point v   | vas taken during | severe drought conditions.   |             |               |          |
|   |                    |                   |             | 3                |  |             |               |          |
| VEGETATION – Use scientific na                            | mes of plan        | ts.               |             |                  |  |             |               |          |
|   |                    | Absolute          |             | nant Indicator   | Dominance Test work  | sheet:      |               |          |
| Tree Stratum (Plot size:                                  |                    |                   |             | es? Status       | Number of Dominant Sp<br>That Are OBL, FACW, o                     |             | 4             | (A)      |
| 2   |                    |                   |             |                  | Total Number of Domin  | ant         |               |          |
| 3   |                    |                   |             |                  | Species Across All Stra  | ıta:        | <del>1</del>  | (B)      |
| 4<br>5  |                    |                   |             |                  | Percent of Dominant Sp   |             | 100           |          |
| J   |                    |                   | = Total     | Cover            | That Are OBL, FACW, o  | or FAC: _   | 100           | (A/B)    |
|   | )                  |                   | - Total     | 00401            | Prevalence Index work  | ksheet:     |               |          |
| 1. Fraxinus pennsylvanica                                 |                    | 5                 | Yes         | FACW             | Total % Cover of:  |             | Multiply by:  | _        |
| 2. Cephalanthus occidentalis                              |                    | 3                 | Yes         | OBL              | OBL species88  |             |               | _        |
| 3   |                    |                   |             |                  |  | x 2         |               | -        |
| 4   |                    |                   |             |                  | FAC species15  |             |               | _        |
| 5   |                    |                   |             |                  | FACU species0 UPL species0   | x 4 :       |               | _        |
| 1m2 Herb Stratum (Plot size:                              | )                  | 8                 | = Total     | Cover            | Column Totals:   |             |               | —<br>(B) |
| 1. Eleocharis obtusa                                      |                    | 40                | Yes         | OBL              | Column Totals.   | (A)         |               | _ (b)    |
| 2. Echinochloa muricata                                   |                    | 40                | Yes         | OBL              | Prevalence Index   | = B/A = _   | 1.3           | _        |
| 3. Xanthium strumarium                                    |                    | 10                | No          | FAC              | Hydrophytic Vegetation   | on Indicato | rs:           |          |
| 4. Phyla lanceolata                                       |                    | 5                 | No          | OBL              | 1 - Rapid Test for ⊦   |             | Vegetation    |          |
| 5. Symphyotricum onterionis                               |                    | 3                 | No          | FAC              | ✓ 2 - Dominance Tes  |             |               |          |
| 6. Symphyotrichum lanceolatum                             |                    | 2                 | No          | <u>FAC</u>       | ✓ 3 - Prevalence Inde  |             | 1             |          |
| 7   |                    |                   |             |                  | 4 - Morphological A data in Remarks                                |             |               |          |
| 8   |                    |                   |             |                  | Problematic Hydro  |             |               |          |
| 9   |                    |                   |             |                  | _  | , ,         |               | ,        |
| 10  |                    |                   | <br>= Total | Cover            | <sup>1</sup> Indicators of hydric soil<br>be present, unless distu |             |               | nust     |
| Woody Vine Stratum (Plot size:                            |                    |                   |             |                  | po process, armose diete   |             | - Diomatic    |          |
| 1   |                    |                   |             |                  | Hydrophytic  |             |               |          |
| 2   |                    |                   | = Total     | Cover            | Vegetation<br>Present? Yes   | sx          | No            |          |
| Remarks: (Include photo numbers here                      | or on a separa     |                   | - rotal     | Cover            |  |             |               |          |
| ,   | P W                | /                 |             |                  |  |             |               |          |
| This data point met the hydrophytic vegetatio             | n criteria.        |                   |             |                  |  |             |               |          |

US Army Corps of Engineers Midwest Region – Version 2.0

SOIL Sampling Point: W069i-1

| Profile Desc           | cription: (Describe t    | o the depth    | needed to docun       | nent the i  | ndicator           | or confirn       | n the absence        | e of indicators.)                             |
|------------------------|--------------------------|----------------|-----------------------|-------------|--------------------|------------------|----------------------|---|
| Depth                  | Matrix                   |                | Redo                  | x Feature   | s                  |                  |                      |   |
| (inches)               | Color (moist)            | %              | Color (moist)         | %           | _Type <sup>1</sup> | Loc <sup>2</sup> | Texture              | Remarks                                       |
| 0-6                    | 10YR 3/2                 | 100            |                       |             |                    |                  | Silt loam            | Riprap present                                |
| 6-18                   | 10YR 4/2                 | 70             | 7.5YR 4/6             | 30          | RM                 | PL               | Silt loam            |   |
|                        |                          |                | 7.0110                |             | TXIVI              |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
| <sup>1</sup> Type: C=C | oncentration, D=Depl     | etion, RM=R    | educed Matrix, MS     | S=Masked    | Sand Gr            | ains.            | <sup>2</sup> Locatio | n: PL=Pore Lining, M=Matrix.                  |
| Hydric Soil            | Indicators:              |                |                       |             |                    |                  | Indicators           | s for Problematic Hydric Soils <sup>3</sup> : |
| Histosol               | (A1)                     |                | Sandy C               | Sleyed Ma   | atrix (S4)         |                  | Coast                | Prairie Redox (A16)                           |
| Histic E               | pipedon (A2)             |                | Sandy F               | Redox (S5   | )                  |                  | Dark                 | Surface (S7)                                  |
| Black H                | istic (A3)               |                | Stripped              | Matrix (S   | 66)                |                  | Iron-N               | Manganese Masses (F12)                        |
| Hydroge                | en Sulfide (A4)          |                | Loamy N               | Aucky Mir   | neral (F1)         |                  | Very S               | Shallow Dark Surface (TF12)                   |
| _                      | d Layers (A5)            |                |                       | Gleyed Ma   |                    |                  | Other                | (Explain in Remarks)                          |
| ı —                    | uck (A10)                |                |                       | d Matrix (  | ,                  |                  |                      |   |
| ı —                    | d Below Dark Surface     | (A11)          | _                     | ark Surfa   | ٠,,                |                  | 2                    |   |
| l —                    | ark Surface (A12)        |                |                       |             | ırface (F7)        |                  |                      | s of hydrophytic vegetation and               |
| . —                    | Mucky Mineral (S1)       | `              | Redox L               | epressio    | ns (F8)            |                  |                      | nd hydrology must be present,                 |
|                        | ucky Peat or Peat (S3    | )              |                       |             |                    |                  | unies                | s disturbed or problematic.                   |
|                        | Layer (if observed):     |                |                       |             |                    |                  |                      |   |
|                        |                          |                | _                     |             |                    |                  | Hydric Soi           | Present? YesX No                              |
| Depth (in              | ches):                   |                | _                     |             |                    |                  | - Trydine doi        | 1103cm: 103 NO                                |
| Remarks:               |                          |                |                       |             |                    |                  |                      |   |
| This data poin         | t exhibited a depleted n | natrix which m | eets the hydric soils | criteria. F | liprap was         | oresent at t     | he surface.          |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
| HYDROLO                | GY.                      |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
| -                      | drology Indicators:      |                |                       |             |                    |                  |                      |   |
| Primary Indi           | cators (minimum of o     | ne is required | d; check all that ap  | ply)        |                    |                  | <u>Second</u>        | ary Indicators (minimum of two required)      |
| Surface                | Water (A1)               |                | Water-Stai            |             | , ,                |                  | Sur                  | face Soil Cracks (B6)                         |
| <u>√</u> High Wa       | ater Table (A2)          |                | Aquatic Fa            | ,           | ,                  |                  | _                    | ainage Patterns (B10)                         |
| <u>√</u> Saturati      | on (A3)                  |                | True Aqua             | tic Plants  | (B14)              |                  | Dry                  | y-Season Water Table (C2)                     |
| Water M                | 1arks (B1)               |                | Hydrogen              | Sulfide O   | dor (C1)           |                  | Cra                  | ayfish Burrows (C8)                           |
| Sedime                 | nt Deposits (B2)         |                | Oxidized R            | thizosphe   | res on Liv         | ing Roots        | (C3) <u>√</u> Sat    | turation Visible on Aerial Imagery (C9)       |
| Drift De               | posits (B3)              |                | Presence              | of Reduce   | ed Iron (C4        | <b>!</b> )       | Stu                  | inted or Stressed Plants (D1)                 |
| Algal Ma               | at or Crust (B4)         |                | Recent Iro            | n Reducti   | on in Tille        | d Soils (Ce      | 6) <u> </u>          | omorphic Position (D2)                        |
| Iron Dep               | oosits (B5)              |                | Thin Muck             | Surface (   | C7)                |                  | ∡ FA                 | C-Neutral Test (D5)                           |
| Inundati               | on Visible on Aerial Ir  | nagery (B7)    | Gauge or \            | Well Data   | (D9)               |                  |                      |   |
| Sparsel                | y Vegetated Concave      | Surface (B8    | ) Other (Exp          | lain in Re  | marks)             |                  |                      |   |
| Field Obser            | vations:                 |                |                       |             |                    |                  |                      |   |
| Surface Wat            | er Present? Ye           | es No          | X Depth (inc          | ches):      |                    |                  |                      |   |
| Water Table            |                          |                | Depth (inc            |             |                    | _                |                      |   |
| Saturation P           |                          |                | Depth (inc            |             | 0                  | -   Wetl         | and Hydrolog         | gy Present? Yes X No                          |
|                        | pillary fringe)          | INC            | Deptil (inc           |             |                    | _   <b>**</b> eu | and mydrolog         | gy Fresent: Tes No                            |
|                        | corded Data (stream      | gauge, moni    | toring well, aerial p | hotos, pr   | evious ins         | pections),       | if available:        |   |
|                        |                          |                |                       |             |                    |                  |                      |   |
| Remarks:               |                          |                |                       |             |                    |                  |                      |   |
| l                      | t exhibited two primary  | and three sec  | ondary wetland hydr   | ology indic | ators. This        | data point       | met he wetland       | d hydrology criteria.                         |
|                        | , , ,                    |                | , ,,                  |             |                    |                  |                      | -   |
|                        |                          |                |                       |             |                    |                  |                      |   |
|                        |                          |                |                       |             |                    |                  |                      |   |

| Project/Site: 1-69 Bloomington to Martinsvi | ille                                  |               | City/County | Monroe                   |  | Sampling Date: 10-14-11                         | l          |
|---|---------------------------------------|---------------|-------------|--------------------------|--|---|------------|
| Applicant/Owner: INDOT                      |                                       |               |             |                          |  | Sampling Point: S5W070                          |            |
| Investigator(s): K. Schroeder, D. White     |                                       |               |             |                          |  |   |            |
| Landform (hillslope, terrace, etc.): Floodp | lain                                  |               | ।           | Local relief             | (concave, convex, none):                 | None  |            |
| Slope (%): <2% Lat: 39.2361841              |                                       |               |             |                          |  |   |            |
|   |                                       |               |             |                          | NWI classific                            |   |            |
| Are climatic / hydrologic conditions on the |                                       |               |             |                          |  |   |            |
| Are Vegetation, Soil, or Hy                 |                                       |               |             |                          |  |   | )          |
| Are Vegetation, Soil, or Hy                 |                                       |               |             |                          |  |   |            |
| SUMMARY OF FINDINGS – Att                   |                                       |               |             |                          |  |   | s, etc.    |
| Hydrophytic Vegetation Present?             | Yes X No                              | )             |             |                          |  |   |            |
| Hydric Soil Present?                        | Yes X No                              |               |             | e Sampled<br>in a Wetlar |  | No  |            |
| Wetland Hydrology Present?                  | Yes X No                              | ·             | With        | iii a vveiiai            | iu! Tes <u>^</u>                         |   |            |
| Remarks:                                    |                                       |               |             |                          |  |   |            |
|   |                                       |               |             |                          |  |   |            |
| VEGETATION – Use scientific na              | ames of plants.                       |               |             |                          |  |   |            |
|   | · · · · · · · · · · · · · · · · · · · | Absolute      | Dominant    | Indicator                | Dominance Test work                      | sheet:  |            |
| Tree Stratum (Plot size: 30                 | )                                     |               | Species?    |                          | Number of Dominant Sp                    | pecies  |            |
| 1. Platanus occidentalis                    |                                       | 5             | <u>Y</u>    | FACW                     | That Are OBL, FACW, o                    | or FAC: 3                                       | (A)        |
| 2   |                                       |               |             |                          | Total Number of Domina                   | ant   | <b>(D)</b> |
| 3<br>4                                      |                                       |               |             |                          | Species Across All Stra                  | ta: <u>3</u>                                    | (B)        |
| 5.  |                                       |               |             |                          | Percent of Dominant Sp                   |   | (A /D)     |
|   |                                       | 5             | = Total Cov | /er                      | That Are OBL, FACW, o                    | of FAC: 100                                     | (A/B)      |
|   | )                                     |               |             |                          | Prevalence Index worl                    |   |            |
|   |                                       |               | <u>Y</u> N  |                          | Total % Cover of:                        |   |            |
| 2. Salix sp.                                |                                       | · <del></del> |             | FACW                     |  | $x 1 = \frac{110}{34}$<br>$x 2 = \frac{34}{34}$ |            |
| 3   |                                       |               |             |                          |  | x 3 =   |            |
| 4.       5.                                 |                                       | -             |             |                          |  | x 4 = 20  |            |
|   |                                       | 12            | = Total Cov | /er                      | · ·                                      | x 5 =   |            |
| Herb Stratum (Plot size: 5                  | )                                     |               |             |                          | Column Totals: 132                       |   | _ (B)      |
| 1. Typha latifolia                          |                                       | 80            | <u>Y</u>    | OBL                      | 5  | D/A 124   |            |
| 2. Juncus effussus 3. Carex lupulina        |                                       | 10            | N<br>N      | OBL                      | Prevalence Index  Hydrophytic Vegetation | ·   |            |
| 3. Carex rupulina  4. Solidago canadensis   |                                       | 5             | N           | OBL<br>FACU              | X Dominance Test is                      |   |            |
| 5.  |                                       |               |             | 1700                     | X Prevalence Index is                    |   |            |
| 6.  |                                       |               |             |                          | <del></del>                              | otations <sup>1</sup> (Provide supporti         | ing        |
| 7   |                                       |               |             |                          | data in Remarks                          | or on a separate sheet)                         |            |
| 8.  |                                       |               |             |                          | Problematic Hydrop                       | ohytic Vegetation <sup>1</sup> (Explain         | า)         |
| 9   |                                       |               |             |                          | 11                                       | landereda ad berdealane es                      |            |
| 10  |                                       |               |             |                          | be present, unless distu                 | l and wetland hydrology murbed or problematic.  | iust       |
| Woody Vine Stratum (Plot size: 15           | )                                     | 115           | = Total Cov | /er                      |  |   |            |
| 1   |                                       |               |             |                          | Hydrophytic                              |   |            |
| 2   |                                       |               |             |                          | Vegetation                               | Υ   |            |
|   |                                       |               | = Total Cov | /er                      | Present? Yes                             | s <u>X</u> No                                   |            |
| Remarks: (Include photo numbers here        | or on a senarate s                    |               |             |                          |  |   |            |
| Tomaino. (moidue prioto flumbers fiere      | or orra separate s                    |               |             |                          |  |   |            |
|   |                                       |               |             |                          |  |   |            |
| 1   |                                       |               |             |                          |  |   |            |

SOIL Sampling Point: S5W070a

|                                       |   | to the dep    |                           |                 |               | or confi         | irm the absence of indicators.)   |                |
|---------------------------------------|---|---------------|---------------------------|-----------------|---------------|------------------|---|----------------|
| Depth                                 | Matrix                                  | 0/            |                           | ox Feature      | 4             | Loc <sup>2</sup> |   |                |
| (inches)<br>0-6                       | Color (moist)                           | <u>%</u>      | Color (moist)             | %<br>1 <i>E</i> | Type'         | M                | Texture Remarks Silty clay loam   | —              |
|                                       | 10YR 7/1                                | 85            | 7.5YR 6/8                 | _ 15            |               |                  | _ <del>_ ` ` `</del>  |                |
| 6-20                                  | 2.5Y 7/1                                | 80            | 10YR 5/8                  | 20              |               | M                | clay loam_  |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       | -                                       |               |                           |                 |               | -                |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
| <sup>1</sup> Type: C=C                | Concentration, D=De                     | pletion, RM:  | =Reduced Matrix, C        | S=Covere        | ed or Coate   | ed Sand          | Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.                                    |                |
|                                       | Indicators:                             |               |                           |                 |               |                  | Indicators for Problematic Hydric Soils <sup>3</sup> :                                      |                |
| Histoso                               | l (A1)                                  |               | Sandy                     | Gleyed M        | atrix (S4)    |                  | Coast Prairie Redox (A16)   |                |
| Histic E                              | pipedon (A2)                            |               |                           | Redox (S        |               |                  | Iron-Manganese Masses (F12)   |                |
|                                       | listic (A3)                             |               |                           | ed Matrix (     |               |                  | Other (Explain in Remarks)  |                |
|                                       | en Sulfide (A4)                         |               |                           | -               | ineral (F1)   |                  |   |                |
|                                       | d Layers (A5)                           |               |                           | Gleyed M        |               |                  |   |                |
| 2 cm M                                | , ,                                     | (8.4.4)       |                           | ed Matrix       | ` '           |                  |   |                |
|                                       | ed Below Dark Surfa                     | ce (A11)      |                           | Dark Surf       | ` '           |                  | 3 Indicators of hydrophytic vegetation and  |                |
| · · · · · · · · · · · · · · · · · · · | Park Surface (A12) Mucky Mineral (S1)   |               |                           | Depression      | urface (F7    | )                | <sup>3</sup> Indicators of hydrophytic vegetation and<br>wetland hydrology must be present, |                |
|                                       | ucky Peat or Peat (\$                   | 33)           | \\\                       | Depressi        | ) iis (i o)   |                  | unless disturbed or problematic.  |                |
|                                       | Layer (if observed                      |               |                           |                 |               |                  |   |                |
| Type:                                 | ., .                                    |               |                           |                 |               |                  |   |                |
|                                       | nches):                                 |               |                           |                 |               |                  | Hydric Soil Present? Yes X No   |                |
| Remarks:                              |   |               | <u> </u>                  |                 |               |                  | Tryune con the sent: Tes No   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
| HYDROLO                               | OGY                                     |               |                           |                 |               |                  |   |                |
| Wetland Hy                            | drology Indicators                      | :             |                           |                 |               |                  |   |                |
| Primary Indi                          | icators (minimum of                     | one is requi  | red; check all that a     | pply)           |               |                  | Secondary Indicators (minimum of two requi  | red)           |
| _                                     | e Water (A1)                            |               | X Water-Sta               | ained Lea       | ves (B9)      |                  | Surface Soil Cracks (B6)  |                |
| X High W                              | ater Table (A2)                         |               | Aquatic F                 | auna (B1        | 3)            |                  | Drainage Patterns (B10)   |                |
| X Saturat                             | ion (A3)                                |               | True Aqu                  | atic Plants     | s (B14)       |                  | Dry-Season Water Table (C2)   |                |
| Water N                               | Marks (B1)                              |               | Hydrogen                  |                 |               |                  | Crayfish Burrows (C8)   |                |
| Sedime                                | ent Deposits (B2)                       |               | X Oxidized                | Rhizosph        | eres on Liv   | ing Root         | ots (C3) Saturation Visible on Aerial Imagery (C9   | <del>)</del> ) |
| Drift De                              | posits (B3)                             |               | Presence                  | of Reduc        | ed Iron (C    | 4)               | Stunted or Stressed Plants (D1)   |                |
| Algal M                               | at or Crust (B4)                        |               | Recent Ire                | on Reduc        | tion in Tille | d Soils (        | (C6) Geomorphic Position (D2)   |                |
| Iron De                               | posits (B5)                             |               | Thin Muc                  | k Surface       | (C7)          |                  | FAC-Neutral Test (D5)   |                |
| Inundat                               | ion Vis ble on Aerial                   | Imagery (B    | 7) Gauge or               | Well Data       | a (D9)        |                  |   |                |
| Sparse                                | ly Vegetated Conca                      | /e Surface (  | B8) Other (Ex             | plain in R      | emarks)       |                  |   |                |
| Field Obse                            |   |               | V                         |                 |               |                  |   |                |
| Surface Wa                            |   |               | No $\frac{X}{}$ Depth (ir |                 |               |                  |   |                |
| Water Table                           |   |               | No Depth (ir              |                 |               |                  |   |                |
| Saturation F                          |   | Yes X         | No Depth (ir              | nches): S       | urface        | We               | etland Hydrology Present? Yes $\frac{X}{}$ No $$  |                |
| (includes ca                          | pillary fringe)<br>ecorded Data (strear | m dalide m    | onitoring well perial     | nhotos n        | revious ins   | nactions         | s) if available:  |                |
| Describe Ne                           | ecolued Data (Streat                    | ii gauge, iii | onitoning well, aerial    | priotos, p      | ievious iris  | peclions         | 5), ii avaliabie.   |                |
| Remarks:                              |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |

| Applicant/Owner_MODT  | Project/Site: I-69 Bloomington to Martinsville      |                 | Citv/Co | ounty: Monroe   |                            | Sampling Date:      | 10-13-11      |
|---|---|-----------------|---------|-----------------|----------------------------|---------------------|---------------|
|   | •   |                 |         |                 |                            |                     |               |
| Landform (hillslope, terrace, etc.)   Elocolpsim   Local relief (concave, convex, none)   More  | •   |                 |         |                 |                            | Camping round       |               |
| Slope (%): <a href="#">Slope (%): <a circumstances"="" href="&lt;/td&gt;&lt;td&gt;• , ,&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;None&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;  Soli Map Unit Name   Bonnie Silt Loam&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)  Are Vegetation Soil or Hydrology instituted? Are Normal Circumstances' present? Yes X No Are Vegetation Soil or Hydrology instituted? Are Normal Circumstances' present? Yes X No No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No No Substituted Present? Yes X No Substituted Present Present&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;_&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;  Are Vegetation&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;  Summary   Soil&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;  Summary   Common   Continue   Conti&lt;/td&gt;&lt;td&gt;Are Vegetation, Soil, or Hydrology&lt;/td&gt;&lt;td&gt;_ significantly&lt;/td&gt;&lt;td&gt;disturb&lt;/td&gt;&lt;td&gt;ped? Are '&lt;/td&gt;&lt;td&gt;" normal="" p<="" td=""><td>resent? Yes X</td><td> No</td></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a></a> | resent? Yes X                                       | No              |         |                 |                            |                     |               |
| Hydrophytic Vegetation Present?   | Are Vegetation, Soil, or Hydrology                  | _ naturally pro | blema   | tic? (If ne     | eeded, explain any answe   | rs in Remarks.)     |               |
| Welland Hydrology Present?   Yes X   No     Within a Wetland?   Yes X   No  | SUMMARY OF FINDINGS - Attach site ma                | p showing       | sam     | pling point l   | ocations, transects        | , important fo      | eatures, etc. |
| Welland Hydrology Present?   Yes X   No     Within a Wetland?   Yes X   No  | Hydrophytic Vegetation Present? Yes X               | No              |         |                 |                            |                     |               |
| VEGETATION - Use scientific names of plants:  |   |                 |         | -               |                            | Ma                  |               |
| VEGETATION – Use scientific names of plants.           Tree Stratum (Plot size: 30 )         Absolute % Cover Species? Species? Status (Plot size: 30 )         Absolute % Cover Species? Species? Status (Plot size: 30 )         Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)           1. Acer rubrum         45 Y FACW         FACU That Are OBL, FACW, or FAC: 5 (A)           2. Querous palustris         20 Y FACW           3. Carya glabra         10 N FACW           4. Querous velutina         5 N FACW           5. Ulmius americana         5 N FACW           85 = Total Cover         Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)           2 Linders berazioin         10 Y FACW           2. Linders berazioin         10 Y FACW           4. Symphyotrichum lateriflorum         5 N FACW           2. Symphyotrichum lateriflorum         10 Y FACW           2. Carex lupulina         5 Y OBL           3. Symphyotrichum lateriflorum         10 Y FACW           4. Symphyotrichum lateriflorum         5 Y OBL           5 Y OBL         Prevalence Index is \$3.0'           6 Symphyotrichum lateriflorum         5 Y OBL           6 Symphyotrichum lateriflorum         5 Y OBL           7 Symphyotrichum lateriflorum         5 Y OBIC SPECIAL SPECIAL SPECIAL SPECIAL SPECIAL SPECIAL SPECIAL SPECIAL SPEC   |   |                 |         | within a wetiar | na? Yes <u>^</u>           | No                  | _             |
| Absolute   |   | ts              |         |                 |                            |                     |               |
| Acer rubrum   |   |                 | Dom     | inant Indicator | Dominance Test work        | sheet:              |               |
| 20  |   | ·               |         |                 | Number of Dominant Sp      | pecies              |               |
| 3. Carya glabra   10  |   |                 |         |                 | That Are OBL, FACW, o      | or FAC: 5           | (A)           |
| A   Quercus velutina   S   N   UPL   Stratum (Plot size: 15   )   |   |                 |         |                 | Total Number of Domin      |                     |               |
| Sapling/Shrub Stratum (Plot size: 15   10   Y   FACW   FACW   FACW   Total (Cover of the training of the tra  |   |                 |         |                 | Species Across All Stra    | ta: 6               | (B)           |
| Sapiling/Shrub Stratum (Plot size: 15   )   1. Liquidambar styraciflua   10   Y   FACW   Total % Cover of:   Multiply by:   | **  | <u>-</u>        |         | <del></del>     | Percent of Dominant Sp     |                     |               |
| Sapling/Shrub Stratum (Plot size: 15   10   Y   FACW  | 5. Office affectana                                 |                 |         |                 | That Are OBL, FACW, o      | or FAC: 83          | (A/B)         |
| 1. Liquidambar styraciflua         10         Y         FACW         Total % Cover of:         Multiply by:           2. Lindera benzoin         10         Y         FACW         OBL species         5         x 1 = 5         S           3. Ulmus americana         5         N         FACW         FACW species         60         x 2 = 120         FACW species         60         x 2 = 120         FACW species         5         x 4 = 220         TOTAL Species         5         x 5 = 25         TOTAL Species         5         x 60         TOTAL Species         5         x 60         TOTAL Species         5         x 7 = 220         TOTAL Species         5         x 7 = 25         TOTAL Species         5         x 7 = 25         TOTAL Species         5         x 8 = 25         TOTAL Species         5         x 8 = 25         TOTAL Sp  | Sapling/Shrub Stratum (Plot size: 15 )              | 00              | = lota  | al Cover        | Prevalence Index wor       | ksheet:             |               |
| Sample   S  | ,   | 10              | Υ       | FACW            | Total % Cover of:          | Multip              | oly by:       |
| 4   | 2. Lindera benzoin                                  | 10              | Υ       | FACW            | OBL species 5              | x 1 = 5             |               |
| 5   | 3. Ulmus americana                                  | 5               | N       | FACW            | FACW species 60            | x 2 = <u>120</u>    | )             |
| Herb Stratum (Plot size: 5   )   10   | 4   |                 |         |                 |                            |                     |               |
| Herb Stratum (Plot size: 5       )         1. Symphyotrichum lateriflorum       10       Y       FACW         2. Carex lupulina       5       Y       OBL       Prevalence Index = B/A = 2.96         3   | 5   |                 |         |                 |                            |                     |               |
| 1. Symphyotrichum lateriflorum 2. Carex lupulina 5 Y OBL Prevalence Index = B/A = 2.96  Hydrophytic Vegetation Indicators: X Dominance Test is >50% X Prevalence Index is ≤3.0¹ — Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)  9   | Hart Overtone (Districts 5                          | 25              | = Tota  | al Cover        |                            |                     |               |
| 2. Carex lupulina  5 Y OBL Prevalence Index = B/A = 2.96  Hydrophytic Vegetation Indicators:  X Dominance Test is >50% X Prevalence Index is ≤3.0¹ — Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation¹ (Explain)  9  |   | 10              | Υ       | FACW            | Column Totals: 125         | (A) 370             | <u>)</u> (B)  |
| 3.  |   | 5               | Y       |                 | Prevalence Index           | = B/A = 2.96        |               |
| 4   |   |                 |         |                 |                            |                     |               |
| 5   |   |                 |         |                 |                            |                     |               |
| 6   |   |                 |         |                 | X Prevalence Index is      | s ≤3.0 <sup>1</sup> |               |
| 7   |   |                 |         |                 |                            |                     |               |
| 9   |   |                 |         |                 |                            |                     | •             |
| 10  | 8   |                 |         |                 | Problematic Hydror         | ohytic Vegetation   | i' (Explain)  |
| 10  | 9   |                 |         |                 | 1 Indicators of hydric asi | l and watland by    | dralagy mysat |
| Woody Vine Stratum         (Plot size: 15   |   |                 |         |                 |                            |                     |               |
| 1   | W 1 1/2 0: 4 (D) 4 : 15                             | 15              | = Tota  | al Cover        |                            | <u> </u>            |               |
| 2 = Total Cover Vegetation Present? Yes X No  |   |                 |         |                 | Hydronhytic                |                     |               |
| = Total Cover   |   |                 |         |                 | Vegetation                 | V                   |               |
|   |   |                 |         | al Cover        | Present? Yes               | s <u>X</u> No _     |               |
| Remarks: (Include photo numbers here or on a separate sheet.)   |   |                 | - 1016  |                 |                            |                     |               |
|   | Remarks: (Include photo numbers here or on a separa | te sheet.)      |         |                 |                            |                     |               |
|   |   |                 |         |                 |                            |                     |               |

SOIL Sampling Point: S5W070b

| Profile Des  | cription: (Descri    | be to the de    | oth needed to docu     | ment the    | indicator         | or confirm       | n the absence of            | indicators.)                            |
|--------------|----------------------|-----------------|------------------------|-------------|-------------------|------------------|-----------------------------|---|
| Depth        | Matrix               |                 |                        | ox Feature  |                   |                  | _                           |   |
| (inches)     | Color (moist)        |                 | Color (moist)          | %           | Type <sup>1</sup> | Loc <sup>2</sup> | <u>Texture</u>              | Remarks                                 |
| 0-20         | 2.5Y 7/1             | 80              | 10YR 5/6               | 20          |                   | M                | Silty clay loam             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             | _                                       |
|              |                      |                 |                        | _           | _                 |                  | <u> </u>                    | _                                       |
|              | <del>-</del>         |                 |                        |             | -                 |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        | _           |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
| 1Type: C=C   | Concentration D=F    | Denletion RM    | =Reduced Matrix, C     | S-Covere    | d or Coate        | ad Sand G        | rains <sup>2</sup> l ocatio | on: PL=Pore Lining, M=Matrix.           |
|              | Indicators:          | repletion, ixiv | =reduced Matrix, C     | ,S=Covere   | d or Coale        | od Sand S        |                             | Problematic Hydric Soils <sup>3</sup> : |
| Histoso      |                      |                 | Sandy                  | Gleyed M    | atrix (S4)        |                  |                             | irie Redox (A16)                        |
|              | Epipedon (A2)        |                 |                        | Redox (S    |                   |                  |                             | ganese Masses (F12)                     |
|              | Histic (A3)          |                 |                        | ed Matrix ( |                   |                  |                             | plain in Remarks)                       |
|              | en Sulfide (A4)      |                 |                        | Mucky Mi    | ,                 |                  |                             | ,                                       |
| Stratifie    | ed Layers (A5)       |                 | Loamy                  | Gleyed M    | atrix (F2)        |                  |                             |   |
|              | luck (A10)           |                 |                        | ed Matrix   | . ,               |                  |                             |   |
|              | ed Below Dark Sur    |                 |                        | Dark Surf   |                   |                  | 3                           |   |
|              | Dark Surface (A12)   |                 | X Deplet               |             | ,                 | )                |                             | hydrophytic vegetation and              |
|              | Mucky Mineral (S1    |                 | Redox                  | Depression  | ons (F8)          |                  |                             | /drology must be present,               |
|              | Layer (if observe    |                 |                        |             |                   |                  | uniess dis                  | turbed or problematic.                  |
|              |                      | •               |                        |             |                   |                  |                             |   |
| Type:        |                      |                 |                        |             |                   |                  | Hardeia Cail Des            | esent? Yes X No                         |
|              | nches):              |                 | <u></u>                |             |                   |                  | Hydric Soil Pre             | esent? Yes <u>^</u> No                  |
| Remarks:     |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
| HYDROLO      |                      |                 |                        |             |                   |                  |                             |   |
|              | ydrology Indicato    |                 |                        |             |                   |                  |                             |   |
| Primary Ind  | icators (minimum o   | of one is requ  | ired; check all that a | ipply)      |                   |                  | Secondary I                 | ndicators (minimum of two required)     |
| Surface      | e Water (A1)         |                 | X Water-St             | ained Leav  | /es (B9)          |                  | Surface                     | e Soil Cracks (B6)                      |
| High W       | ater Table (A2)      |                 | Aquatic F              | auna (B13   | 3)                |                  | Drainag                     | ge Patterns (B10)                       |
| Saturat      | tion (A3)            |                 | True Aqu               | atic Plants | (B14)             |                  |                             | ason Water Table (C2)                   |
| I .          | Marks (B1)           |                 |                        | n Sulfide C |                   |                  |                             | n Burrows (C8)                          |
| Sedime       | ent Deposits (B2)    |                 | X Oxidized             |             |                   |                  |                             | ion Visible on Aerial Imagery (C9)      |
| Drift De     | eposits (B3)         |                 |                        | of Reduc    | •                 | •                | ·                           | or Stressed Plants (D1)                 |
| _            | lat or Crust (B4)    |                 |                        |             |                   | d Soils (C       | 6) Geomo                    | rphic Position (D2)                     |
| I —          | eposits (B5)         |                 | Thin Muc               |             | ` '               |                  | FAC-Ne                      | eutral Test (D5)                        |
|              | tion Vis ble on Aeri |                 |                        |             |                   |                  |                             |   |
|              | ly Vegetated Cond    | ave Surface     | (B8) Other (Ex         | cplain in R | emarks)           |                  |                             |   |
| Field Obse   | rvations:            |                 | V                      |             |                   |                  |                             |   |
| Surface Wa   | iter Present?        | Yes             | No X Depth (i          | nches):     |                   |                  |                             |   |
| Water Table  | e Present?           |                 | No X Depth (i          |             |                   |                  |                             |   |
| Saturation F | Present?             | Yes             | No X Depth (i          | nches):     |                   | Wetl             | and Hydrology P             | resent? Yes X No                        |
|              | apillary fringe)     |                 | onitoring well, aeria  |             |                   |                  | if available:               |   |
| Describe Re  | ecorded Data (stre   | am gauge, m     | onitoring well, aeria  | pnotos, p   | revious ins       | spections),      | if available:               |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
| Remarks:     |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |
|              |                      |                 |                        |             |                   |                  |                             |   |

| Project/Site: I-69 Bloomington to Martin   | sville                                | (             | City/County        | Monroe                                | Sampling Date: 10-14-11                        |   |
|--|---------------------------------------|---------------|--------------------|---------------------------------------|--|---|
| Applicant/Owner: INDOT                     |                                       |               |                    |                                       |  | Sampling Point: S5W070c   |
| Investigator(s): K. Schroeder, D. White    |                                       |               |                    |                                       |  |   |
| Landform (hillslope, terrace, etc.): Floor | dplain                                |               |                    | Local relief                          | (concave, convex, none):                       | None  |
| Slope (%): <2% Lat: 39.23500               | 495410                                |               | Long: <u>-86.5</u> | 5423684611                            | 0  | Datum: NAD 83   |
| Soil Map Unit Name: Bonnie Silt Loam       |                                       |               |                    |                                       | NWI classific                                  |   |
| Are climatic / hydrologic conditions on tl |                                       |               |                    |                                       |  |   |
| Are Vegetation, Soil, or                   | Hydrologys                            | significantly | disturbed?         | Are "                                 | Normal Circumstances" p                        | resent? Yes X No No   |
| Are Vegetation, Soil, or                   | Hydrologyr                            | naturally pro | blematic?          | (If ne                                | eded, explain any answe                        | rs in Remarks.)   |
| SUMMARY OF FINDINGS - A                    | ttach site map                        | showing       | samplin            | g point le                            | ocations, transects                            | , important features, etc.  |
| Hydrophytic Vegetation Present?            | Yes X N                               | lo            | 1- 41-             | - Cll                                 | A  |   |
| Hydric Soil Present?                       | Yes x N                               | lo            |                    | e Sampled<br>in a Wetlar              |  | No  |
| Wetland Hydrology Present?                 | Yes x N                               | lo            | With               | iii a wellai                          | 163  |   |
| Remarks:                                   |                                       |               |                    |                                       |  |   |
|  |                                       |               |                    |                                       |  |   |
| VEGETATION – Use scientific                | names of plants.                      |               |                    |                                       |  |   |
|  | · · · · · · · · · · · · · · · · · · · | Absolute      | Dominant           | Indicator                             | Dominance Test work                            | sheet:  |
| Tree Stratum (Plot size: 30                |                                       |               | Species?           |                                       | Number of Dominant Sp<br>That Are OBL, FACW, o |   |
| 2  |                                       |               |                    |                                       | Total Number of Domin                          | ant   |
| 3  |                                       |               |                    |                                       | Species Across All Stra                        | ta: <u>3</u> (B)  |
| 4.       5.                                |                                       |               |                    |                                       | Percent of Dominant Sp                         | pecies 100 (A/B)  |
| J  |                                       |               | = Total Cov        | /er                                   | That Are OBL, FACW, o                          | or FAC: 100 (A/B)   |
| Sapling/Shrub Stratum (Plot size: 15       |                                       |               |                    |                                       | Prevalence Index work                          |   |
| 1. Salix sp.                               |                                       |               |                    |                                       |  | Multiply by:  |
| 2  |                                       |               |                    |                                       |  | $x 1 = \frac{90}{10}$<br>$x 2 = \frac{10}{10}$                      |
| 3  |                                       |               |                    |                                       | *  |   |
| 4  |                                       |               |                    |                                       |  | x 3 =<br>x 4 = 20   |
| 5  |                                       | 5             | = Total Cov        | · · · · · · · · · · · · · · · · · · · | -  | x 5 =   |
| Herb Stratum (Plot size: 5                 | )                                     |               | = Total Co         | / <del>C</del> I                      | Column Totals: 100                             |   |
| 1. Leersia oryzoides                       | ·                                     | 60            | Υ                  | OBL                                   | Column Totals.                                 | (7) (5)   |
| 2. Juncus effussus                         |                                       | 20            | <u>Y</u>           | OBL                                   | Prevalence Index                               | <u> </u>  |
| 3. Carex lupulina                          |                                       | 10            | N                  | OBL                                   | Hydrophytic Vegetation                         |   |
| 4. Solidago canadensis                     |                                       | 5             | N                  | FACU                                  | X Dominance Test is                            |   |
| 5  |                                       |               |                    |                                       | X Prevalence Index is                          |   |
| 6  |                                       |               |                    |                                       | Morphological Adap<br>data in Remarks          | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |
| 7  |                                       |               |                    |                                       |  | phytic Vegetation <sup>1</sup> (Explain)                            |
| 8  |                                       |               |                    |                                       | _ , ,  |   |
| 9  |                                       |               |                    |                                       |  | l and wetland hydrology must  |
| 10   |                                       | 95            | = Total Cov        |                                       | be present, unless distu                       | irbed or problematic.   |
| Woody Vine Stratum (Plot size: 15          | )                                     |               | = Total Cov        | /ei                                   |  |   |
| 1  |                                       |               |                    |                                       | Hydrophytic                                    |   |
| 2  |                                       |               |                    |                                       | Vegetation<br>Present? Yes                     | s <u>X</u> No   |
|  |                                       |               | = Total Cov        | /er                                   |  |   |
| Remarks: (Include photo numbers he         | re or on a separate                   | sheet.)       |                    |                                       | I .  |   |
|  | -                                     | •             |                    |                                       |  |   |
|  |                                       |               |                    |                                       |  |   |

SOIL Sampling Point: S5W070c

|                                       |   | to the dep    |                           |                 |               | or confi         | irm the absence of indicators.)   |                |
|---------------------------------------|---|---------------|---------------------------|-----------------|---------------|------------------|---|----------------|
| Depth                                 | Matrix                                  | 0/            |                           | ox Feature      | 4             | Loc <sup>2</sup> |   |                |
| (inches)<br>0-6                       | Color (moist)                           | <u>%</u>      | Color (moist)             | %<br>1 <i>E</i> | Type'         | M                | Texture Remarks Silty clay loam   | —              |
|                                       | 10YR 7/1                                | 85            | 7.5YR 6/8                 | _ 15            |               |                  | _ <del>_ ` ` `</del>  |                |
| 6-20                                  | 2.5Y 7/1                                | 80            | 10YR 5/8                  | 20              |               | M                | clay loam_  |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       | -                                       |               |                           |                 |               | -                |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
| <sup>1</sup> Type: C=C                | Concentration, D=De                     | pletion, RM:  | =Reduced Matrix, C        | S=Covere        | ed or Coate   | ed Sand          | Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.                                    |                |
|                                       | Indicators:                             |               |                           |                 |               |                  | Indicators for Problematic Hydric Soils <sup>3</sup> :                                      |                |
| Histoso                               | l (A1)                                  |               | Sandy                     | Gleyed M        | atrix (S4)    |                  | Coast Prairie Redox (A16)   |                |
| Histic E                              | pipedon (A2)                            |               |                           | Redox (S        |               |                  | Iron-Manganese Masses (F12)   |                |
|                                       | listic (A3)                             |               |                           | ed Matrix (     |               |                  | Other (Explain in Remarks)  |                |
|                                       | en Sulfide (A4)                         |               |                           | -               | ineral (F1)   |                  |   |                |
|                                       | d Layers (A5)                           |               |                           | Gleyed M        |               |                  |   |                |
| 2 cm M                                | , ,                                     | (8.4.4)       |                           | ed Matrix       | ` '           |                  |   |                |
|                                       | ed Below Dark Surfa                     | ce (A11)      |                           | Dark Surf       | ` '           |                  | 3 Indicators of hydrophytic vegetation and  |                |
| · · · · · · · · · · · · · · · · · · · | Park Surface (A12) Mucky Mineral (S1)   |               |                           | Depression      | urface (F7    | )                | <sup>3</sup> Indicators of hydrophytic vegetation and<br>wetland hydrology must be present, |                |
|                                       | ucky Peat or Peat (\$                   | 33)           | \\\                       | Depressi        | ) iis (i o)   |                  | unless disturbed or problematic.  |                |
|                                       | Layer (if observed                      |               |                           |                 |               |                  |   |                |
| Type:                                 | ., .                                    |               |                           |                 |               |                  |   |                |
|                                       | nches):                                 |               |                           |                 |               |                  | Hydric Soil Present? Yes X No   |                |
| Remarks:                              |   |               | <u> </u>                  |                 |               |                  | Tryune con the sent: Tes No   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
| HYDROLO                               | OGY                                     |               |                           |                 |               |                  |   |                |
| Wetland Hy                            | drology Indicators                      | :             |                           |                 |               |                  |   |                |
| Primary Indi                          | icators (minimum of                     | one is requi  | red; check all that a     | pply)           |               |                  | Secondary Indicators (minimum of two requi  | red)           |
| _                                     | e Water (A1)                            |               | X Water-Sta               | ained Lea       | ves (B9)      |                  | Surface Soil Cracks (B6)  |                |
| X High W                              | ater Table (A2)                         |               | Aquatic F                 | auna (B1        | 3)            |                  | Drainage Patterns (B10)   |                |
| X Saturat                             | ion (A3)                                |               | True Aqu                  | atic Plants     | s (B14)       |                  | Dry-Season Water Table (C2)   |                |
| Water N                               | Marks (B1)                              |               | Hydrogen                  |                 |               |                  | Crayfish Burrows (C8)   |                |
| Sedime                                | ent Deposits (B2)                       |               | X Oxidized                | Rhizosph        | eres on Liv   | ing Root         | ots (C3) Saturation Visible on Aerial Imagery (C9   | <del>)</del> ) |
| Drift De                              | posits (B3)                             |               | Presence                  | of Reduc        | ed Iron (C    | 4)               | Stunted or Stressed Plants (D1)   |                |
| Algal M                               | at or Crust (B4)                        |               | Recent Ire                | on Reduc        | tion in Tille | d Soils (        | (C6) Geomorphic Position (D2)   |                |
| Iron De                               | posits (B5)                             |               | Thin Muc                  | k Surface       | (C7)          |                  | FAC-Neutral Test (D5)   |                |
| Inundat                               | ion Vis ble on Aerial                   | Imagery (B    | 7) Gauge or               | Well Data       | a (D9)        |                  |   |                |
| Sparse                                | ly Vegetated Conca                      | /e Surface (  | B8) Other (Ex             | plain in R      | emarks)       |                  |   |                |
| Field Obse                            |   |               | V                         |                 |               |                  |   |                |
| Surface Wa                            |   |               | No $\frac{X}{}$ Depth (ir |                 |               |                  |   |                |
| Water Table                           |   |               | No Depth (ir              |                 |               |                  |   |                |
| Saturation F                          |   | Yes X         | No Depth (ir              | nches): S       | urface        | We               | etland Hydrology Present? Yes $\frac{X}{}$ No $$  |                |
| (includes ca                          | pillary fringe)<br>ecorded Data (strear | m dalide m    | onitoring well perial     | nhotos n        | revious ins   | nactions         | s) if available:  |                |
| Describe Ne                           | ecolued Data (Streat                    | ii gauge, iii | onitoning well, aerial    | priotos, p      | ievious iris  | peclions         | 5), ii avaliabie.   |                |
| Remarks:                              |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |
|                                       |   |               |                           |                 |               |                  |   |                |

| Project/Site: I-69 Bloomington to Martinsvi          | lle                 |   | City/Cou | unty: Monroe    |                                       | Sampling Date: 2   | 2-19-2013    |
|--|---------------------|---|----------|-----------------|---------------------------------------|--------------------|--------------|
| Applicant/Owner: INDOT                               |                     |   |          |                 | State: IN                             |                    |              |
| •              |                     |   |          |                 |                                       |                    |              |
| Landform (hillslope, terrace, etc.): Floodpl         |                     |   |          |                 | (concave, convex, none):              | None               |              |
| Slope (%): <2% Lat: 39.2361420                       |                     |   |          |                 |                                       |                    |              |
| Soil Map Unit Name: Bonnie Silt Loam                 |                     |   |          |                 | NWI classific                         |                    |              |
| Are climatic / hydrologic conditions on the          | site typical for th |   |          |                 |                                       |                    |              |
| Are Vegetation, Soil, or Hy                          |                     |   |          |                 |                                       |                    | No           |
| Are Vegetation, Soil, or Hy                          |                     |   |          |                 |                                       |                    | 110          |
| SUMMARY OF FINDINGS – Atta                           |                     |   |          |                 |                                       |                    | atures, etc. |
| Hudrophytia Vagatatian Procent?                      | Voc. N              | uo X  |          |                 |                                       |                    |              |
| Hydrophytic Vegetation Present? Hydric Soil Present? | Yes N               | νο <u>· ·                                  </u> |          | s the Sampled   |                                       | V                  |              |
| Wetland Hydrology Present?                           | Yes N               |   | V        | within a Wetlar | nd? Yes                               | No X               | •            |
| Remarks:   |                     |   |          |                 |                                       |                    |              |
|  |                     |   |          |                 |                                       |                    |              |
|  |                     |   |          |                 |                                       |                    |              |
| VEGETATION – Use scientific na                       | mes of plants       | S.  |          |                 |                                       |                    |              |
|  | •                   | Absolute  |          | nant Indicator  | Dominance Test work                   | sheet:             |              |
| Tree Stratum (Plot size: 30                          | )                   |   |          | es? Status      | Number of Dominant S                  |                    |              |
| 1. Quercus rubra                                     |                     | 30  | Y        | FACU            | That Are OBL, FACW,                   | or FAC: 1          | (A)          |
| 2. Carya ovata                                       |                     | _ 20  | Y        | FACU            | Total Number of Domin                 | iant               |              |
| 3. Acer Saccharium                                   |                     | 5<br>5  | N        | FACW            | Species Across All Stra               | ıta: <u>4</u>      | (B)          |
| 4. Quercus velutina                                  |                     | _ 5   | N        | UPL UPL         | Percent of Dominant S                 | pecies             |              |
| 5  |                     | 60  |          |                 | That Are OBL, FACW,                   | or FAC: 25         | (A/B)        |
| Sapling/Shrub Stratum (Plot size: 15                 | )                   | 60  | = Total  | Cover           | Prevalence Index wor                  | ksheet:            |              |
| 1. Lindera benzoin                                   | /                   | 5   | Υ        | FACW            | Total % Cover of:                     |                    | v bv:        |
| 2. Ulmus americana                                   |                     | 2   | N        | FACW            |                                       | x 1 =              |              |
| 3.   |                     |   |          |                 | FACW species 12                       |                    |              |
| 4.   |                     |   |          |                 | *                                     | x 3 =              |              |
| 5  |                     |   |          |                 | FACU species 55                       | x 4 = 220          |              |
|  |                     |   | = Total  | Cover           | UPL species 5                         | x 5 = 25           |              |
| Herb Stratum (Plot size: 5                           |                     | _   | .,       | 54011           | Column Totals: 72                     | (A) <u>269</u>     | (B)          |
|  |                     |   | Y        | FACU            |                                       | 2.72               |              |
| 2  |                     |   |          |                 | Prevalence Index                      | ·                  |              |
| 3  |                     |   | -        |                 | Hydrophytic Vegetation                |                    |              |
| 4  |                     |   |          |                 | Dominance Test is Prevalence Index i  |                    |              |
| 5  |                     |   |          |                 | Morphological Ada                     |                    | aupporting   |
| 6  |                     |   |          |                 | data in Remarks                       | s or on a separate | sheet)       |
| 7  |                     |   |          |                 | Problematic Hydro                     |                    | *            |
| 8  |                     |   |          |                 |                                       |                    |              |
| 9  |                     |   |          |                 | <sup>1</sup> Indicators of hydric soi |                    |              |
| 10   |                     | _   |          |                 | be present, unless distr              | urbed or problemat | ic.          |
| Woody Vine Stratum (Plot size: 15                    | )                   |   | = Total  | Cover           |                                       |                    |              |
| 1  |                     |   |          |                 | Hydrophytic                           |                    |              |
| 2.   |                     |   |          |                 | Vegetation                            | s No_X             |              |
|  |                     |   |          | Cover           | Present? Ye                           | 5 NU <u>^_</u>     |              |
| Remarks: (Include photo numbers here                 | or on a senarate    | sheet )   |          |                 | 1                                     |                    |              |
| Tomano. (moidde prioto numbers nere                  | or on a separate    | 5.1001.)  |          |                 |                                       |                    |              |
|  |                     |   |          |                 |                                       |                    |              |
|  |                     |   |          |                 |                                       |                    |              |

SOIL Sampling Point: S5W070UPL

| Depth Mati   |  | Redox Features   | . 2 –  |  |  | _  |              |
|--|--|--|--|--|--|--|--------------|
| (inches) Color (mois   | t) % Co  | lor (moist) % Type <sup>1</sup>  | Loc <sup>2</sup> Tex   | kture  |  | Remarks  |              |
| 0-20   |  |  |  |  | Roadway F  | -  |              |
|  |  |  |  |  |  |  |              |
|  |  |  |  |  |  |  |              |
|  |  |  |  |  |  |  |              |
|  |  |  |  |  |  |  |              |
|  |  |  |  |  |  |  |              |
|  |  |  |  |  |  |  |              |
|  |  |  |  |  |  |  |              |
| Type: C=Concentration, D=  | Depletion RM=Redu  | ced Matrix, CS=Covered or Coated   | Sand Grains  | <sup>2</sup> l oca                             | ation: PI =Po  | ore Lining, M=   | :Matrix      |
| lydric Soil Indicators:  | 200.000., 100.   |  |  |  |  | atic Hydric S  | _            |
| Histosol (A1)  |  | Sandy Gleyed Matrix (S4)   |  | Coast F  | rairie Redox   | (A16)  |              |
| Histic Epipedon (A2)   |  | Sandy Redox (S5)   | _  |  | nganese Ma   |  |              |
| Black Histic (A3)  |  | Stripped Matrix (S6)   | _  |  | Explain in Re  |  |              |
| Hydrogen Sulfide (A4)  |  | Loamy Mucky Mineral (F1)   |  |  |  |  |              |
| Stratified Layers (A5)   |  | Loamy Gleyed Matrix (F2)   |  |  |  |  |              |
| 2 cm Muck (A10)  |  | Depleted Matrix (F3)   |  |  |  |  |              |
| Depleted Below Dark Su   |  | Redox Dark Surface (F6)  | 3.   |  |  |  |              |
| Thick Dark Surface (A12  | ,  | Depleted Dark Surface (F7)   | °In  |  |  | c vegetation   |              |
| <ul><li>Sandy Mucky Mineral (S</li><li>5 cm Mucky Peat or Pea</li></ul>  |  | Redox Depressions (F8)   |  |  | nyarology m<br>disturbed or p  | ust be preser  | nt,          |
| estrictive Layer (if observ  |  |  | 1  | uniess   | aisturbed or p   | orobiernatic.  |              |
| • •  | ,  |  |  |  |  |  |              |
| Type:  |  |  | Lista  | ria Cail I                                     | Present?   | Vaa  | No X         |
|  |  |  | HVa  | ric Soli i                                     | resent?  | Yes  | NO '         |
|  |  | al.  | 192  |  |  |  |              |
| Remarks:<br>Soil consists of road  |  | al.  | 1192   |  |  |  |              |
| Remarks:<br>Soil consists of road  | dway fill materi   | al.  | 1193   |  |  |  |              |
| Remarks: Soil consists of road YDROLOGY Vetland Hydrology Indicat  | dway fill materi   |  |  |  |  | (minimum of t  |              |
| Remarks: Soil consists of road YDROLOGY Wetland Hydrology Indicat  | dway fill materi   | eck all that apply)  |  | Seconda  |  |  |              |
| Temarks:  Soil consists of road  YDROLOGY  Vetland Hydrology Indicate  Verimary Indicators (minimum  | dway fill materi   |  |  | Secondal                                       | y Indicators (   | ks (B6)  |              |
| Primary Indicators (Main Marks)  Soil consists of road  YDROLOGY  Vetland Hydrology Indicate  Crimary Indicators (minimum  Surface Water (A1)  High Water Table (A2)   | dway fill materi   | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  | <u>S</u>   | Secondar<br>Surfa                              | y Indicators (<br>ace Soil Crack<br>age Patterns   | ks (B6)<br>s (B10)   |              |
| Remarks: Soil consists of road YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1)  | dway fill materi   | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)   | <u>S</u>   | Secondal Surfa Drair Dry-{                     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate  | ks (B6)<br>s (B10)<br>r Table (C2)   |              |
| POROLOGY Vetland Hydrology Indicate Immary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3)  | dway fill materi   | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  |  | Secondal Surfa Drair Dry-{                     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate  | ks (B6)<br>s (B10)<br>r Table (C2)   | two require  |
| Property of the consists of road of ro | dway fill materi   | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)   |  | Secondal Surfa Drair Dry-{ Cray Satu           | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible  | ks (B6)<br>s (B10)<br>r Table (C2)<br>(C8)                                   | two require  |
| YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)   | dway fill materi   | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  | - S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S | Secondal Surfa Drair Dry-{ Cray Satun Stun     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible  | ks (B6)<br>s (B10)<br>r Table (C2)<br>(C8)<br>on Aerial Ima<br>ed Plants (D1 | two require  |
| YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)   | dway fill materi   | eck all that apply)  Water-Stained Leaves (B9)  _ Aquatic Fauna (B13)  _ True Aquatic Plants (B14)  _ Hydrogen Sulfide Odor (C1)  _ Oxidized Rhizospheres on Living  _ Presence of Reduced Iron (C4)   | - S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S | Secondal Surfa Drair Dry-{ Cray Satul Stun     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>aed or Stresse                                    | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2)      | two require  |
| YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)   | ors: of one is required; ch  | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S   | - S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S | Secondal Surfa Drair Dry-{ Cray Satul Stun     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>and or Stresse<br>norphic Posit                   | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2)      | two required |
| YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)  | ors: of one is required; ch  | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  | - S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S | Secondal Surfa Drair Dry-{ Cray Satul Stun     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>and or Stresse<br>norphic Posit                   | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2)      | two required |
| Proposits (B2)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Ae  Sparsely Vegetated Cor   | ors: of one is required; ch  | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)   | - S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S<br>- S | Secondal Surfa Drair Dry-{ Cray Satul Stun     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>and or Stresse<br>norphic Posit                   | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2)      | two required |
| YDROLOGY  Vetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corifical Constants   | ors: of one is required; ch  | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)                                   | Soils (C6)   -   | Secondal Surfa Drair Dry-{ Cray Satul Stun     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>and or Stresse<br>norphic Posit                   | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2)      | two required |
| Prince Water (A1)  High Water Table (A2)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Ae  Sparsely Vegetated Corfield Observations:  Surface Water Present?  | ors: of one is required; checking and a serial Imagery (B7) cave Surface (B8)  Yes No X  | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)                                    | g Roots (C3)   | Secondal Surfa Drair Dry-{ Cray Satul Stun     | y Indicators (<br>ace Soil Crack<br>age Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>and or Stresse<br>norphic Posit                   | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2)      | two required |
| Print Deposits (B4) Iron Deposits (B4) Iron Deposits (B5) Inundation Vis Ble on Ae Sparsely Vegetated Corfield Observations: Soil Consists of road  YDROLOGY Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corfield Observations: Surface Water Present? Water Table Present?   | ors: of one is required; checking in the content of | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches): | Roots (C3) Soils (C6)  | Secondal Surfa Drair Dry-{ Cray Satun Geor FAC | ry Indicators (<br>nce Soil Crack<br>lage Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>led or Stresse<br>norphic Posit<br>Neutral Test | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2) (D5) | agery (C9)   |
| YDROLOGY  Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corfield Observations: Surface Water Present? Water Table Present? Saturation Present? Saturation Present?  | ors:  of one is required; checking the content of t | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches): | Roots (C3)   | Secondal Surfa Drair Cray Satu Stun Geor FAC   | ry Indicators (<br>nce Soil Crack<br>lage Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>led or Stresse<br>norphic Posit<br>Neutral Test | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2)      | agery (C9)   |
| YDROLOGY  Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corfield Observations: Surface Water Present? Water Table Present? Saturation Present? includes capillary fringe)   | ors:  of one is required; checking the content of t | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches): | Roots (C3)   | Secondal Surfa Drair Cray Satu Stun Geor FAC   | ry Indicators (<br>nce Soil Crack<br>lage Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>led or Stresse<br>norphic Posit<br>Neutral Test | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2) (D5) | agery (C9)   |
| YDROLOGY  Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corfield Observations: Surface Water Present? Water Table Present? Saturation Present? includes capillary fringe)   | ors:  of one is required; checking the content of t | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches): | Roots (C3)   | Secondal Surfa Drair Cray Satu Stun Geor FAC   | ry Indicators (<br>nce Soil Crack<br>lage Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>led or Stresse<br>norphic Posit<br>Neutral Test | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2) (D5) | agery (C9)   |
| Proposits of road Proposits of road Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corfield Observations: Surface Water Present? Vater Table Present? Saturation Present? Saturation Present? Includes capillary fringe) Describe Recorded Data (str  | ors:  of one is required; checking the content of t | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches): | Roots (C3)   | Secondal Surfa Drair Cray Satu Stun Geor FAC   | ry Indicators (<br>nce Soil Crack<br>lage Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>led or Stresse<br>norphic Posit<br>Neutral Test | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2) (D5) | agery (C9)   |
| Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corfield Observations: Surface Water Present? Water Table Present? Saturation Present? includes capillary fringe) Describe Recorded Data (str  | ors:  of one is required; checking the content of t | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches): | Roots (C3)   | Secondal Surfa Drair Cray Satu Stun Geor FAC   | ry Indicators (<br>nce Soil Crack<br>lage Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>led or Stresse<br>norphic Posit<br>Neutral Test | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2) (D5) | agery (C9)   |
| YDROLOGY  Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Ae Sparsely Vegetated Corfield Observations: Surface Water Present? Water Table Present? Saturation Present? Saturation Present?  | ors:  of one is required; checking the content of t | eck all that apply)  Water-Stained Leaves (B9)  Aquatic Fauna (B13)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Oxidized Rhizospheres on Living  Presence of Reduced Iron (C4)  Recent Iron Reduction in Tilled S  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Other (Explain in Remarks)  Depth (inches):  Depth (inches): | Roots (C3)   | Secondal Surfa Drair Cray Satu Stun Geor FAC   | ry Indicators (<br>nce Soil Crack<br>lage Patterns<br>Season Wate<br>fish Burrows<br>ration Visible<br>led or Stresse<br>norphic Posit<br>Neutral Test | ks (B6) s (B10) r Table (C2) (C8) on Aerial Ima ed Plants (D1 tion (D2) (D5) | agery (C9)   |

| Project/Site: 1-69 Bloomington to Martinsville                   | (             | Citv/Cou    | ınty: Monroe                     |   | Sampling Date:                 | 10-15-11     |
|--|---------------|-------------|----------------------------------|---|--------------------------------|--------------|
| Applicant/Owner: INDOT   |               | ,           |                                  | State: IN   |                                |              |
| -  |               | Section     |                                  | nge: 10, 10N 1W                                   | , J                            |              |
| Landform (hillslope, terrace, etc.): Depression                  |               |             |                                  | (concave, convex, none):                          | Concave                        |              |
|  |               |             |                                  | 0   |                                |              |
| Soil Map Unit Name: Berks-We kert Complex                        |               | · -         |                                  | NWI classific                                     |                                |              |
|  | a tima af ua  |             |                                  |   |                                |              |
| Are climatic / hydrologic conditions on the site typical for thi |               |             |                                  |   |                                | NI.          |
| Are Vegetation, Soil, or Hydrology §                             |               |             |                                  | Normal Circumstances" p                           |                                | NO           |
| Are Vegetation, Soil, or Hydrology r                             | naturally pro | blematic    | c? (If ne                        | eded, explain any answe                           | rs in Remarks.)                |              |
| SUMMARY OF FINDINGS – Attach site map                            | showing       | samp        | ling point lo                    | ocations, transects                               | , important fe                 | atures, etc. |
| Hydrophytic Vegetation Present? Yes x N                          | lo            |             | s the Compled                    | Area  |                                |              |
| Hydric Soil Present? Yes X N                                     | lo            |             | s the Sampled<br>vithin a Wetlan |   | No                             |              |
| Wetland Hydrology Present? Yes X N                               | lo            | ۷,          | vitilili a vvetiali              | iu: 165 <u></u>                                   | 140                            | -            |
| Remarks:   |               |             |                                  |   |                                |              |
|  |               |             |                                  |   |                                |              |
| <b>VEGETATION</b> – Use scientific names of plants               |               |             |                                  |   |                                |              |
| 70   | Absolute      |             | ant Indicator                    | Dominance Test work                               | sheet:                         |              |
| Tree Stratum (Plot size: 30  1. Salix nigra                      | % Cover 5     | Specie<br>Y | es? Status<br>OBL                | Number of Dominant Sp                             | pecies                         | (4)          |
| 2. Platanus occidentalis   | 2             | <u>'</u>    | FACW                             | That Are OBL, FACW, o                             | orfac: o                       | (A)          |
| 3. Populus deltoides   | 2             | Υ           | FAC                              | Total Number of Domini<br>Species Across All Stra | ^                              | (B)          |
| 4  |               |             |                                  |   |                                | (D)          |
| 5  |               |             |                                  | Percent of Dominant Sp<br>That Are OBL, FACW, of  |                                | (A/B)        |
|  | 9             | = Total     | Cover                            |   | ·                              | (////)       |
| Sapling/Shrub Stratum (Plot size: 15 )                           |               |             |                                  | Prevalence Index worl                             |                                |              |
| 1. Salix nigra   |               |             |                                  | Total % Cover of:                                 |                                | ly by:       |
| 2  |               |             |                                  | OBL species 75 FACW species 62                    | $x 1 = \frac{75}{124}$         |              |
| 3  |               |             |                                  |   | $x = \frac{1}{6}$              |              |
| 4  |               |             |                                  | FACU species 25                                   |                                |              |
| o  | 0.5           | = Total     | Cover                            | ·   | x 5 =                          |              |
| Herb Stratum (Plot size: 5                                       |               |             |                                  | Column Totals: 164                                |                                | (B)          |
| 1. Phalaris arundinacea  | 50            | Υ           | FACW                             |   |                                | ,            |
| 2. Cirsium arvense   | 25            | Y           | FACU                             | Prevalence Index                                  |                                |              |
| 3. Carex lurida  | 15            | N           | OBL OBL                          | Hydrophytic Vegetatio                             |                                |              |
| 4. Lycopus americanus 5. Impatiens sp.                           | 15 10         | N<br>N      | OBL FACW                         | X Dominance Test is X Prevalence Index is         |                                |              |
| Typha latifolia  | 5             | N           | OBL                              | Morphological Adap                                |                                | supporting   |
|  |               |             |                                  |   | s or on a separate             |              |
| 7  |               |             |                                  | Problematic Hydrop                                | phytic Vegetation <sup>1</sup> | (Explain)    |
| 9.   |               |             |                                  |   |                                |              |
| 10   |               |             |                                  | <sup>1</sup> Indicators of hydric soil            |                                |              |
| 10.  |               | = Total     | Cover                            | be present, unless distu                          | irbed or problema              | TIC.         |
| Woody Vine Stratum (Plot size: 15 )                              |               |             |                                  |   |                                |              |
| 1  |               |             |                                  | Hydrophytic<br>Vegetation                         |                                |              |
| 2  |               |             |                                  |   | s <u>X</u> No                  |              |
|  |               | = Total     | Cover                            |   |                                |              |
| Remarks: (Include photo numbers here or on a separate            | sheet.)       |             |                                  | ı   |                                |              |
|  |               |             |                                  |   |                                |              |
|  |               |             |                                  |   |                                |              |

SOIL Sampling Point: S5W091

| Dopth   Mark   Color (moist)   %   Color (moist)   %   Topa   Loc   Testure   Remarks  | Profile Desc           | cription: (Describe | e to the de  | oth needed to docu                    | ment the         | indicator   | or confi  | irm the absence of          | indicators.)                         |
|--|------------------------|---------------------|--------------|---------------------------------------|------------------|-------------|-----------|-----------------------------|--------------------------------------|
| Beach   10 PK 6/1   85   7.5 PK 6/8   25   C   M   Salt loam   | Depth                  |                     |              |                                       |                  |             |           | _                           |                                      |
| 8-20 10YR 6/1 75 7.5YR 6/8 25 C M loam  Type: C-Concentration, D-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains.  **Location: PL-Pore Uning, M-Matrix, Phydric Soil Indicators:  Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Reduced (A16)  Histic Epipedon (A2) Sandy Redox (S5) Indicators for Problematic Hydric Soils*:  Histosol (A1) Coast Prairie Redox (A16)  Black Histic (A3) Surphed Matrix (S6) Unin-Managenese Managenese Man |                        |                     |              |                                       |                  |             |           |                             | Remarks                              |
| Titype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  **Location: PL=Pore Lining, M=Matrix, Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Sandy Redox (S5) Sandy Redox (S5) Coast Prairie Redox (A16) Ton-Managense Masses (F12)  Hydrogen Sulfite (A4) Loamy Mucky Mineral (F1) Ze m Muck (A10) Depleted Below Dark Surface (A11) Thick Dark Surface (A21) Sandy Medox Dark Surface (F6) Thick Dark Surface (A21) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Seathwish Mineral (S1) Surface Water (A11)  **Pope   | 0-8                    | 10YR 6/1            | <u>85</u>    | 7.5YR 5/8                             | _ 15             | _ <u>C</u>  | М         | silt loam                   |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (F2) Stripped Matrix (F2) Stripped Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Search Wucky Mineral (S1) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation of Sustration (C4) Suturation of Sustration (C4) Substantion (C5) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation Prosition (D2) FAC-Neutral Test (D5) Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D8) Sparsely Vegetated Concave Surface (B8) Depth (inches): Water Table Present? Yes X No Depth ( | 8-20                   | 10YR 6/1            | 75           | 7.5YR 6/8                             | 25               | С           | М         | loam                        |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (F2) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sendy Mucky Mineral (S1) Set Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Depth (inches):  Bepth (inches):  Wettland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) Surface Water (A1) Surface Matrix (B1) Surface Water (A1) Surface Matrix (B1) Surface Soil Cracks (B6) Dirit Deposits (B3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile on Aerial Imagery (C9) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile On Aerial Imagery (C9) Sparsely Vegetated Concave Surface (B8) Thin Muck Surface (C7) Square Matrix (B1) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Under Sauration (Visible on Aerial Imagery (B7) Geodes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   |                        |                     |              |                                       |                  |             |           |                             |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (F2) Stripped Matrix (F2) Stripped Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Search Wucky Mineral (S1) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation of Sustration (C4) Suturation of Sustration (C4) Substantion (C5) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation Prosition (D2) FAC-Neutral Test (D5) Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D8) Sparsely Vegetated Concave Surface (B8) Depth (inches): Water Table Present? Yes X No Depth ( |                        |                     |              |                                       |                  | _           |           |                             |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (F2) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sendy Mucky Mineral (S1) Set Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Depth (inches):  Bepth (inches):  Wettland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) Surface Water (A1) Surface Matrix (B1) Surface Water (A1) Surface Matrix (B1) Surface Soil Cracks (B6) Dirit Deposits (B3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile on Aerial Imagery (C9) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile On Aerial Imagery (C9) Sparsely Vegetated Concave Surface (B8) Thin Muck Surface (C7) Square Matrix (B1) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Under Sauration (Visible on Aerial Imagery (B7) Geodes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   |                        |                     |              |                                       |                  |             |           |                             |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (F2) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sendy Mucky Mineral (S1) Set Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Depth (inches):  Bepth (inches):  Wettland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) Surface Water (A1) Surface Matrix (B1) Surface Water (A1) Surface Matrix (B1) Surface Soil Cracks (B6) Dirit Deposits (B3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile on Aerial Imagery (C9) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile On Aerial Imagery (C9) Sparsely Vegetated Concave Surface (B8) Thin Muck Surface (C7) Square Matrix (B1) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Under Sauration (Visible on Aerial Imagery (B7) Geodes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   | l ———                  | _                   |              |                                       |                  | _           | -         |                             |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (F2) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Sandy Mucky Mineral (S1) Sendy Mucky Mineral (S1) Set Mucky Peat or Peat (S3) Restrictive Layer (if observed): Type: Depth (inches):  Bepth (inches):  Wettland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) Surface Water (A1) Surface Matrix (B1) Surface Water (A1) Surface Matrix (B1) Surface Soil Cracks (B6) Dirit Deposits (B3) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile on Aerial Imagery (C9) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation (Tibile On Aerial Imagery (C9) Sparsely Vegetated Concave Surface (B8) Thin Muck Surface (C7) Square Matrix (B1) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Under Sauration (Visible on Aerial Imagery (B7) Geodes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   |                        |                     |              |                                       | _                | _           |           |                             |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (F2) Stripped Matrix (F2) Stripped Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Search Wucky Mineral (S1) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation of Sustration (C4) Suturation of Sustration (C4) Substantion (C5) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation Prosition (D2) FAC-Neutral Test (D5) Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D8) Sparsely Vegetated Concave Surface (B8) Depth (inches): Water Table Present? Yes X No Depth ( |                        |                     |              |                                       |                  |             |           |                             |                                      |
| Hydric Soil Indicators:  Histosol (A1) Histosol (A2) Black Histos (A3) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (S6) Stripped Matrix (F2) Stripped Matrix (F2) Stripped Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (F7) Depleted Below Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Search Wucky Mineral (S1) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Stained Leaves (B9) Surface Water (A1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Sediment Deposits (B2) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation of Sustration (C4) Suturation of Sustration (C4) Substantion (C5) Sediment Deposits (B3) Presence of Reduced Iron (C4) Suturation Prosition (D2) FAC-Neutral Test (D5) Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D8) Sparsely Vegetated Concave Surface (B8) Depth (inches): Water Table Present? Yes X No Depth ( | <sup>1</sup> Type: C=C | oncentration, D=De  | pletion. RM  | =Reduced Matrix. C                    | S=Covere         | ed or Coate | ed Sand   | Grains. <sup>2</sup> Locati | ion: PL=Pore Lining, M=Matrix.       |
| Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Loamy Mucky Mineral (F1) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sediment Opened Below Dark Surface (A13) Redox Depressions (F8)  Wetland Hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed): Type: Depth (inches):  Depth (inches):  Depth (inches):  Wetland Hydrology Indicators: Primary Indicators (minimum of one is required: check all that appty) Secondary Indicators (minimum of two required)  Surface Water (A1) Water Table (A2) Aquatic Fauna (B13) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced fron (C4) Sediment Deposits (B3) Presence of Reduced fron (C4) Surface Water (A1) Redux Dark Surface (B8) Presence of Reduced fron (C4) Sediment Deposits (B3) Presence of Reduced fron (C4) Surface Water (A17) Sediment Deposits (B3) Presence of Reduced fron (C4) Sediment Deposits (B3) Presence of Reduced fron (C4) Surface Water (A17) Sediment Deposits (B3) Presence of Reduced fron (C4) Surface (B3) Surface (B6) Presence of Reduced fron (C4) Surface (B7) Surface (B |                        |                     | ,            | , -                                   |                  |             |           |                             | •                                    |
| Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (A11) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sediment Pear (S3) Redox Depressions (F8)  Wetland Hydrology must be present, unless disturbed or problematic.  **Remarks:**  **Primary Indicators (minimum of one is required: check all that apply) Surface Water (A1) Surface Soil Cracks (B6) Surface Water (A1) Surface Water (A1) Surface Soil Cracks (B6) Surface Water (A1) Sur | Histosol               | (A1)                |              | Sandy                                 | Gleyed M         | latrix (S4) |           | Coast Pra                   | airie Redox (A16)                    |
|  | Histic E               | pipedon (A2)        |              |                                       |                  |             |           | Iron-Man                    | ganese Masses (F12)                  |
| Stratified Layers (A5)   |                        |                     |              |                                       |                  |             |           | Other (Ex                   | κplain in Remarks)                   |
|  |                        |                     |              |                                       |                  |             |           |                             |                                      |
| Depleted Below Dark Surface (A11)  | ·                      |                     |              |                                       |                  |             |           |                             |                                      |
| Thick Dark Surface (A12) Depleted Dark Surface (F7)  |                        | , ,                 | 00 (111)     | Depiete                               |                  | . ,         |           |                             |                                      |
| Sandy Mucky Mineral (S1) Redox Depressions (F8) wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if observed):  | -                      |                     | ce (ATT)     | <del></del>                           |                  | , ,         | `         | <sup>3</sup> Indicators of  | hydrophytic vegetation and           |
| 5 cm Mucky Peat or Peat (S3)   |                        | , ,                 |              |                                       |                  |             | ,         |                             |                                      |
| Remarks:  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required: check all that apply)  Secondary Indicators (minimum of two required)  Surface Water (A1)  Water-Stained Leaves (B9)  Surface Water (A2)  Aquatic Fauna (B13)  Drainage Patterns (B10)  X Saturation (A3)  True Aquatic Plants (B14)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B5)  Thin Muck Surface (C7)  Gauge or Well Data (D9)  Sparsely Vegetated Concave Surface (B8)  Other (Explain in Remarks)  Field Observations:  Surface Water Present?  Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |                        |                     | S3)          |                                       | 2 op. 000.       | (. 0)       |           |                             |                                      |
| Remarks:    Hydric Soil Present? Yes X No   No   No   No   No   No   No   No   | Restrictive            | Layer (if observed  | ):           |                                       |                  |             |           |                             |                                      |
| HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required: check all that apply)  Surface Water (A1)  Surface Water (A1)  Water-Stained Leaves (B9)  X High Water Table (A2)  Water Aquatic Fauna (B13)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Crayfish Burrows (C8)  Sediment Deposits (B2)  Drift Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Other (Explain in Remarks)  Field Observations:  Surface Water Present?  Yes X No Depth (inches):  Water Table Present?  Yes X No Depth (inches):  Surface  Wetland Hydrology Present? Yes X No Depth (inches):  Geomorphic Position (D2)  Wetland Hydrology Present? Yes X No Depth (inches):  Includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  | Type:                  |                     |              |                                       |                  |             |           |                             |                                      |
| HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  Surface Water (A1)  Surface Water (A2)  Aquatic Fauna (B13)  Drainage Patterns (B10)  X Saturation (A3)  True Aquatic Plants (B14)  Sediment Deposits (B2)  Sediment Deposits (B3)  Presence of Reduced Iron (C4)  Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Other (Explain in Remarks)  Field Observations:  Surface Water Present?  Yes X No Depth (inches):  Gauge or Well, aerial photos, previous inspections), if available:   | Depth (in              | ches):              |              |                                       |                  |             |           | Hydric Soil Pr              | resent? Yes X No                     |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)   | Remarks:               | -                   |              |                                       |                  |             |           |                             |                                      |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)   |                        |                     |              |                                       |                  |             |           |                             |                                      |
| Primary Indicators (minimum of one is required; check all that apply)  | HYDROLO                | GY                  |              |                                       |                  |             |           |                             |                                      |
| Surface Water (A1)   | Wetland Hy             | drology Indicators  | s:           |                                       |                  |             |           |                             |                                      |
| X High Water Table (A2) Aquatic Fauna (B13) Drainage Patterns (B10)   X Saturation (A3) True Aquatic Plants (B14) Dry-Season Water Table (C2)   Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)   Sediment Deposits (B2) X Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)   Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)   Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)   Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5)   Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D9)   Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)    Field Observations:  Surface Water Present?  Yes X No Depth (inches): 14  Saturation Present?  Yes X No Depth (inches): Surface  Wetland Hydrology Present? Yes X No (includes capillary fringe)   Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  | Primary Indi           | cators (minimum of  | one is requ  | ired; check all that a                | pply)            |             |           | Secondary                   | Indicators (minimum of two required) |
| X Saturation (A3)  |                        |                     |              |                                       |                  | ` '         |           |                             | ` '                                  |
| Water Marks (B1)   |                        |                     |              |                                       |                  |             |           |                             |                                      |
| Sediment Deposits (B2)   |                        | , ,                 |              |                                       |                  |             |           |                             |                                      |
| Drift Deposits (B3)  |                        |                     |              |                                       |                  |             |           |                             |                                      |
| Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5) Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)  Field Observations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Surface Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   |                        |                     |              |                                       |                  |             | -         | —                           | • • • •                              |
| Iron Deposits (B5) Thin Muck Surface (C7) FAC-Neutral Test (D5)  Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D9)  Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)  Field Observations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Depth (inches): No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   |                        |                     |              |                                       |                  |             |           | · <del></del>               | ` '                                  |
| Inundation Vis ble on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)  Field Observations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes _X No Depth (inches): Saturation Present? Yes _X No Depth (inches): _Surface   | _                      |                     |              |                                       |                  |             | a Solis ( |                             |                                      |
| Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)  Field Observations:  Surface Water Present?  | -                      |                     | I Imagany (E | · · · · · · · · · · · · · · · · · · · |                  | . ,         |           | FAC-N                       | leutrai Test (D5)                    |
| Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes X No Depth (inches):  Saturation Present? Yes X No Depth (inches):  Saturation Present? Yes X No Depth (inches):  Surface Wetland Hydrology Present? Yes X No Depth (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   |                        |                     |              | , <u> </u>                            |                  |             |           |                             |                                      |
| Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): 14 Saturation Present? Yes No Depth (inches): Surface Wetland Hydrology Present? Yes No Depth (inches): No Depth (inches): Surface Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |                        | , ,                 | ve Surface   | (BB) Other (EX                        | piaiii iii K     | emarks)     |           |                             |                                      |
| Water Table Present? Yes X No Depth (inches): 14 Saturation Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Depth (inches): No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |                        |                     | Voc          | No X Donth (in                        | ochoc):          |             |           |                             |                                      |
| Saturation Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |                        |                     |              |                                       |                  |             | _         |                             |                                      |
| (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  |                        |                     |              |                                       |                  |             | _         | otland Usdralams F          | Procent? Voc X                       |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   |                        |                     | res <u>^</u> | No Depth (ir                          | icnes): <u> </u> | unaco       | _   w     | etiand Hydrology P          | resent? Yes : No                     |
| Remarks:   | Describe Re            | corded Data (strea  | m gauge, m   | onitoring well, aerial                | photos, p        | revious ins | spections | s), if available:           |                                      |
| Remarks:   |                        |                     |              |                                       |                  |             |           |                             |                                      |
|  | Remarks:               |                     |              |                                       |                  |             |           |                             |                                      |
|  |                        |                     |              |                                       |                  |             |           |                             |                                      |
|  |                        |                     |              |                                       |                  |             |           |                             |                                      |
|  |                        |                     |              |                                       |                  |             |           |                             |                                      |

| Project/Site: I-69 Bloomington to Martinsville                    | (            | City/Cou         | ınty: Monroe                     | _   | Sampling Date: 2-19-2013  |
|---|--------------|------------------|----------------------------------|---|---|
| Applicant/Owner: INDOT  |              |                  |                                  | State: IN                                       | Sampling Point: S5W091UPL   |
| Investigator(s): D. White, T. Keefe                               |              |                  |                                  |   |   |
|   |              |                  |                                  | (concave, convex, none):                        | Concave   |
| Slope (%): <2% Lat: 39.32198218360                                |              | Long: <u>-</u> 8 | 86.51222991160                   | )   | Datum: NAD83  |
| Soil Map Unit Name: Berks-We kert Complex                         |              |                  |                                  | NWI classific                                   | ation: UPL  |
| Are climatic / hydrologic conditions on the site typical for this | time of yea  | ar? Yes          | x No_                            | (If no, explain in R                            | emarks.)  |
| Are Vegetation, Soil, or Hydrology signature.                     | gnificantly  | disturbe         | d? Are "l                        | Normal Circumstances" p                         | resent? Yes x No  |
| Are Vegetation, Soil, or Hydrology na                             | aturally pro | blematic         | c? (If ne                        | eded, explain any answei                        | rs in Remarks.)   |
| SUMMARY OF FINDINGS – Attach site map s                           | howing       | samp             | ling point lo                    | ocations, transects                             | , important features, etc.  |
| Hydrophytic Vegetation Present? Yes No                            | , x          |                  | - th - 0l-d                      | A   |   |
| Hydric Soil Present? Yes X No                                     |              |                  | s the Sampled<br>vithin a Wetlan |   | No <u>×</u>   |
| Wetland Hydrology Present? Yes No                                 | <u>x</u>     | , vi             | vitilili a vvetiali              | id: 165   |   |
| Remarks:  |              |                  |                                  |   |   |
|   |              |                  |                                  |   |   |
|   |              |                  |                                  |   |   |
| <b>VEGETATION</b> – Use scientific names of plants.               |              |                  |                                  |   |   |
| Tree Stratum (Plot size: 30 )                                     |              |                  | ant Indicator                    | Dominance Test works                            |   |
| 1   |              |                  |                                  | Number of Dominant Sp<br>That Are OBL, FACW, or |   |
| 2   |              |                  |                                  | Total Number of Domina                          |   |
| 3   |              |                  |                                  | Species Across All Stra                         |   |
| 4   | -            |                  |                                  | Percent of Dominant Sp                          | pecies  |
| 5   |              |                  |                                  | That Are OBL, FACW, o                           |   |
| Sapling/Shrub Stratum (Plot size: 15 )                            |              | = Total          | Cover                            | Prevalence Index worl                           | ksheet:   |
| 1   |              |                  |                                  | Total % Cover of:                               | Multiply by:  |
| 2   |              |                  |                                  | OBL species                                     | x 1 =   |
| 3   |              |                  |                                  |   | x 2 =   |
| 4   |              |                  |                                  |   | x 3 = 150   |
| 5   |              |                  |                                  |   | x 4 = 120   |
| Herb Stratum (Plot size: 5 )                                      |              | = Total          | Cover                            |   | x = 5 = 6 (A) 270 (B)   |
| 1 Poa pratensis   | 50           | Υ                | FAC                              | Column Totals: 80                               | (A) <u>270</u> (B)  |
| 2. Cirsium arvense  | 20           | Υ                | FACU                             | Prevalence Index                                | = B/A = 3.38  |
| 3. Coronilla varia  | 15           | N                | NI                               | Hydrophytic Vegetation                          | n Indicators:   |
| 4. Solidago canadensis  | 10           | N                | FACU                             | Dominance Test is                               |   |
| 5   |              |                  |                                  | Prevalence Index is                             |   |
| 6   |              |                  |                                  | Morphological Adap                              | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |
| 7   |              |                  |                                  |   | ohytic Vegetation <sup>1</sup> (Explain)                            |
| 8   |              |                  |                                  | 1 Toblemano Tiyarop                             | mytto vogotation (Explain)  |
| 9   |              |                  |                                  | <sup>1</sup> Indicators of hydric soil          | l and wetland hydrology must  |
| 10  | 0.5          | T-1-1            |                                  | be present, unless distu                        |   |
| Woody Vine Stratum (Plot size: 15                                 |              | = Total          | Cover                            |   |   |
| 1   | ·            |                  |                                  | Hydrophytic                                     |   |
| 2   |              |                  |                                  | Vegetation Present? Yes                         | s No X  |
|   |              |                  |                                  | 100   |   |
| Remarks: (Include photo numbers here or on a separate sl          | heet.)       |                  |                                  |   |   |
|   | ,            |                  |                                  |   |   |
|   |              |                  |                                  |   |   |

SOIL Sampling Point: S5W091UPL

| Profile Des  | cription: (Describ                    | e to the de             | pth needed to docu      | ment the              | indicator    | or confi         | rm the absence of i          | ndicators.)   |
|--------------|---------------------------------------|-------------------------|-------------------------|-----------------------|--------------|------------------|------------------------------|---|
| Depth        | Matrix                                |                         |                         | ox Feature            |              | . 2              |                              |   |
| (inches)     | Color (moist)                         | %                       | Color (moist)           | %                     | Type'        | Loc <sup>2</sup> | Texture                      | Remarks   |
| 0-8          | 10YR 4/3                              |                         |                         | _                     |              |                  | silty clay                   |   |
| 8-20         | 2.5Y5/2                               | 90                      | 2.5Y 6/8                | 10                    |              | М                | silty clay                   |   |
|              |                                       |                         |                         |                       |              |                  |                              | _   |
|              |                                       |                         |                         | _                     |              |                  |                              | _   |
|              |                                       |                         |                         |                       |              |                  |                              |   |
|              |                                       |                         | <u> </u>                |                       |              |                  |                              |   |
|              |                                       |                         |                         |                       |              |                  |                              |   |
|              |                                       |                         |                         |                       |              |                  |                              |   |
| 1            | · · · · · · · · · · · · · · · · · · · |                         | A Dadwaad Matrix C      |                       |              |                  |                              | a. D. Dana Linian M Matrix  |
| Hydric Soil  |                                       | epielion, Ki            | M=Reduced Matrix, C     | S=Covere              | d or Coale   | a Sana (         |                              | n: PL=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> : |
| -            |                                       |                         | Condu                   | Clayed M              | otrice (C.4) |                  |                              | •   |
| Histoso      | pipedon (A2)                          |                         |                         | Gleyed M<br>Redox (Sa |              |                  |                              | rie Redox (A16)<br>anese Masses (F12)                                 |
|              | istic (A3)                            |                         |                         | ed Matrix (           |              |                  |                              | plain in Remarks)   |
|              | en Sulfide (A4)                       |                         |                         |                       | ineral (F1)  |                  | Other (Exp                   | nam m remarks)  |
|              | d Layers (A5)                         |                         |                         | Gleyed M              |              |                  |                              |   |
|              | uck (A10)                             |                         |                         | ed Matrix             | , ,          |                  |                              |   |
|              | d Below Dark Surf                     | ace (A11)               |                         | Dark Surf             |              |                  |                              |   |
| -            | ark Surface (A12)                     | ,                       |                         |                       | urface (F7)  |                  | <sup>3</sup> Indicators of h | nydrophytic vegetation and  |
| Sandy N      | Mucky Mineral (S1)                    |                         | Redox                   | Depression            | ons (F8)     |                  |                              | drology must be present,  |
| 5 cm M       | ucky Peat or Peat                     | (S3)                    |                         |                       |              |                  | unless dist                  | curbed or problematic.  |
| Restrictive  | Layer (if observe                     | d):                     |                         |                       |              |                  |                              |   |
| Type:        |                                       |                         |                         |                       |              |                  |                              |   |
| Depth (in    | iches):                               |                         |                         |                       |              |                  | Hydric Soil Pre              | sent? Yes X No  |
| Remarks:     |                                       |                         |                         |                       |              |                  |                              |   |
|              |                                       |                         |                         |                       |              |                  |                              |   |
| HYDROLO      |                                       |                         |                         |                       |              |                  |                              |   |
| _            | drology Indicator                     |                         |                         |                       |              |                  |                              |   |
| Primary Indi | cators (minimum o                     | f one is requ           | uired; check all that a | ipply)                |              |                  | Secondary I                  | ndicators (minimum of two required)                                   |
|              | Water (A1)                            |                         |                         | ained Lea             | , ,          |                  | <del></del>                  | Soil Cracks (B6)  |
| High Wa      | ater Table (A2)                       |                         | Aquatic F               |                       |              |                  | _                            | e Patterns (B10)  |
| Saturati     | , ,                                   |                         |                         | atic Plants           | . ,          |                  | Dry-Sea                      | son Water Table (C2)  |
| Water N      | /larks (B1)                           |                         |                         | n Sulfide C           |              |                  |                              | Burrows (C8)  |
|              | nt Deposits (B2)                      |                         | Oxidized                | Rhizosph              | eres on Liv  | ing Root         | ts (C3) Saturati             | on Visible on Aerial Imagery (C9)                                     |
| ·            | posits (B3)                           |                         |                         |                       | ed Iron (C   |                  |                              | or Stressed Plants (D1)   |
| _            | at or Crust (B4)                      |                         | Recent Ir               | on Reduct             | ion in Tille | d Soils (0       | · —                          | phic Position (D2)  |
|              | posits (B5)                           |                         | <del></del>             | k Surface             | . ,          |                  | FAC-Ne                       | eutral Test (D5)  |
| Inundat      | ion Vis ble on Aeria                  | al Imagery (            | B7) Gauge or            | Well Data             | a (D9)       |                  |                              |   |
| Sparsel      | y Vegetated Conca                     | ve Surface              | (B8) Other (Ex          | cplain in R           | emarks)      |                  |                              |   |
| Field Obser  | rvations:                             |                         | .,                      |                       |              |                  |                              |   |
| Surface Wat  | ter Present?                          |                         | No X Depth (ii          |                       |              |                  |                              |   |
| Water Table  | Present?                              | Yes                     | No X Depth (in          | nches):               |              |                  |                              |   |
| Saturation F | resent?                               | Yes                     | No X Depth (in          | nches):               |              | We               | etland Hydrology Pr          | esent? Yes No X   |
| (includes ca | pillary fringe)                       |                         |                         |                       |              |                  |                              |   |
| Describe Re  | ecorded Data (strea                   | ım gauge <del>,</del> n | nonitoring well, aerial | pnotos, p             | revious ins  | pections         | s), if available:            |   |
| Doresta      |                                       |                         |                         |                       |              |                  |                              |   |
| Remarks:     |                                       |                         |                         |                       |              |                  |                              |   |
|              |                                       |                         |                         |                       |              |                  |                              |   |
|              |                                       |                         |                         |                       |              |                  |                              |   |
|              |                                       |                         |                         |                       |              |                  |                              |   |
|              |                                       |                         |                         |                       |              |                  |                              |   |

| Project/Site: I-69 Bloomington to Martinsville   | (        | City/Count | y: Bloomingt | Sampling Date: 10/14/2011                        |   |
|--|----------|------------|--------------|--|---|
| Applicant/Owner: INDOT   |          |            |              | State: IN  | Sampling Point: S5W109  |
| Investigator(s): K. Schroeder, D. White  | :        |            |              |  |   |
|  |          |            |              | (concave, convex, none):                         | Concave   |
| Slope (%): <5% Lat: 39.39264544930   |          |            |              |  |   |
|  |          |            |              | NWI classific                                    |   |
| Are climatic / hydrologic conditions on the site typical for this  |          |            |              |  |   |
| Are Vegetation, Soil, or Hydrologys  |          |            |              |  |   |
| Are Vegetation, Soil, or Hydrology n   |          |            |              |  |   |
| SUMMARY OF FINDINGS – Attach site map  | showing  | samplii    | ng point le  | ocations, transects                              | , important features, etc.  |
| Hydrophytic Vegetation Present? Yes X No   | 0        |            |              |  |   |
| Hydric Soil Present? Yes X No.   |          |            | he Sampled   |  | Ne  |
| Wetland Hydrology Present? Yes X No.   |          | Wit        | hin a Wetlar | id? fes <u>^</u>                                 | No  |
| Remarks:   |          |            |              |  |   |
|  |          |            |              |  |   |
| <b>VEGETATION</b> – Use scientific names of plants.  |          |            |              |  |   |
|  | Absolute | Dominan    | nt Indicator | Dominance Test work                              | sheet:  |
| Tree Stratum (Plot size: 30 ) 1  | % Cover  | Species?   | ? Status     | Number of Dominant Sp<br>That Are OBL, FACW, of  | pecies  |
| 2  |          |            |              | Total Number of Domin                            | ant   |
| 3  |          |            |              | Species Across All Stra                          | ta: <u>3</u> (B)  |
| 4  |          |            |              | Percent of Dominant Sp<br>That Are OBL, FACW, of |   |
|  |          | = Total Co | over         |  |   |
| Sapling/Shrub Stratum (Plot size: 15 )   | 60       | V          | OBL          | Prevalence Index worl                            |   |
| 1. Salix nigra 2. Platanus occidentalis  | 15       | Y<br>N     | FACW         | Total % Cover of:                                |   |
| 3. Fraxinus pennsylvanica  | 5        | N          | FACW         |  | $x 1 = \frac{80}{220}$<br>$x 2 = \frac{220}{220}$                   |
| 4 Acer negundo   | 5        | N          | FACW         |  | x 3 =   |
| 5. Liquidambar styraciflua   | 5        | N          | FACW         |  | x 4 =   |
| 5  |          | = Total Co |              |  | x 5 =   |
| Herb Stratum (Plot size: 5 )   |          | = 10tal 00 | 5701         | Column Totals: 190                               |   |
| 1. Phalaris arundinacea  | 80       | Υ          | FACW         |  |   |
| 2. Polygonum hydropiper  | 20       | Υ          | OBL          | Prevalence Index                                 |   |
| 3  |          |            |              | Hydrophytic Vegetatio                            |   |
| 4  |          |            |              | X Dominance Test is                              |   |
| 5  |          |            |              | X Prevalence Index is                            |   |
| 6  |          |            |              | Morphological Adap<br>data in Remarks            | otations <sup>1</sup> (Provide supporting s or on a separate sheet) |
| 7  |          |            |              |  | phytic Vegetation <sup>1</sup> (Explain)                            |
| 8  |          |            |              | _ , ,  |   |
| 9  |          |            |              | <sup>1</sup> Indicators of hydric soil           | and wetland hydrology must  |
| 10   | 100      | Total Ca   |              | be present, unless distu                         | rbed or problematic.  |
| Woody Vine Stratum (Plot size: 15  | 100      | = Total Co | over         |  |   |
| 1.   |          |            |              | Hydrophytic                                      |   |
| 2  |          |            |              | Vegetation<br>Present? Yes                       | s <u>×</u> No   |
|  |          | = Total Co | over         | 16:  |   |
| Remarks: (Include photo numbers here or on a separate s  | sheet.)  |            |              |  |   |
| , and a substitution of the substitution of th | /        |            |              |  |   |
|  |          |            |              |  |   |

SOIL Sampling Point: S5W109

|                | •                                       | e to the de |                        |                  |                             | or confi                       | rm the absence of inc         | dicators.)                             |
|----------------|---|-------------|------------------------|------------------|-----------------------------|--------------------------------|-------------------------------|--|
| Depth (inches) | Matrix Color (moist)                    | %           | Color (moist)          | ox Featur<br>%   | es<br>Type <sup>1</sup>     | Loc <sup>2</sup>               | <br>Texture                   | Remarks                                |
| 0-4            | 10YR 3/2                                | 98          | 7.5YR 5/6              | 2                | C                           | M                              | silty clay loam               | Romano                                 |
| 4-20           | 2.5Y 6//1                               | 80          | 7.5YR 5/6              | <br>20           | - <del>C</del>              | M                              | Silty clay loam               |  |
| 4-20           | 2.51 0//1                               | _ 60        | 7.518 5/6              | _ 20             |                             | IVI                            | Silly clay loan               |  |
|                | <u> </u>                                |             |                        |                  | _                           |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |
|                | <u>.</u> .                              |             |                        |                  |                             |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |
|                |   | pletion, RM | l=Reduced Matrix, C    | S=Covere         | ed or Coate                 | ed Sand                        |                               | PL=Pore Lining, M=Matrix.              |
| -              | Indicators:                             |             |                        |                  |                             |                                |                               | roblematic Hydric Soils <sup>3</sup> : |
| Histoso        |   |             |                        |                  | latrix (S4)                 |                                |                               | Redox (A16)                            |
|                | Epipedon (A2)                           |             |                        | Redox (S         |                             |                                |                               | iese Masses (F12)                      |
|                | listic (A3)<br>en Sulfide (A4)          |             |                        | ed Matrix (      | ັດວຣ)<br>ineral (F1)        |                                | Other (Expla                  | in in Remarks)                         |
|                | ed Layers (A5)                          |             |                        |                  | nierai (F1)<br>//atrix (F2) |                                |                               |  |
| 2 cm M         |   |             |                        | ed Matrix        |                             |                                |                               |  |
|                | ed Below Dark Surfa                     | ce (A11)    |                        | Dark Sur         | , ,                         |                                |                               |  |
|                | ark Surface (A12)                       | ,           |                        |                  | surface (F7                 | )                              | <sup>3</sup> Indicators of hy | drophytic vegetation and               |
| Sandy I        | Mucky Mineral (S1)                      |             |                        | Depressi         |                             | ,                              |                               | ology must be present,                 |
|                | ucky Peat or Peat (                     |             |                        |                  |                             |                                | unless distur                 | bed or problematic.                    |
| Restrictive    | Layer (if observed                      | ):          |                        |                  |                             |                                |                               |  |
| Type:          |   |             |                        |                  |                             |                                |                               |  |
| Depth (ir      | nches):                                 |             |                        |                  |                             |                                | Hydric Soil Prese             | ent? Yes X No                          |
| Remarks:       |   |             |                        |                  |                             |                                | •                             |  |
|                |   |             |                        |                  |                             |                                |                               |  |
| HYDROLO        |   |             |                        |                  |                             |                                |                               |  |
| Wetland Hy     | drology Indicators                      | s:          |                        |                  |                             |                                |                               |  |
| Primary Indi   | icators (minimum of                     | one is requ | ired; check all that a | pply)            |                             |                                | Secondary Ind                 | licators (minimum of two required)     |
| Surface        | e Water (A1)                            |             | X Water-Sta            | ained Lea        | ves (B9)                    |                                | Surface S                     | oil Cracks (B6)                        |
| High W         | ater Table (A2)                         |             | Aquatic F              | auna (B1         | 3)                          |                                | Drainage                      | Patterns (B10)                         |
| Saturat        | ion (A3)                                |             | True Aqu               |                  |                             |                                | Dry-Seaso                     | on Water Table (C2)                    |
| · <u></u>      | Marks (B1)                              |             | Hydrogen               |                  |                             |                                |                               | Burrows (C8)                           |
|                | ent Deposits (B2)                       |             | X Oxidized             |                  |                             |                                |                               | Visible on Aerial Imagery (C9)         |
|                | eposits (B3)                            |             |                        |                  | ed Iron (C                  |                                |                               | r Stressed Plants (D1)                 |
|                | lat or Crust (B4)                       |             | <del></del>            |                  | tion in Tille               | d Soils (                      | · — ·                         | nic Position (D2)                      |
|                | posits (B5)                             |             | Thin Muc               |                  | . ,                         |                                | FAC-Neut                      | ral Test (D5)                          |
|                | tion Vis ble on Aerial                  |             | -                      |                  |                             |                                |                               |  |
|                | ly Vegetated Concar                     | ve Surface  | (B8) Other (Ex         | plain in R       | emarks)                     |                                |                               |  |
| Field Obse     |   |             | Y                      |                  |                             |                                |                               |  |
|                |   |             | No X Depth (ir         |                  |                             |                                |                               |  |
| Water Table    |   |             | No X Depth (ir         |                  |                             |                                |                               | V                                      |
| Saturation F   |   | Yes         | No X Depth (ir         | nches): <u>6</u> |                             | We                             | etland Hydrology Pres         | sent? Yes X No                         |
| Describe Re    | pillary fringe)<br>ecorded Data (strear | m gauge, m  | onitoring well, aerial | photos, r        | revious ins                 | spections                      | s), if available:             |  |
| 200000         | 200.404 2414 (01.04.                    | gaage,      | oogo, aoa.             | p                |                             | <b>5 P 3 3 3 3 3 3 3 3 3 3</b> | 5), aranas.e.                 |  |
| Remarks:       |   |             |                        |                  |                             |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |
|                |   |             |                        |                  |                             |                                |                               |  |

| Project/Site: I-69 Bloomington to Mar   | tinsville             | (           | City/Count | ty: Bloomingt | Sampling Date: 2-19-2013 |  |
|---|-----------------------|-------------|------------|---------------|--------------------------|--|
| Applicant/Owner: INDOT                  |                       |             |            |               | State: IN                | Sampling Point: S5W109UPL                          |
| Investigator(s): D. White, T. Keefe     |                       |             |            |               |                          |  |
| Landform (hillslope, terrace, etc.): FI |                       |             |            | •             | (concave, convex, none): | Concave  |
| Slope (%): <5% Lat: 39.392              |                       |             |            |               |                          |  |
| Soil Map Unit Name: Cuba Silt Loam      |                       |             | -          |               | NWI classific            |  |
| Are climatic / hydrologic conditions o  |                       |             |            |               |                          |  |
| Are Vegetation, Soil,                   |                       |             |            |               |                          |  |
| Are Vegetation, Soil,                   |                       |             |            |               | eded, explain any answe  |  |
|   |                       |             |            |               |                          |  |
| SUMMARY OF FINDINGS –                   | Attach site map       | snowing     | sampii     | ng point id   | ocations, transects      | , important features, etc.                         |
| Hydrophytic Vegetation Present?         | Yes 1                 | No X        | ls f       | the Sampled   | Area                     |  |
| Hydric Soil Present?                    | Yes 1                 | No X        |            | thin a Wetlan |                          | No X   |
| Wetland Hydrology Present?              | Yes 1                 | No <u>X</u> |            |               |                          | <u> </u>   |
| Remarks:                                |                       |             |            |               |                          |  |
|   |                       |             |            |               |                          |  |
| VEGETATION – Use scientifi              | is names of plants    |             |            |               |                          |  |
| VEGETATION - USe scientili              | — Chames of plants    | Absolute    | Dominar    | nt Indicator  | Dominance Test work      | shoot:   |
| Tree Stratum (Plot size: 30             | )                     |             |            | ? Status      | Number of Dominant Sp    |  |
| 1. Robinia pseudoacacia                 |                       | 20          | Υ          | FACU          | That Are OBL, FACW, of   |  |
| 2. Salix nigra                          |                       | 10          | N          | FACW          | Total Number of Domin    | ant  |
| 3                                       |                       |             |            |               | Species Across All Stra  | 2  |
| 4                                       |                       |             |            |               | Percent of Dominant Sp   | necies   |
| 5                                       |                       |             |            |               | That Are OBL, FACW, of   |  |
| Sapling/Shrub Stratum (Plot size:       | 15                    | 30          | = Total Co | over          | Prevalence Index wor     | ksheet:  |
|   | /                     | 10          | Υ          | FACW          | Total % Cover of:        |  |
| 2.                                      |                       |             |            |               |                          | x 1 =  |
| 3.                                      |                       |             |            |               |                          | x 2 = 40   |
| 4.                                      |                       |             |            |               | FAC species              | x 3 =  |
| 5                                       |                       |             |            |               | FACU species 30          | x 4 = 120  |
|   |                       |             | = Total Co | over          | UPL species              | x 5 =  |
| 0 11 1                                  |                       | 10          | Υ          | FACU          | Column Totals: 50        | (A) <u>160</u> (B)                                 |
| "                                       |                       |             |            |               | Prevalence Index         | = B/A = 3.2  |
| 2                                       |                       |             |            |               | Hydrophytic Vegetation   | <u> </u>   |
| 3                                       |                       |             |            |               | Dominance Test is        |  |
| 5                                       |                       |             |            |               | Prevalence Index is      |  |
| 6                                       |                       |             |            |               | Morphological Ada        | ptations <sup>1</sup> (Provide supporting          |
| 7                                       |                       |             |            |               | data in Remarks          | s or on a separate sheet)                          |
| 8.                                      |                       |             |            |               | Problematic Hydror       | phytic Vegetation <sup>1</sup> (Explain)           |
| 9                                       |                       |             |            |               | 11                       | Landon de adhodada accesso                         |
| 10                                      |                       |             |            |               | be present, unless distu | I and wetland hydrology must urbed or problematic. |
| Washing Charles (Blatisine 1            | 5                     | 10          | = Total Co | over          |                          | ·  |
| Woody Vine Stratum (Plot size: 1        |                       |             |            |               | Hydrophytic              |  |
| 1                                       |                       |             |            |               | Vegetation               | V  |
| 2                                       |                       |             |            | over          | Present? Yes             | s No X   |
|   |                       |             | - 10tal 0t |               |                          |  |
| Remarks: (Include photo numbers         | nere or on a separate | sheet.)     |            |               |                          |  |
|   |                       |             |            |               |                          |  |
|   |                       |             |            |               |                          |  |

SOIL Sampling Point: S5W109UPL

| Profile Des  | cription: (Descr           | ibe to the dept  | th needed to do    | ument the                    | indicator of      | or confirm       | n the absence of           | indicators.)          |                           |
|--------------|----------------------------|------------------|--------------------|------------------------------|-------------------|------------------|----------------------------|-----------------------|---------------------------|
| Depth        | Matri                      |                  | Re                 | dox Feature                  | s                 |                  |                            |                       |                           |
| (inches)     | Color (moist               | ) %              | Color (moist)      | %                            | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                    | Rema                  | rks                       |
| 0-18         | 10YR 4/4                   | 100              |                    |                              |                   |                  | Silty sand                 |                       |                           |
|              | •                          |                  |                    |                              |                   |                  |                            |                       |                           |
| -            |                            |                  |                    |                              | · ——              |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
| -            | -                          |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              | concentration, D=I         | Depletion, RM=   | Reduced Matrix,    | CS=Covere                    | d or Coate        | d Sand Gr        |                            | ion: PL=Pore Linin    |                           |
| Hydric Soil  | Indicators:                |                  |                    |                              |                   |                  | Indicators fo              | r Problematic Hyd     | dric Soils <sup>a</sup> : |
| Histoso      | ` '                        |                  |                    | ly Gleyed Ma                 | , ,               |                  |                            | airie Redox (A16)     |                           |
|              | pipedon (A2)               |                  |                    | y Redox (St                  |                   |                  |                            | ganese Masses (F      | 12)                       |
|              | listic (A3)                |                  |                    | oed Matrix (                 |                   |                  | Other (Ex                  | xplain in Remarks)    |                           |
|              | en Sulfide (A4)            |                  |                    | ny Mucky Mi                  |                   |                  |                            |                       |                           |
|              | d Layers (A5)<br>uck (A10) |                  |                    | ny Gleyed M<br>eted Matrix ( |                   |                  |                            |                       |                           |
|              | ed Below Dark Su           | face (Δ11)       |                    | x Dark Surf                  |                   |                  |                            |                       |                           |
|              | ark Surface (A12           |                  |                    | eted Dark Su                 |                   |                  | <sup>3</sup> Indicators of | f hydrophytic veget   | ation and                 |
|              | Mucky Mineral (S           |                  |                    | x Depression                 |                   |                  |                            | ydrology must be p    |                           |
|              | ucky Peat or Pea           |                  |                    |                              | ( )               |                  |                            | sturbed or problem    |                           |
|              | Layer (if observe          |                  |                    |                              |                   |                  |                            |                       |                           |
| Type:        |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              | nches):                    |                  |                    |                              |                   |                  | Hydric Soil Pi             | resent? Yes           | No X                      |
| Remarks:     |                            |                  |                    |                              |                   |                  | 1.,,                       |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
| HYDROLC      |                            |                  |                    |                              |                   |                  |                            |                       |                           |
| Wetland Hy   | drology Indicate           | ors:             |                    |                              |                   |                  |                            |                       |                           |
| Primary Indi | cators (minimum            | of one is requir | ed; check all that | apply)                       |                   |                  | <u>Secondary</u>           | Indicators (minimu    | m of two required)        |
| Surface      | Water (A1)                 |                  | Water-S            | Stained Leav                 | res (B9)          |                  | Surfac                     | e Soil Cracks (B6)    |                           |
| High W       | ater Table (A2)            |                  | Aquatio            | Fauna (B13                   | 3)                |                  | Draina                     | ige Patterns (B10)    |                           |
| Saturati     | ion (A3)                   |                  | True Ad            | uatic Plants                 | (B14)             |                  | Dry-Se                     | eason Water Table     | (C2)                      |
| Water N      | Marks (B1)                 |                  | Hydrog             | en Sulfide O                 | dor (C1)          |                  | Crayfis                    | sh Burrows (C8)       |                           |
| Sedime       | nt Deposits (B2)           |                  | Oxidize            | d Rhizosphe                  | eres on Livi      | ing Roots        | (C3) Satura                | ition Visible on Aeri | al Imagery (C9)           |
| Drift De     | posits (B3)                |                  | Presen             | ce of Reduce                 | ed Iron (C4       | <b>!</b> )       | Stunte                     | d or Stressed Plan    | ts (D1)                   |
| Algal M      | at or Crust (B4)           |                  | Recent             | Iron Reduct                  | ion in Tilled     | d Soils (C6      | 6) Geom                    | orphic Position (D2   | )                         |
| Iron De      | posits (B5)                |                  | Thin Mu            | ick Surface                  | (C7)              |                  | FAC-N                      | leutral Test (D5)     |                           |
| Inundat      | ion Vis ble on Aer         | ial Imagery (B7  | ) Gauge            | or Well Data                 | (D9)              |                  |                            |                       |                           |
| Sparsel      | y Vegetated Cond           | cave Surface (E  | 38) Other (        | Explain in Re                | emarks)           |                  |                            |                       |                           |
| Field Obser  |                            |                  |                    |                              |                   |                  |                            |                       |                           |
| Surface Wa   | ter Present?               | Yes 1            | No X Depth         | (inches):                    |                   |                  |                            |                       |                           |
| Water Table  |                            |                  | No X Depth         |                              |                   |                  |                            |                       |                           |
| Saturation F |                            |                  | No X Depth         |                              |                   |                  | and Hydrology F            | Present? Yes          | No. X                     |
|              | pillary fringe)            | 169I             | 10 Debiu           | (11101169)                   |                   | _   well         | and riyurology f           | 16961111 169          | 140                       |
|              | ecorded Data (stre         | eam gauge, mo    | nitoring well, aer | al photos, pi                | revious ins       | pections),       | if available:              |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
| Remarks:     |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |
|              |                            |                  |                    |                              |                   |                  |                            |                       |                           |

| Project/Site: I-69 Bloomington to Martinsville                    | (      | City/Coun | nty: Morgan         |   | Sampling Date: 10   | )/15/2011   |
|---|--------|-----------|---------------------|---|---|-------------|
|   |        |           |                     | State: IN                                   |   |             |
| Investigator(s): K. Schroeder, D. White                           |        |           |                     |   |   |             |
| Landform (hillslope, terrace, etc.): ditch                        |        |           |                     |   | Concave   |             |
| Slope (%): <5% Lat: 39.34761321330                                |        |           |                     |   |   |             |
|   |        |           |                     | NWI classific                               |   |             |
| Are climatic / hydrologic conditions on the site typical for this |        |           |                     |   |   |             |
| Are Vegetation, Soil, or Hydrology si                             |        |           |                     |   |   | No          |
| Are Vegetation, Soil, or Hydrology na                             |        |           |                     |   |   |             |
| SUMMARY OF FINDINGS – Attach site map s                           |        |           |                     |   |   | tures, etc. |
| Hydrophytic Vegetation Present? Yes X No                          | )      |           | 41 011              | A   |   |             |
| Hydric Soil Present? Yes X No                                     |        |           | the Sampled         |   | No  |             |
| Wetland Hydrology Present? Yes x No                               |        | WI        | uiiii a vveuaii     | iu: 165 <u>···</u>                          |   |             |
| Remarks:  |        |           |                     |   |   |             |
|   |        |           |                     |   |   |             |
|   |        |           |                     |   |   |             |
| <b>VEGETATION</b> – Use scientific names of plants.               |        |           |                     |   |   |             |
| Tree Stratum (Plot size: 30 )                                     |        |           | nt Indicator Status | Dominance Test work                         |   |             |
| 1   |        |           |                     | Number of Dominant S<br>That Are OBL, FACW, |   | (A)         |
| 2   |        |           |                     | Total Number of Domin                       | nant  |             |
| 3   |        |           |                     | Species Across All Stra                     | ıta: <u>2</u>   | (B)         |
| 4   |        |           |                     | Percent of Dominant Sp                      | pecies  |             |
| 5   |        |           | Cover               | That Are OBL, FACW,                         | or FAC: 100   | (A/B)       |
| Sapling/Shrub Stratum (Plot size: 15 )                            |        | = Total C | ovei                | Prevalence Index wor                        | ksheet:   |             |
| 1   |        |           |                     |   | Multiply  |             |
| 2   |        |           |                     | OBL species 80                              |   |             |
| 3   |        |           |                     | FACW species 65                             |   |             |
| 4   |        |           |                     | FAC species                                 |   |             |
| 5   |        |           |                     | FACU species                                |   |             |
| Herb Stratum (Plot size: 5  |        | = Total C | over                |   | x 5 =<br>(Δ) 210  |             |
| 1. Typha latifolia  | 60     | Υ         | OBL                 | Column Totals: 145                          | (A) <u>210</u>  | (B)         |
| 2. Polygonum persicaria   | 50     | Υ         | FACW                | Prevalence Index                            | = B/A = 1.45  |             |
| 3. Scirpus atrovirens   | 20     | N         | OBL                 | Hydrophytic Vegetation                      | on Indicators:  |             |
| 4. Carex sp.  | 15     | N         | FACW                | X Dominance Test is                         |   |             |
| 5   |        |           |                     | X Prevalence Index is                       |   |             |
| 6   |        |           |                     | Morphological Ada                           | ptations <sup>1</sup> (Provide so<br>s or on a separate s |             |
| 7   |        |           |                     | Problematic Hydro                           |   | •           |
| 8   |        |           |                     | i iobiematic riyulo                         | priytic vegetation (i                                     |             |
| 9   |        |           |                     | <sup>1</sup> Indicators of hydric soi       | and wetland hydro   | loav must   |
| 10  | 4.45   |           |                     | be present, unless distu                    |   |             |
| Woody Vine Stratum (Plot size: 15 )                               | 145    | = Total C | over                |   |   |             |
| 1   |        |           |                     | Hydrophytic                                 |   |             |
| 2   |        |           |                     | Vegetation<br>Present? Ye                   | s <u>X</u> No   |             |
|   |        | = Total C | over                | . 10001111                                  | · 140   | _           |
| Remarks: (Include photo numbers here or on a separate s           | heet.) |           |                     |   |   |             |
| ,                           | . ,    |           |                     |   |   |             |
|   |        |           |                     |   |   |             |
| Í.  |        |           |                     |   |   |             |

SOIL Sampling Point: S5W119

| Profile Desc          | cription: (Describe                   | e to the dep | oth needed to docu     | ment the             | indicator              | or confir        | m the absence of inc | dicators.)  |
|-----------------------|---------------------------------------|--------------|------------------------|----------------------|------------------------|------------------|----------------------|---|
| Depth                 | Matrix                                |              |                        | ox Feature           |                        | . 2              | <u> </u>             |   |
| (inches)              | Color (moist)                         |              | Color (moist)          | %                    | Type <sup>1</sup>      | Loc <sup>2</sup> | Texture              | Remarks   |
| 0-8                   | 10YR 3/1                              | 98           | 7.5YR 5/6              | _ 2                  | _ <u>C</u>             | M                | silt loam            |   |
| 8-17                  | 2.5Y 6/1                              | 90           | 10 YR 5/8              | 10                   | <u>C</u>               | PL               | Silt loam            |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       | -                                     |              | -                      |                      | -                      |                  |                      |   |
|                       | -                                     |              |                        |                      |                        |                  | <del></del>          |   |
| 1                     |                                       |              |                        |                      |                        |                  | 2.                   |   |
| Type: C=C Hydric Soil |                                       | pletion, RM  | =Reduced Matrix, C     | S=Covere             | ed or Coate            | ed Sand G        |                      | : PL=Pore Lining, M=Matrix. roblematic Hydric Soils³: |
|                       |                                       |              | Condu                  | Clayed M             | otriv (C4)             |                  |                      | •   |
| Histosol              | pipedon (A2)                          |              |                        | Gleyed M<br>Redox (S |                        |                  |                      | e Redox (A16)<br>nese Masses (F12)                    |
|                       | istic (A3)                            |              |                        | ed Matrix (          |                        |                  |                      | ain in Remarks)                                       |
|                       | en Sulfide (A4)                       |              |                        |                      | ineral (F1)            |                  |                      | ,   |
|                       | d Layers (A5)                         |              |                        | Gleyed M             |                        |                  |                      |   |
|                       | uck (A10)                             |              |                        | ed Matrix            |                        |                  |                      |   |
|                       | d Below Dark Surfa                    | ce (A11)     |                        | Dark Surf            | ace (F6)<br>urface (F7 | `                | 3Indiantors of hy    | draphytic vocatation and                              |
|                       | ark Surface (A12)  Mucky Mineral (S1) |              |                        | Depression           | •                      | )                |                      | drophytic vegetation and rology must be present,      |
|                       | ucky Peat or Peat (                   | S3)          | Nodex                  | Боргосон             | 31.0 (1.0)             |                  |                      | rbed or problematic.                                  |
| Restrictive           | Layer (if observed                    |              |                        |                      |                        |                  |                      | •   |
| Type: Cla             | ay/gravel                             |              |                        |                      |                        |                  |                      |   |
| Depth (in             | ches): <u>17</u>                      |              |                        |                      |                        |                  | Hydric Soil Pres     | ent? Yes X No   |
| Remarks:              |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
| HYDROLO               | GY                                    |              |                        |                      |                        |                  |                      |   |
| Wetland Hy            | drology Indicators                    | s:           |                        |                      |                        |                  |                      |   |
| Primary Indi          | cators (minimum of                    | one is requ  | ired; check all that a | pply)                |                        |                  | Secondary Inc        | dicators (minimum of two required)                    |
| Surface               | Water (A1)                            |              | Water-Sta              | ained Lea            | ves (B9)               |                  | Surface S            | oil Cracks (B6)                                       |
| High Wa               | ater Table (A2)                       |              | Aquatic F              | auna (B1             | 3)                     |                  | Drainage             | Patterns (B10)  |
| X Saturation          | on (A3)                               |              | True Aqu               |                      |                        |                  |                      | on Water Table (C2)                                   |
| Water M               |                                       |              | Hydroger               |                      |                        |                  | Crayfish E           |   |
|                       | nt Deposits (B2)                      |              |                        |                      | eres on Liv            | _                |                      | n Visible on Aerial Imagery (C9)                      |
|                       | posits (B3)<br>at or Crust (B4)       |              | Presence               |                      | ed Iron (C             |                  |                      | r Stressed Plants (D1)<br>hic Position (D2)           |
|                       | posits (B5)                           |              | Thin Muc               |                      |                        | u Solis (C       | FAC-Neu              |   |
| -                     | on Vis ble on Aeria                   | Imagery (F   |                        |                      | ` '                    |                  | 170 1100             | trai rest (Do)  |
| ·                     | y Vegetated Conca                     |              |                        |                      | . ,                    |                  |                      |   |
| Field Obser           |                                       |              | ,                      |                      | ,                      |                  |                      |   |
| Surface Wat           | er Present?                           | Yes          | No X Depth (ir         | nches):              |                        |                  |                      |   |
| Water Table           |                                       |              | No X Depth (in         |                      |                        |                  |                      |   |
| Saturation P          |                                       |              | No Depth (in           |                      |                        |                  | tland Hydrology Pre  | sent? Yes X No  |
| (includes car         | pillary fringe)                       |              |                        |                      |                        |                  |                      |   |
| Describe Re           | corded Data (strea                    | n gauge, m   | onitoring well, aerial | pnotos, p            | revious ins            | spections)       | , іт avallable:      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
| Remarks:              |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |
|                       |                                       |              |                        |                      |                        |                  |                      |   |

|  | Project/Site: I-69 Bloomington to Martinsville         |             | City/Co | unty: Morgan       |                        | Sampling Date: 2-19-2                | :013     |
|--|--|-------------|---------|--------------------|------------------------|--------------------------------------|----------|
| New Note   | Applicant/Owner: INDOT                                 |             |         |                    |                        |                                      |          |
| Local relief (concave, convex, none):   Concave   Conc   | Investigator(s): D. White, T. Keefe                    |             |         |                    |                        |                                      |          |
| Slope (19): -5%   Lat: 39.34774689730  | - ' '  |             |         |                    | _                      | Concave                              |          |
| No description: UPL  No climate: history loam - 18-50% slopes  No climate: hydrologic conditions on the sile typical for this time of year? Yes X No (If no, explain in Remarks.)  No climate: Are "Nomal Circumstances" present? Yes X No No X (If needed, explain any answers in Remarks.)  No climate: Notice of the sile typical for this time of year? Yes X No (If needed, explain any answers in Remarks.)  No climate: Are "Nomal Circumstances" present? Yes X No No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain any answers in Remarks.)  No control of the sampled Area within a Wetland? Yes No X (If needed, explain an | · / -  |             |         |                    |                        |                                      |          |
| No   | Soil Man Linit Name Hickory Loam - 18-50% slopes       |             |         |                    |                        |                                      |          |
| New Yegetation   |  |             |         |                    |                        |                                      |          |
| Summary   Soil   | , ,  | •           |         |                    |                        | •                                    | No       |
| SumMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes No X Within a Wetland? Yes No X Within |  |             |         |                    | •                      | · <del></del>                        | NO       |
| Hydrophytic Vegetation Present?   Yes  |  |             |         |                    |                        |                                      |          |
| Hydric Soil Present?   Yes   | SUMMARY OF FINDINGS – Attach site ma                   | p showing   | sam     | oling point l      | ocations, transects    | , important feature                  | es, etc. |
| Hydric Soil Present?   Yes   | Hydrophytic Vegetation Present? Yes                    | No X        |         | la tha Camplas     | I A                    |                                      |          |
| Vestand Hydrology Present?   Ves   No   X  | Hydric Soil Present? Yes                               | No X        |         | _                  |                        | No. X                                |          |
| Absolute   Dominant Indicator   Species?   Status  |  |             |         | willilli a vveliai | iid: 165               | NO <u>· · ·</u>                      |          |
| Absolute   Species   Statum   Comminant   Indicator   Species   Status   Number of Dominant   Species   That Are OBL, FACW, or FAC:   0   (A)  | Remarks:   |             |         |                    |                        |                                      |          |
| Absolute   Species   Statum   Comminant   Indicator   Species   Status   Number of Dominant   Species   That Are OBL, FACW, or FAC:   0   (A)  |  |             |         |                    |                        |                                      |          |
| Absolute   Species   Statum   Comminant   Indicator   Species   Status   Number of Dominant   Species   That Are OBL, FACW, or FAC:   0   (A)  |  |             |         |                    |                        |                                      |          |
| Tree Stratum         (Plot size: 30  | VEGETATION – Use scientific names of plan              |             |         |                    |                        |                                      |          |
| 1.   | Tree Stratum (Plot size: 30                            |             |         |                    |                        |                                      |          |
| 2.   |  |             |         |                    |                        | pecies<br>or FAC: <sup>0</sup>       | (A)      |
| 3.   |  |             |         |                    |                        |                                      | - ` ,    |
| Percent of Dominant Species That Are OBL, FACW, or FAC: 0  |  |             |         |                    |                        |                                      | (B)      |
| That Are OBL, FACW, or FAC: 0 (AB)   |  |             |         |                    | Porcent of Dominant St | ancine                               |          |
| Prevalence Index worksheet:   Total % Cover of:  | 5  |             |         |                    |                        | or FAC: 0                            | _ (A/B)  |
| 1  | Sanling/Chrush Stratum (Blot size, 15                  |             | = Total | l Cover            | Prevalence Index wor   | kshoot:                              |          |
| 2.   |  |             |         |                    |                        |                                      |          |
| 3  |  |             |         |                    |                        |                                      |          |
| 4  |  |             |         |                    |                        |                                      |          |
| 5  |  |             |         |                    |                        |                                      |          |
| Herb Stratum (Plot size: 5   )   |  |             |         |                    | FACU species 90        | x 4 = <u>360</u>                     |          |
| 1. Festuca sp. 80 Y FACU 2. Glechoma hederacea 10 N FACU 3. Hydrophytic Vegetation Indicators:  4. Dominance Test is >50%  — Prevalence Index is ≤3.0¹ — Prevalence Index is ≤3.0¹ — Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation¹ (Explain)  9. Problematic Hydrophytic Vegetation¹ (Explain)  10. 90 = Total Cover  Hydrophytic Vegetation Indicators: — Dominance Test is >50% — Prevalence Index is ≤3.0¹ — Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) — Problematic Hydrophytic Vegetation¹ (Explain)  1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Hydrophytic Vegetation Present? Yes No X   | _  |             |         |                    | UPL species            | x 5 =                                |          |
| 2. Glechoma hederacea  10 N FACU Prevalence Index = B/A = 4  Hydrophytic Vegetation Indicators:  Dominance Test is >50% Prevalence Index is ≤3.0¹ P  |  | 90          | V       | EACH               | Column Totals: 90      | (A) <u>360</u>                       | (B)      |
| Hydrophytic Vegetation Indicators:   Dominance Test is >50%   Dominance Test is >50%   Prevalence Index is ≤3.0¹   Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)   Problematic Hydrophytic Vegetation¹ (Explain)  | **   |             |         |                    | Prevalence Index       | - R/Δ - 4                            |          |
| 4  |  | <del></del> |         |                    |                        |                                      |          |
| 5  |  |             |         |                    | , , , ,                |                                      |          |
| 6  |  |             |         |                    |                        |                                      |          |
| 7  |  |             |         |                    | Morphological Ada      | ptations <sup>1</sup> (Provide suppo |          |
| 8  |  |             |         |                    |                        | •                                    | ,        |
| 9  |  |             |         |                    | Problematic Hydro      | phytic Vegetation' (Explant          | ain)     |
| 10   |  |             |         |                    | 1                      |                                      |          |
| Woody Vine Stratum         (Plot size: 15 )         1  |  |             |         |                    |                        |                                      | must     |
| 1  |  |             | = Total | l Cover            | , ,                    | <u> </u>                             |          |
| 2 = Total Cover Vegetation Present? Yes No _X  |  |             |         |                    | Hydronhytic            |                                      |          |
| = Total Cover  | 1  |             |         |                    | Vegetation             |                                      |          |
|  |  |             | = Total | I Cover            | Present? Ye            | s No_x                               |          |
| Remarks: (Include photo numbers here or on a separate sheet.)  | Demonts (holodo la |             | - 1010  | . 50101            |                        |                                      |          |
|  | Remarks: (Include photo numbers here or on a separa    | te sheet.)  |         |                    |                        |                                      |          |
|  |  |             |         |                    |                        |                                      |          |

SOIL Sampling Point: S5W119UPL

|                   | cription: (Descri                      | _                 |                      |                        |                   | or confirn       | n the absence of        | of indicators.)                             |
|-------------------|--|-------------------|----------------------|------------------------|-------------------|------------------|-------------------------|---|
| Depth<br>(inches) | Matrix<br>Color (moist)                | <u> </u>          | Red Color (moist)    | ox Features<br>%       | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                 | Remarks                                     |
| 0-18              | 10YR3/3                                | 100               | COIOI (IIIOISI)      |                        | i ype             |                  | sandy silt              | I/GIIIQIN3                                  |
| 0-10              | 1011(3/3                               |                   |                      |                        |                   |                  | Sariuy Siit             |   |
|                   | <u> </u>                               |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
| -                 |  |                   |                      |                        | -                 |                  |                         |   |
|                   | <u> </u>                               |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
| 1Typo: C-C        | Concentration, D=D                     | Nonletion PM-E    | Poducod Matrix C     | S-Covered              | d or Coata        | d Sand G         | rains <sup>2</sup> l oo | ation: PL=Pore Lining, M=Matrix.            |
|                   | Indicators:                            | repletion, Kivi=r | reduced Matrix, C    | 3=Covered              | J OI COALE        | u Sanu G         |                         | for Problematic Hydric Soils <sup>3</sup> : |
| Histoso           |  |                   | Sandy                | Gloved Ma              | triv (SA)         |                  |                         | Prairie Redox (A16)                         |
|                   | Epipedon (A2)                          |                   |                      | Gleyed Ma<br>Redox (S5 |                   |                  |                         | anganese Masses (F12)                       |
|                   | Histic (A3)                            |                   |                      | ed Matrix (S           |                   |                  |                         | Explain in Remarks)                         |
|                   | en Sulfide (A4)                        |                   |                      | Mucky Mir              |                   |                  | 001 (1                  | explain in remaine)                         |
|                   | ed Layers (A5)                         |                   |                      | Gleyed Ma              |                   |                  |                         |   |
|                   | luck (A10)                             |                   |                      | ed Matrix (F           | , ,               |                  |                         |   |
|                   | ed Below Dark Sur                      | face (A11)        |                      | Dark Surfa             |                   |                  |                         |   |
|                   | Oark Surface (A12)                     |                   | Deplet               | ed Dark Su             | rface (F7)        |                  | <sup>3</sup> Indicators | of hydrophytic vegetation and               |
| Sandy             | Mucky Mineral (S1                      | )                 | Redox                | Depression             | ns (F8)           |                  | wetland                 | hydrology must be present,                  |
|                   | lucky Peat or Peat                     |                   |                      |                        |                   |                  | unless                  | disturbed or problematic.                   |
| Restrictive       | Layer (if observe                      | d):               |                      |                        |                   |                  |                         |   |
| Type:             |  |                   |                      |                        |                   |                  |                         |   |
| Depth (ir         | nches):                                |                   |                      |                        |                   |                  | Hydric Soil             | Present? Yes No X                           |
| LIVERGLA          | 201                                    |                   |                      |                        |                   |                  |                         |   |
| HYDROLO           |  |                   |                      |                        |                   |                  |                         |   |
|                   | ydrology Indicato                      |                   | al alcado all de aca |                        |                   |                  | 0                       |   |
|                   | icators (minimum o                     | or one is require |                      |                        | (5.0)             |                  |                         | ry Indicators (minimum of two required)     |
|                   | e Water (A1)                           |                   |                      | ained Leave            | ` '               |                  |                         | ace Soil Cracks (B6)                        |
|                   | ater Table (A2)                        |                   |                      | auna (B13)             |                   |                  |                         | nage Patterns (B10)                         |
| Saturat           | , ,                                    |                   | True Aqu             |                        | . ,               |                  |                         | Season Water Table (C2)                     |
|                   | Marks (B1)                             |                   |                      | Sulfide Od             |                   |                  |                         | fish Burrows (C8)                           |
|                   | ent Deposits (B2)                      |                   |                      | Rhizosphe              |                   | -                |                         | ration Visible on Aerial Imagery (C9)       |
|                   | eposits (B3)                           |                   |                      | of Reduce              |                   |                  |                         | ted or Stressed Plants (D1)                 |
|                   | lat or Crust (B4)                      |                   | Recent Ir            |                        |                   | d Soils (C       |                         | morphic Position (D2)                       |
|                   | eposits (B5)                           |                   | Thin Muc             | ,                      | ,                 |                  | FAC-                    | -Neutral Test (D5)                          |
|                   | tion Vis ble on Aeri                   |                   | _                    |                        |                   |                  |                         |   |
|                   | ly Vegetated Conc                      | ave Surface (B8   | 3) Other (E)         | plain in Re            | marks)            |                  |                         |   |
| Field Obse        |  |                   | V                    |                        |                   |                  |                         |   |
| Surface Wa        | iter Present?                          |                   | o X Depth (ii        |                        |                   |                  |                         |   |
| Water Table       | e Present?                             |                   | o X Depth (ii        |                        |                   |                  |                         | V   |
| Saturation F      |  | Yes No            | o X Depth (ii        | nches):                |                   | Wetl             | land Hydrology          | Present? Yes No X                           |
|                   | apillary fringe)<br>ecorded Data (stre | am dalide mon     | itoring well aerial  | nhotos nr              | aviaus ins        | nections)        | if available:           |   |
| Describe IX       | ecorded Data (Stre                     | am gauge, mon     | itoring well, aerial | priotos, pri           | evious iris       | pections),       | ii avaliabic.           |   |
| Remarks:          |  |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |
|                   |  |                   |                      |                        |                   |                  |                         |   |

| Project/Site: I-69 Bloomington to Mart  | insville              | (        | City/Count | ty: Morgan                   |  | Sampling Date: 10-15-11  |  |  |
|---|-----------------------|----------|------------|------------------------------|--|--|--|--|
| Applicant/Owner: INDOT                  |                       |          |            |                              | State: IN Sampling Point: S5W120                 |  |  |  |
| Investigator(s): K. Schroeder, D. Whit  | е                     |          |            |                              |  |  |  |  |
| Landform (hillslope, terrace, etc.): De | pression              |          |            | Local relief                 | (concave, convex, none):                         | Concave  |  |  |
| Slope (%): <2% Lat: 39.350              |                       |          |            |                              | 0  |  |  |  |
| Soil Map Unit Name: Bartle silt loam    |                       |          |            |                              | NWI classific                                    | ation: PEM   |  |  |
| Are climatic / hydrologic conditions or |                       |          |            |                              |  |  |  |  |
| Are Vegetation, Soil,                   |                       |          |            |                              |  |  |  |  |
| Are Vegetation, Soil,                   |                       | -        |            |                              | eded, explain any answe                          |  |  |  |
| SUMMARY OF FINDINGS -                   | Attach site map       | showing  | sampli     | ng point le                  | ocations, transects                              | , important features, etc.   |  |  |
| Hydrophytic Vegetation Present?         | Yes X N               | Jo       |            |                              |  |  |  |  |
| Hydric Soil Present?                    | Yes x                 |          |            | the Sampled<br>thin a Wetlar |  | No   |  |  |
| Wetland Hydrology Present?              | Yes x N               | lo       | WIL        | iiiii a vvetiai              | iur res <u>~ </u>                                | NO   |  |  |
| Remarks:                                |                       |          |            |                              |  |  |  |  |
|   |                       |          |            |                              |  |  |  |  |
| VEGETATION – Use scientific             | names of plants       |          |            |                              |  |  |  |  |
|   |                       | Absolute | Dominar    | nt Indicator                 | Dominance Test work                              | sheet:   |  |  |
| Tree Stratum (Plot size: 30             |                       |          |            | ? Status                     | Number of Dominant Sp<br>That Are OBL, FACW, of  |  |  |  |
| 2                                       |                       |          |            |                              | Total Number of Domin<br>Species Across All Stra | 4  |  |  |
| 4.                                      |                       |          |            |                              |  |  |  |  |
| 5                                       |                       |          |            |                              | Percent of Dominant Sp<br>That Are OBL, FACW, of |  |  |  |
| Sapling/Shrub Stratum (Plot size: _     | 15                    |          | = Total Co | over                         | Prevalence Index wor                             |  |  |  |
| 1                                       |                       |          |            |                              |  | Multiply by:   |  |  |
| 2.                                      |                       |          |            |                              |  | $x 1 = \frac{95}{}$  |  |  |
| 3.                                      |                       |          |            |                              |  | x 2 = 10   |  |  |
| 4                                       |                       |          |            |                              | FAC species                                      | x 3 =  |  |  |
| 5                                       |                       |          |            |                              | FACU species                                     | x 4 =  |  |  |
| Herb Stratum (Plot size: 5              | ,                     |          | = Total Co | over                         | -  | x 5 =  |  |  |
| Herb Stratum (Plot size: 5              | )                     | 95       | Υ          | OBL                          | Column Totals: 100                               | (A) <u>105</u> (B)   |  |  |
| 2. Eupatorium fistulosum                |                       |          | N          | FACW                         | Prevalence Index                                 | = B/A = 1.05   |  |  |
| 3.                                      |                       |          |            |                              | Hydrophytic Vegetation                           |  |  |  |
| 4.                                      |                       |          |            |                              | X Dominance Test is                              | >50%   |  |  |
| 5.                                      |                       |          |            |                              | X Prevalence Index is                            | s ≤3.0 <sup>1</sup>  |  |  |
| 6                                       |                       |          |            |                              | Morphological Adap                               | ptations <sup>1</sup> (Provide supporting                          |  |  |
| 7                                       |                       |          |            | _                            |  | s or on a separate sheet) phytic Vegetation <sup>1</sup> (Explain) |  |  |
| 8                                       |                       |          |            |                              | Problematic Hydrop                               | onytic vegetation (Explain)  |  |  |
| 9                                       |                       |          |            |                              | <sup>1</sup> Indicators of hydric soi            | I and wetland hydrology must                                       |  |  |
| 10                                      |                       | 400      |            |                              | be present, unless distu                         |  |  |  |
| Woody Vine Stratum (Plot size: 15       | )                     | 100      | = Total Co | over                         |  |  |  |  |
| 1.                                      |                       |          |            |                              | Hydrophytic                                      |  |  |  |
| 2.                                      |                       |          |            |                              | Vegetation<br>Present? Yes                       | s X No   |  |  |
|   |                       |          | = Total Co | over                         | 11030111: 16:                                    | <u> </u>   |  |  |
| Remarks: (Include photo numbers h       | nere or on a separate | sheet.)  |            |                              | <u> </u>   |  |  |  |
| ,                                       | ·                     | ,        |            |                              |  |  |  |  |
|   |                       |          |            |                              |  |  |  |  |

SOIL Sampling Point: S5W120

|  |  | to the dopth   |  |  |   | or comm          | m the absence of in   | aroutors.)  |
|--|--|--|--|--|---|------------------|---|---|
| Depth<br>(inches)  | Matrix Color (moist)   | <u></u> %  | Color (moist)  | lox Feature<br>%   | es<br>Type <sup>1</sup>   | Loc <sup>2</sup> | Texture   | Remarks   |
| 0-18   | 10YR 6/2   |  | 7.5YR 6/8  | 20   | C   | M                | silt loam   | Remarks   |
|  | -  |  | .01100/0   |  |   | 171              | · <u></u>   |   |
| 18-20  | 5B 8/1   | 100  |  |  |   |                  | clay loam   |   |
|  |  |  |  |  |   |                  |   |   |
|  |  |  |  |  |   |                  |   |   |
|  | -  |  |  |  |   |                  |   |   |
| -  |  |  |  | _  |   |                  | <del></del>   |   |
|  |  |  |  |  | <u> </u>  |                  | <u> </u>  |   |
|  | <u> </u>   |  |  |  |   |                  | ·   |   |
|  | Concentration, D=De  | pletion, RM=R  | educed Matrix, C   | S=Covere   | ed or Coate   | ed Sand G        |   | : PL=Pore Lining, M=Matrix.   |
| Hydric Soil  | Indicators:  |  |  |  |   |                  | Indicators for P  | roblematic Hydric Soils <sup>3</sup> :  |
| Histoso  | ol (A1)  |  | Sandy  | Gleyed M   | atrix (S4)  |                  |   | e Redox (A16)   |
|  | pipedon (A2)   |  |  | Redox (S   |   |                  |   | nese Masses (F12)   |
|  | Histic (A3)  |  |  | ed Matrix (  |   |                  | Other (Expla  | ain in Remarks)   |
|  | en Sulfide (A4)  |  |  | Mucky Mi   |   |                  |   |   |
| Stratifie  | ed Layers (A5)   |  |  | Gleyed Matrix  |   |                  |   |   |
|  | ed Below Dark Surfa  | ce (Δ11)   | Debiet   | Dark Surf  |   |                  |   |   |
|  | Dark Surface (A12)   | CC (ATT)   |  | ed Dark S  | ` '   | 1                | <sup>3</sup> Indicators of hy                                     | drophytic vegetation and  |
|  | Mucky Mineral (S1)   |  |  | Depression   |   | '                | •   | rology must be present,   |
|  | lucky Peat or Peat (S  | S3)  |  | .,   | - ( - /   |                  | •   | rbed or problematic.  |
| Restrictive  | Layer (if observed)  | ):   |  |  |   |                  |   |   |
| Type:  |  |  |  |  |   |                  |   |   |
| Depth (ir  | nches):  |  |  |  |   |                  | Hydric Soil Pres  | ent? Yes X No   |
| Remarks:   |  |  |  |  |   |                  |   |   |
|  |  |  |  |  |   |                  |   |   |
| HYDROLO  | OGY  |  |  |  |   |                  |   |   |
| Wetland Hy   | ydrology Indicators  | :  |  |  |   |                  |   |   |
| Primary Ind  | icators (minimum of  | ana ia raavira                                       |  |  |   |                  |   |   |
|  | e Water (A1)   | one is required                                      | d; check all that a  | apply)   |   |                  | Secondary Inc   | dicators (minimum of two required)  |
| X High W   |  | one is required                                      |  | apply)<br>ained Leav   | ves (B9)  |                  |   | dicators (minimum of two required) Soil Cracks (B6)   |
|  | ater Table (A2)  | one is required                                      | Water-St   |  | ` '   |                  | Surface S   | •   |
| X Saturat  |  | one is required                                      | Water-St<br>Aquatic F  | ained Leav   | 3)  |                  | Surface S   | Soil Cracks (B6)  |
| X Saturat  |  | one is required                                      | Water-St<br>Aquatic F<br>True Aqu  | ained Leav   | B)<br>S (B14)   |                  | Surface S Drainage Dry-Seas                                       | Soil Cracks (B6)<br>Patterns (B10)  |
| X Saturat Water N Sedime   | tion (A3)  | one is required                                      | Water-St Aquatic F True Aqu Hydroge  | ained Leav<br>Fauna (B13<br>Jatic Plants   | 3)<br>s (B14)<br>Odor (C1)  | ing Roots        | Surface S Drainage Dry-Seas Crayfish I                            | Soil Cracks (B6) Patterns (B10) on Water Table (C2)   |
| X Saturat Water N Sedime   | tion (A3)<br>Marks (B1)  | one is required                                      | Water-St<br>Aquatic F<br>True Aqu<br>Hydrogel<br>Oxidized  | ained Leav<br>Fauna (B13<br>natic Plants<br>n Sulfide C  | B)<br>S (B14)<br>Odor (C1)<br>eres on Liv                                       | -                | Surface S Drainage Dry-Seas Crayfish I                            | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)  |
| X         Saturat           Water M         Sedime           X         Drift De  | ion (A3)<br>Marks (B1)<br>ent Deposits (B2)  | one is required                                      | Water-St Aquatic F True Aqu Hydrogel Oxidized Presence   | ained Leav<br>Fauna (B13<br>latic Plants<br>n Sulfide C<br>Rhizosphe   | B) S (B14) Odor (C1) Peres on Lived Iron (C-1)                                  | 1)               | Surface S Drainage Dry-Seas Crayfish I (C3) Saturation            | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)   |
| X Saturat Water N Sedime X Drift De Algal M  | vion (A3)  Marks (B1)  ent Deposits (B2)  eposits (B3)   | one is required                                      | Water-St Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir   | ained Leav<br>Fauna (B13<br>latic Plants<br>In Sulfide C<br>Rhizosphe<br>e of Reduct<br>Ick Surface  | B) s (B14) cloor (C1) eres on Liv ed Iron (C- cion in Tille (C7)                | 1)               | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp         | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)                                   |
| X Saturat Water I Sedime X Drift De Algal M Iron De  | Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)  |  | Water-St Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir   | ained Leav<br>Fauna (B13<br>latic Plants<br>In Sulfide C<br>Rhizosphe<br>In Reduct   | B) s (B14) cloor (C1) eres on Liv ed Iron (C- cion in Tille (C7)                | 1)               | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp         | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)                |
| X Saturat Water M Sedime X Drift De Algal M Iron De Inundat  | Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5)   | Imagery (B7)   | Water-St Aquatic F True Aqu Hydroger Oxidized Presencer Recent In Thin Muc   | ained Leav<br>Fauna (B13<br>latic Plants<br>In Sulfide C<br>Rhizosphe<br>e of Reduct<br>Ick Surface  | B)  S (B14)  Door (C1)  Heres on Lived Iron (Colin in Tille  (C7)  A (D9)       | 1)               | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp         | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)                |
| X Saturat Water M Sedime X Drift De Algal M Iron De Inundat  | cion (A3)  Marks (B1)  ent Deposits (B2)  eposits (B3)  lat or Crust (B4)  eposits (B5)  tion Vis ble on Aerial  ly Vegetated Concav  rvations:  | Imagery (B7)<br>ve Surface (B8                       | Water-St Aquatic F True Aqu Hydrogel Oxidized Presence Recent II Thin Muc Gauge of                                 | ained Leaverauna (B13) Latic Plants Latic Pl | B) s (B14) cdor (C1) eres on Liv ed Iron (C- ction in Tille (C7) a (D9) emarks) | 1)               | Surface S Drainage Dry-Seas Crayfish I Stunted c Geomorp          | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)                |
| X Saturat Water N Sedime X Drift De Algal M Iron De Inundat Sparse   | cion (A3)  Marks (B1)  ent Deposits (B2)  eposits (B3)  lat or Crust (B4)  eposits (B5)  tion Vis ble on Aerial  ly Vegetated Concav  rvations:  tter Present?   | Imagery (B7)<br>ve Surface (B8                       | Water-St Aquatic F True Aqu Hydrogel Oxidized Presence Recent In Thin Muc Gauge o Other (E:                        | ained Leav<br>Fauna (B13)<br>latic Plants<br>in Sulfide C<br>Rhizospho<br>e of Reduct<br>on Reduct<br>ck Surface<br>ir Well Data<br>explain in R   | B) s (B14) odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | 1)               | Surface S Drainage Dry-Seas Crayfish I Stunted c Geomorp          | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)                |
| X Saturat Water N Sedime X Drift De Algal M Iron De Inundat Sparse   | wition (A3)  Marks (B1)  ent Deposits (B2)  eposits (B3)  dat or Crust (B4)  eposits (B5)  tion Vis ble on Aerial  ly Vegetated Concaverations:  ter Present?  | Imagery (B7)<br>/e Surface (B8<br>Yes No<br>Yes No   | Water-St Aquatic F Aquatic F True Aqu Hydroger Oxidized Presence Recent In Thin Muc Gauge or Other (Ex             | ained Leaver ained Leaver (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | t)<br>d Soils (C | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| X Saturati Water M Sedime X Drift De Algal M Iron De Inundat Sparse Field Obse Surface Water Table Saturation F                | wition (A3) Marks (B1) Ant Deposits (B2) Ant Or Crust (B4) Ant Or  | Imagery (B7)<br>/e Surface (B8<br>Yes No<br>Yes No   | Water-St Aquatic F True Aqu Hydrogel Oxidized Presence Recent In Thin Muc Gauge o Other (E:                        | ained Leaver ained Leaver (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | t)<br>d Soils (C | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Soil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) in Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2)                |
| X Saturat Water M Sedime X Drift De Algal M Iron De Inundat Sparse Field Obse Surface Wa Water Table Saturation F (includes ca | wition (A3)  Marks (B1)  And Deposits (B2)  And Or Crust (B4)  Apposits (B5)  Apposits (B5)  Apposits (B5)  Apposits (B4)  Apposi | Imagery (B7) ve Surface (B8 Yes No Yes X No Yes X No | Water-St Aquatic F Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or Other (E:  X Depth (i | ained Leaverage ained Leaverage and (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | d Soils (C       | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| X Saturat Water M Sedime X Drift De Algal M Iron De Inundat Sparse Field Obse Surface Wa Water Table Saturation F (includes ca | wition (A3) Marks (B1) Ant Deposits (B2) Ant Or Crust (B4) Ant Or  | Imagery (B7) ve Surface (B8 Yes No Yes X No Yes X No | Water-St Aquatic F Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or Other (E:  X Depth (i | ained Leaverage ained Leaverage and (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | d Soils (C       | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| X Saturat Water N Sedime X Drift De Algal M Iron De Inundar Sparse Field Obse Surface Wa Water Table Saturation F (includes ca | wition (A3)  Marks (B1)  And Deposits (B2)  And Or Crust (B4)  Apposits (B5)  Apposits (B5)  Apposits (B5)  Apposits (B4)  Apposi | Imagery (B7) ve Surface (B8 Yes No Yes X No Yes X No | Water-St Aquatic F Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or Other (E:  X Depth (i | ained Leaverage ained Leaverage and (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | d Soils (C       | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| X Saturat Water M Sedime X Drift De Algal M Iron De Inundat Sparse Field Obse Surface Wa Water Table Saturation F (includes ca | wition (A3)  Marks (B1)  And Deposits (B2)  And Or Crust (B4)  Apposits (B5)  Apposits (B5)  Apposits (B5)  Apposits (B4)  Apposi | Imagery (B7) ve Surface (B8 Yes No Yes X No Yes X No | Water-St Aquatic F Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or Other (E:  X Depth (i | ained Leaverage ained Leaverage and (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | d Soils (C       | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| X Saturat Water N Sedime X Drift De Algal M Iron De Inundar Sparse Field Obse Surface Wa Water Table Saturation F (includes ca | wition (A3)  Marks (B1)  And Deposits (B2)  And Or Crust (B4)  Apposits (B5)  Apposits (B5)  Apposits (B5)  Apposits (B4)  Apposi | Imagery (B7) ve Surface (B8 Yes No Yes X No Yes X No | Water-St Aquatic F Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or Other (E:  X Depth (i | ained Leaverage ained Leaverage and (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | d Soils (C       | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |
| X Saturat Water N Sedime X Drift De Algal M Iron De Inundar Sparse Field Obse Surface Wa Water Table Saturation F (includes ca | wition (A3)  Marks (B1)  And Deposits (B2)  And Or Crust (B4)  Apposits (B5)  Apposits (B5)  Apposits (B5)  Apposits (B4)  Apposi | Imagery (B7) ve Surface (B8 Yes No Yes X No Yes X No | Water-St Aquatic F Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or Other (E:  X Depth (i | ained Leaverage ained Leaverage and (B13) actic Plants on Sulfide Con Reduction Reduct | B) S (B14) Odor (C1) eres on Liv ed Iron (C- cion in Tille (C7) a (D9) emarks)  | d Soils (C       | Surface S Drainage Dry-Seas Crayfish I Stunted of Geomorp FAC-Neu | Goil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) tral Test (D5) |

| Project/Site: I-69 Bloomington to Mari  | tinsville               |               | City/Co | ounty:  | Morgan      |  | Sampling [    | Date: 2-19-2                | 013        |
|---|-------------------------|---------------|---------|---------|-------------|--|---------------|-----------------------------|------------|
| Applicant/Owner: INDOT                  |                         |               |         |         |             | State: IN  |               |                             |            |
| Investigator(s): D. White, T. Keefe     |                         |               |         |         |             |  |               |                             |            |
| Landform (hillslope, terrace, etc.): De | epression               |               |         | L       | ocal relief | (concave, convex, none):                         | Concave       |                             |            |
| Slope (%): <2% Lat: 39.350              |                         |               |         |         |             |  |               | AD 83                       |            |
| Soil Map Unit Name: Bartle silt loam    |                         |               |         |         |             | NWI classific                                    | ation: UPL    |                             |            |
| Are climatic / hydrologic conditions or |                         |               |         |         |             |  |               |                             |            |
| Are Vegetation, Soil,                   | or Hydrologys           | significantly | disturb | ed?     | Are "       | Normal Circumstances" p                          | oresent? Ye   | es <u>x</u> N               | 10         |
| Are Vegetation, Soil,                   | or Hydrologyr           | naturally pro | blemat  | tic?    | (If ne      | eded, explain any answe                          | rs in Remar   | ks.)                        |            |
| SUMMARY OF FINDINGS -                   | Attach site map         | showing       | sam     | pling   | g point lo  | ocations, transects                              | , importa     | nt feature                  | es, etc.   |
| Hydrophytic Vegetation Present?         | Yes N                   | lo X          |         | مطه ما  | Sampled     | A  |               |                             |            |
| Hydric Soil Present?                    | Yes N                   | lo X          |         |         | n a Wetlan  |  | No X          |                             |            |
| Wetland Hydrology Present?              | Yes N                   | lo <u>X</u>   |         | WILLIAM | ii a wellan | 163  |               |                             |            |
| Remarks:                                |                         |               |         |         |             |  |               |                             |            |
|   |                         |               |         |         |             |  |               |                             |            |
| VEGETATION – Use scientific             | c names of plants       |               |         |         |             |  |               |                             |            |
| Coc odentin                             |                         | Absolute      | Domi    | nant    | Indicator   | Dominance Test work                              | sheet:        |                             |            |
| Tree Stratum (Plot size: 30             |                         | % Cover       | Spec    | ies?    | Status      | Number of Dominant S<br>That Are OBL, FACW,      | pecies        | ı                           | _ (A)      |
| 2<br>3                                  |                         |               |         |         |             | Total Number of Domin<br>Species Across All Stra |               |                             | (B)        |
| 4.                                      |                         |               |         |         |             | Percent of Dominant Sp                           |               |                             | _ (D)      |
| 5                                       |                         |               |         |         |             | That Are OBL, FACW,                              | or FAC: 0     | 1                           | _ (A/B)    |
| Sapling/Shrub Stratum (Plot size:       | 15 )                    |               | = Tota  | I Cove  | er          | Prevalence Index wor                             | ksheet:       |                             |            |
| 1                                       |                         |               |         |         |             | Total % Cover of:                                |               | Multiply by:                |            |
| 2                                       |                         |               |         |         |             | OBL species                                      | x 1 =         | =                           |            |
| 3                                       |                         |               |         |         |             | FACW species                                     |               |                             |            |
| 4                                       |                         |               |         |         |             |  |               | 400                         |            |
| 5                                       |                         |               |         |         |             | FACU species 100                                 |               |                             |            |
| Herb Stratum (Plot size: 5              | )                       |               | = Tota  | I Cove  | er          |  |               | 400                         |            |
| . Factures en                           |                         | 95            | Υ       |         | FACU        | Column Totals: 100                               | (A)           | 400                         | (B)        |
| 2. Glechoma hederacea                   |                         | 5             | N       |         | FACU        | Prevalence Index                                 | = B/A = 4     |                             | _          |
| 3                                       |                         |               |         |         |             | Hydrophytic Vegetation                           | on Indicator  | rs:                         |            |
| 4                                       |                         |               |         |         |             | Dominance Test is                                |               |                             |            |
| 5                                       |                         |               |         |         |             | Prevalence Index is                              |               |                             |            |
| 6                                       |                         |               |         |         |             | Morphological Ada<br>data in Remarks             | ptations' (Pr | ovide suppo<br>parate sheet | rting<br>) |
| 7                                       |                         |               |         |         |             | Problematic Hydro                                |               |                             |            |
| 8                                       |                         |               |         |         |             |  | , ,           | ` '                         | ,          |
| 9                                       |                         |               |         |         |             | <sup>1</sup> Indicators of hydric soi            |               |                             | must       |
| 10                                      |                         | 400           | = Tota  | L Cov   |             | be present, unless distu                         | urbed or pro  | blematic.                   |            |
| Woody Vine Stratum (Plot size: 15       | <u>5</u> )              |               | - 10ta  | i Covi  | GI          |  |               |                             |            |
| 1                                       |                         |               |         |         |             | Hydrophytic                                      |               |                             |            |
| 2                                       |                         |               |         |         |             | Vegetation<br>Present? Yes                       | s             | No X                        |            |
|   |                         |               | = Tota  | I Cove  | er          |  |               |                             |            |
| Remarks: (Include photo numbers         | here or on a separate : | sheet.)       |         |         |             | <u>I</u>   |               |                             |            |
|   |                         |               |         |         |             |  |               |                             |            |
|   |                         |               |         |         |             |  |               |                             |            |

SOIL Sampling Point: S5W120UPL

|  |  | _  |   |  |                  | n the absenc                                     | o o   |
|--|--|--|---|--|------------------|--|---|
| Depth Matrix   | 0/ 0/                                  |  | x Feature   |  | Loc <sup>2</sup> | Toutura  | Domorko   |
| (inches) Color (moist) 0-8 10YR 4/3 10   |  | or (moist)   | %   | Type'  | LOC              | Texture silty clay                               | Remarks   |
|  |  | 0/0  |   | · ——   |                  |  |   |
| 8-20 10YR4/4 90  | ) 10YR                                 | 6/8  | 10  |  | M                | silty clay                                       |   |
|  |  |  |   |  |                  |  |   |
|  |  |  |   |  |                  |  |   |
|  |  |  |   |  |                  | -  |   |
|  |  |  |   |  |                  | -  | -   |
| ·  | <del></del>                            |  |   | · ——   | -                | -  |   |
|  |  |  |   |  |                  | -  |   |
| <sup>1</sup> Type: C=Concentration, D=Depletio   | n, RM=Reduc                            | ed Matrix, CS  | =Covere   | d or Coate   | ed Sand G        |  | ocation: PL=Pore Lining, M=Matrix.  |
| Hydric Soil Indicators:  |  |  |   |  |                  | Indicator  | s for Problematic Hydric Soils <sup>3</sup> :   |
| Histosol (A1)  |  |  | Sleyed Ma   |  |                  |  | t Prairie Redox (A16)   |
| Histic Epipedon (A2)   |  |  | Redox (St   |  |                  |  | Manganese Masses (F12)  |
| Black Histic (A3)  |  |  | Matrix (  | ,  |                  | Othe   | r (Explain in Remarks)  |
| <ul><li>Hydrogen Sulfide (A4)</li><li>Stratified Layers (A5)</li></ul>   |  |  |   | neral (F1)<br>atrix (F2)   |                  |  |   |
| 2 cm Muck (A10)  |  |  | d Matrix (  |  |                  |  |   |
| Depleted Below Dark Surface (A   | 11)                                    |  | Dark Surfa  |  |                  |  |   |
| Thick Dark Surface (A12)   | ,                                      |  |   | urface (F7   | )                | <sup>3</sup> Indicato                            | rs of hydrophytic vegetation and  |
| Sandy Mucky Mineral (S1)   |  |  | Depressio   |  |                  | wetla  | nd hydrology must be present,   |
| 5 cm Mucky Peat or Peat (S3)   |  |  |   |  |                  | unles  | s disturbed or problematic.   |
| Restrictive Layer (if observed):   |  |  |   |  |                  |  |   |
| Type:  |  |  |   |  |                  |  | V   |
| Depth (inches):  |  |  |   |  |                  | Hydric So  | il Present? Yes No X  |
|  |  |  |   |  |                  |  |   |
|  |  |  |   |  |                  |  |   |
| HYDROLOGY  |  |  |   |  |                  |  |   |
| HYDROLOGY  Wetland Hydrology Indicators:   |  |  |   |  |                  |  |   |
| HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  | s required; che                        | eck all that ap  | ply)  |  |                  | <u>Second</u>                                    | dary Indicators (minimum of two required)   |
| Wetland Hydrology Indicators:  | s required; che                        | eck all that ap  |   | res (B9)   |                  |  | dary Indicators (minimum of two required) rface Soil Cracks (B6)  |
| Wetland Hydrology Indicators: Primary Indicators (minimum of one is  | s required; che                        |  | ned Leav  | , ,  |                  | Su   |   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1)   | s required; che<br>                    | _ Water-Stai   | ned Leav<br>una (B13  | )  |                  | Su<br>Dr   | rface Soil Cracks (B6)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1)  High Water Table (A2)  | -<br>-<br>-                            | Water-Stair Aquatic Fa True Aquat Hydrogen S   | ned Leav<br>una (B13<br>tic Plants<br>Sulfide O   | (B14)<br>dor (C1)  |                  | Su<br>Dr.<br>Dr<br>Cr.                           | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8)   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)   | -<br>-<br>-                            | Water-Stair Aquatic Fa True Aquati Hydrogen S Oxidized R   | ned Leav<br>una (B13<br>tic Plants<br>Sulfide O   | (B14)<br>dor (C1)<br>eres on Liv   | -                | Su<br>Dr.<br>Cr.<br>(C3) Sa                      | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)   | -<br>-<br>-<br>-<br>-                  | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C   | ned Leavuna (B13<br>tic Plants<br>Sulfide O<br>thizosphe  | (B14)<br>dor (C1)<br>eres on Lived Iron (C   | 4)               | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stı                 | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)   | -<br>-<br>-<br>-<br>-<br>-             | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron   | ned Leavuna (B13<br>tic Plants<br>Sulfide O<br>hizosphe<br>of Reduct  | (B14)<br>dor (C1)<br>eres on Lived Iron (Coon in Tille                             | 4)               | Su<br>Dr<br>Dr<br>Cr.<br>(C3) Sa<br>Sti<br>6) Ge | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) atturation Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)  | -<br>-<br>-<br>-<br>-<br>-<br>-        | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck                                   | ned Leavena (B13 tic Plants Sulfide Othizosphe of Reduct Surface  | (B14) dor (C1) eres on Lived Iron (C- fron in Tille (C7)                           | 4)               | Su<br>Dr<br>Dr<br>Cr.<br>(C3) Sa<br>Sti<br>6) Ge | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Aerial Imag  |  | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V                        | ned Leavena (B13 tic Plants Sulfide O Chizosphe of Reduct Surface Well Data   | (B14) dor (C1) eres on Lived Iron (C- eron in Tille (C7) (D9)                      | 4)               | Su<br>Dr<br>Dr<br>Cr.<br>(C3) Sa<br>Sti<br>6) Ge | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) atturation Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is  Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Vis ble on Aerial Imag  |  | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck                                   | ned Leavena (B13 tic Plants Sulfide O Chizosphe of Reduct Surface Well Data   | (B14) dor (C1) eres on Lived Iron (C- eron in Tille (C7) (D9)                      | 4)               | Su<br>Dr<br>Dr<br>Cr.<br>(C3) Sa<br>Sti<br>6) Ge | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) atturation Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imag  Sparsely Vegetated Concave Surfield Observations:  | ery (B7)                               | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or W                        | ned Leav<br>una (B13<br>tic Plants<br>Sulfide O<br>chizosphe<br>of Reduct<br>n Reduct<br>Surface<br>Well Data<br>lain in Re | (B14) dor (C1) eres on Lived Iron (C-1) fon in Tille (C7) (D9) emarks)             | 4)<br>d Soils (C | Su<br>Dr<br>Dr<br>Cr.<br>(C3) Sa<br>Sti<br>6) Ge | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) atturation Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Images Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Yes  | ery (B7)face (B8) X                    | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp             | ned Leav<br>una (B13<br>tic Plants<br>Sulfide O<br>chizosphe<br>of Reduct<br>n Reduct<br>Surface<br>Well Data<br>ches):     | (B14) dor (C1) eres on Lived Iron (C- eren in Tille (C7) (D9) ermarks)             | 4)<br>d Soils (C | Su<br>Dr<br>Dr<br>Cr.<br>(C3) Sa<br>Sti<br>6) Ge | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) atturation Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Image Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Yes Water Table Present?  | ery (B7)<br>fface (B8)<br>No X<br>No X | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp             | una (B13 tic Plants Sulfide O thizosphe f Reduct n Reduct Surface Well Data lain in Re thes): thes):                        | (B14) (B14) dor (C1) eres on Lived Iron (C- eren in Tille (C7) (D9) ermarks)       | 4)<br>d Soils (C | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) uturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) uC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Image Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Water Table Present?  Yes Saturation Present?   | ery (B7)face (B8) X                    | Water-Stain Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp             | una (B13 tic Plants Sulfide O thizosphe f Reduct n Reduct Surface Well Data lain in Re thes): thes):                        | (B14) (B14) dor (C1) eres on Lived Iron (C- eren in Tille (C7) (D9) ermarks)       | 4)<br>d Soils (C | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) atturation Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) comorphic Position (D2)                     |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Image Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Yes Water Table Present?  | ery (B7) face (B8) No X No X No X No X | Water-Stail Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp  Depth (inc | una (B13 tic Plants Sulfide O thizosphe of Reduct n Reduct Surface Well Data lain in Re ches): ches): ches):                | (B14) (B14) (dor (C1) (res on Lived Iron (C- (con in Tille (C7) (D9) (con in Tille | 4) d Soils (C    | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) uturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) uC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imaged Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Water Table Present?  Yes Saturation Present?  Yes (includes capillary fringe)   | ery (B7) face (B8) No X No X No X No X | Water-Stail Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp  Depth (inc | una (B13 tic Plants Sulfide O thizosphe of Reduct n Reduct Surface Well Data lain in Re ches): ches): ches):                | (B14) (B14) (dor (C1) (res on Lived Iron (C- (con in Tille (C7) (D9) (con in Tille | 4) d Soils (C    | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) uturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) uC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imaged Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Water Table Present?  Yes Saturation Present?  Yes (includes capillary fringe)   | ery (B7) face (B8) No X No X No X No X | Water-Stail Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp  Depth (inc | una (B13 tic Plants Sulfide O thizosphe of Reduct n Reduct Surface Well Data lain in Re ches): ches): ches):                | (B14) (B14) (dor (C1) (res on Lived Iron (C- (con in Tille (C7) (D9) (con in Tille | 4) d Soils (C    | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) uturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) uC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imaged Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Water Table Present?  Yes Saturation Present?  Yes (includes capillary fringe)  Describe Recorded Data (stream gauges) | ery (B7) face (B8) No X No X No X No X | Water-Stail Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp  Depth (inc | una (B13 tic Plants Sulfide O thizosphe of Reduct n Reduct Surface Well Data lain in Re ches): ches): ches):                | (B14) (B14) (dor (C1) (res on Lived Iron (C- (con in Tille (C7) (D9) (con in Tille | 4) d Soils (C    | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) uturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) uC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imaged Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Water Table Present?  Yes Saturation Present?  Yes (includes capillary fringe)  Describe Recorded Data (stream gauges) | ery (B7) face (B8) No X No X No X No X | Water-Stail Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp  Depth (inc | una (B13 tic Plants Sulfide O thizosphe of Reduct n Reduct Surface Well Data lain in Re ches): ches): ches):                | (B14) (B14) (dor (C1) (res on Lived Iron (C- (con in Tille (C7) (D9) (con in Tille | 4) d Soils (C    | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) uturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) uC-Neutral Test (D5) |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Inundation Vis ble on Aerial Imaged Sparsely Vegetated Concave Surfield Observations:  Surface Water Present?  Water Table Present?  Yes Saturation Present?  Yes (includes capillary fringe)  Describe Recorded Data (stream gauges) | ery (B7) face (B8) No X No X No X No X | Water-Stail Aquatic Fa True Aquat Hydrogen S Oxidized R Presence C Recent Iron Thin Muck Gauge or V Other (Exp  Depth (inc | una (B13 tic Plants Sulfide O thizosphe of Reduct n Reduct Surface Well Data lain in Re ches): ches): ches):                | (B14) (B14) (dor (C1) (res on Lived Iron (C- (con in Tille (C7) (D9) (con in Tille | 4) d Soils (C    | Su<br>Dr<br>Cr<br>(C3) Sa<br>Stu<br>6) Ge<br>FA  | urface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) uturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) uC-Neutral Test (D5) |

| Project/Site: I-69 Bloomington to Martinsville           | county: Morgan Sampling Date: 10/14/2011 |         |                 |  |   |  |  |
|--|--|---------|-----------------|--|---|--|--|
| Applicant/Owner: INDOT                                   |  |         |                 | State: IN Sampling Point: S5W121                 |   |  |  |
| Investigator(s): K. Schroeder, D. White                  |  |         |                 | nge: 26, 11N, 1W                                 |   |  |  |
| Landform (hillslope, terrace, etc.): ditch               |  |         | Local relief    | (concave, convex, none):                         | Concave   |  |  |
| Slope (%): <5% Lat: 39.36326298630                       |  |         |                 |  |   |  |  |
|  |  | -       |                 | NWI classific                                    |   |  |  |
| Are climatic / hydrologic conditions on the site typical |  |         |                 |  |   |  |  |
| Are Vegetation, Soil, or Hydrology                       |  |         |                 |  |   |  |  |
| Are Vegetation, Soil, or Hydrology                       |  |         |                 |  |   |  |  |
| SUMMARY OF FINDINGS – Attach site                        |  |         |                 |  |   |  |  |
| Hydrophytic Vegetation Present?  Yes X                   | No                                       |         |                 |  |   |  |  |
|  | No                                       |         | s the Sampled   |  | No  |  |  |
|  | No                                       | '       | within a Wetlar | id? fes <u>^</u>                                 | No  |  |  |
| Remarks:   |  |         |                 |  |   |  |  |
|  |  |         |                 |  |   |  |  |
| <b>VEGETATION</b> – Use scientific names of p            | lants                                    |         |                 |  |   |  |  |
|  | Absolute                                 | Domir   | nant Indicator  | Dominance Test work                              | sheet:  |  |  |
| <u>Tree Stratum</u> (Plot size: 30 )                     | % Cover                                  | Specie  | es? Status      | Number of Dominant Sp                            | pecies  |  |  |
| 1<br>2   |  |         |                 | That Are OBL, FACW, o                            |   |  |  |
| 3  |  |         |                 | Total Number of Domin<br>Species Across All Stra | 0   |  |  |
| 4       5  |  |         |                 | Percent of Dominant Sp                           |   |  |  |
|  |  |         | Cover           | That Are OBL, FACW, o                            | or FAC: 67 (A/B)  |  |  |
| Sapling/Shrub Stratum (Plot size: 15                     | )  |         |                 | Prevalence Index work                            |   |  |  |
| 1  |  |         |                 |  | Multiply by:  |  |  |
| 2  |  |         |                 |  | $x 1 = \frac{45}{70}$   |  |  |
| 3  |  |         |                 |  | x 2 = 70  |  |  |
| 4  |  |         |                 |  | x 3 =<br>x 4 =  |  |  |
| 5  |  |         |                 |  | x 5 = 100   |  |  |
| Herb Stratum (Plot size: 5                               |  | = TOtal | Covei           | Column Totals: 100                               |   |  |  |
| 1. Juncus canadensis                                     | 40                                       | Υ       | OBL             |  |   |  |  |
| 2. Bidens frondosa                                       | 30                                       | Υ       | FACW            | Prevalence Index                                 | <u></u>   |  |  |
| 3. Aster ericoides                                       | 20                                       | Υ       | UPL             | Hydrophytic Vegetatio                            |   |  |  |
| 4. Typha latifolia                                       | 5  | N       | OBL             | X Dominance Test is                              |   |  |  |
| 5. Cyperus esculentus                                    | 5  | N       | FACW            | X Prevalence Index is                            |   |  |  |
| 6  |  |         |                 | data in Remarks                                  | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |  |  |
| 7  |  |         |                 |  | phytic Vegetation <sup>1</sup> (Explain)                            |  |  |
| 8  |  |         |                 | _ , ,  |   |  |  |
| 9  |  |         |                 | <sup>1</sup> Indicators of hydric soi            | l and wetland hydrology must  |  |  |
| 10   | 100                                      | = Total | Cover           | be present, unless distu                         | urbed or problematic.   |  |  |
| Woody Vine Stratum (Plot size: 15                        |  | = 10(a) | Cover           |  |   |  |  |
| 1.   |  |         |                 | Hydrophytic                                      |   |  |  |
| 2  |  |         |                 | Vegetation<br>Present? Yes                       | s <u>x</u> No   |  |  |
|  |  | = Total | Cover           |  |   |  |  |
| Remarks: (Include photo numbers here or on a sep         | parate sheet.)                           |         |                 | l  |   |  |  |
|  |  |         |                 |  |   |  |  |
|  |  |         |                 |  |   |  |  |

SOIL Sampling Point: S5W121

| Profile Desc | cription: (Describ                 | e to the dep | oth needed to docu     | ment the            | indicator         | or confir        | m the absence of indi | cators.)                              |
|--------------|------------------------------------|--------------|------------------------|---------------------|-------------------|------------------|-----------------------|---------------------------------------|
| Depth        | Matrix                             |              |                        | ox Featur           |                   |                  |                       |                                       |
| (inches)     | Color (moist)                      |              | Color (moist)          | %                   | Type <sup>1</sup> | Loc <sup>2</sup> | Texture               | Remarks                               |
| 0-10         | 2.5Y 5/2                           | 80           | 7.5YR 4/6              | _ 20                | _ <u>C</u>        | M                | silty clay loam       |                                       |
| 10-20        | 2.5Y 7/1                           | <u>75</u>    | 10 YR 6/6              | 25                  | _ <u>C</u>        | <u>M</u>         | Silty clay            |                                       |
|              |                                    |              |                        |                     |                   |                  |                       |                                       |
|              |                                    |              |                        |                     | ,                 |                  |                       |                                       |
|              |                                    |              |                        |                     |                   |                  | <del></del>           |                                       |
|              | _                                  |              |                        |                     |                   |                  | <del></del>           |                                       |
|              |                                    |              | -                      |                     |                   |                  | ·                     |                                       |
|              |                                    |              |                        | _                   | _                 |                  |                       |                                       |
|              |                                    | pletion, RM  | =Reduced Matrix, C     | S=Covere            | ed or Coate       | ed Sand G        |                       | PL=Pore Lining, M=Matrix.             |
| Hydric Soil  |                                    |              |                        |                     | (0.1)             |                  |                       | oblematic Hydric Soils <sup>3</sup> : |
| Histosol     | , ,                                |              |                        |                     | latrix (S4)       |                  | Coast Prairie         | , ,                                   |
|              | pipedon (A2)<br>istic (A3)         |              |                        | Redox (Sed Matrix ( |                   |                  | Iron-Mangane          | ese Masses (F12)                      |
|              | en Sulfide (A4)                    |              |                        |                     | ineral (F1)       |                  | Other (Explain        | i ii Remarks)                         |
|              | d Layers (A5)                      |              |                        | -                   | fatrix (F2)       |                  |                       |                                       |
|              | uck (A10)                          |              |                        | ed Matrix           |                   |                  |                       |                                       |
| Deplete      | d Below Dark Surfa                 | ice (A11)    | Redox                  | Dark Sur            | face (F6)         |                  |                       |                                       |
|              | ark Surface (A12)                  |              |                        |                     | urface (F7        | )                | •                     | rophytic vegetation and               |
|              | Mucky Mineral (S1)                 | 20)          | Redox                  | Depressi            | ons (F8)          |                  | •                     | logy must be present,                 |
|              | ucky Peat or Peat (                |              |                        |                     |                   |                  | unless disturb        | ed or problematic.                    |
|              |                                    |              |                        |                     |                   |                  |                       |                                       |
| Type:        | ches):                             |              |                        |                     |                   |                  | Hydric Soil Prese     | nt? Yes <sup>X</sup> No               |
| Remarks:     | CHE3).                             |              |                        |                     |                   |                  | Tryunc 3011 Teser     | it: 165 NO                            |
|              |                                    |              |                        |                     |                   |                  |                       |                                       |
| HYDROLO      | GY                                 |              |                        |                     |                   |                  |                       |                                       |
| Wetland Hy   | drology Indicators                 | s:           |                        |                     |                   |                  |                       |                                       |
| Primary Indi | cators (minimum of                 | one is requ  | ired; check all that a | pply)               |                   |                  | Secondary India       | cators (minimum of two required)      |
|              | Water (A1)                         |              | X Water-Sta            | ained Lea           | ves (B9)          |                  | Surface So            | il Cracks (B6)                        |
| High Wa      | ater Table (A2)                    |              | Aquatic F              |                     |                   |                  |                       | atterns (B10)                         |
| X Saturati   | on (A3)                            |              | True Aqu               |                     |                   |                  |                       | n Water Table (C2)                    |
| Water M      |                                    |              | Hydroger               |                     |                   |                  | Crayfish Bu           |                                       |
|              | nt Deposits (B2)                   |              |                        |                     | eres on Liv       | _                |                       | Visible on Aerial Imagery (C9)        |
|              | posits (B3)                        |              |                        |                     | ed Iron (C        | •                | 1/                    | Stressed Plants (D1)                  |
|              | at or Crust (B4)                   |              | Recent In              |                     |                   | a Solis (C       | Gcomorpin             | c Position (D2)                       |
| -            | oosits (B5)<br>on Vis ble on Aeria | I Imagary (B | Thin Muc Gauge or      |                     |                   |                  | FAC-Neutr             | ai Test (D5)                          |
|              | y Vegetated Conca                  |              | -                      |                     |                   |                  |                       |                                       |
| Field Obser  | •                                  | TO Garrage ( | 001 (27                | .piaiii iii i       | omarko)           |                  |                       |                                       |
| Surface Wat  |                                    | Yes          | No X Depth (in         | nches):             |                   |                  |                       |                                       |
| Water Table  |                                    |              | No X Depth (in         |                     |                   |                  |                       |                                       |
| Saturation P |                                    |              | No Depth (ir           |                     |                   |                  | land Hydrology Prese  | ent? Yes X No                         |
| (includes ca | oillary fringe)                    |              |                        |                     |                   |                  |                       |                                       |
| Describe Re  | corded Data (strea                 | m gauge, m   | onitoring well, aerial | photos, p           | revious ins       | spections)       | , it available:       |                                       |
| Remarks:     |                                    |              |                        |                     |                   |                  |                       |                                       |
|              | o droinaga di                      | toh          |                        |                     |                   |                  |                       |                                       |
| Nuausiu      | e drainage di                      | (CII         |                        |                     |                   |                  |                       |                                       |
|              |                                    |              |                        |                     |                   |                  |                       |                                       |
|              |                                    |              |                        |                     |                   |                  |                       |                                       |

| Project/Site: I-69 Bloomington to Mar                | tinsville             | (                     | City/Co            | unty: Mo  | organ       | Sampling  | Date: 2-19-2013                                  | 3      |
|--|-----------------------|-----------------------|--------------------|-----------|-------------|---|--|--------|
| Applicant/Owner: INDOT                               |                       |                       | State: IN Sampling |           |             |   |  |        |
| Investigator(s): D. White, T. Keefe                  |                       |                       | Section            | n, Towns  | ship, Rar   | ge: 26, 11N, 1W   |  |        |
| Landform (hillslope, terrace, etc.): di              | tch                   |                       |                    | Loca      | al relief ( | concave, convex, none): Concave                         |  |        |
| Slope (%): <5% Lat: 39.363                           |                       |                       |                    |           |             |   | AD 83  |        |
| Soil Map Unit Name: Bartle silt loam                 |                       |                       |                    |           |             | NWI classification: UPL                                 |  |        |
| Are climatic / hydrologic conditions o               |                       |                       |                    |           |             |   |  |        |
| Are Vegetation, Soil,                                |                       |                       |                    |           |             | Normal Circumstances" present? Y                        | res X No   |        |
| Are Vegetation, Soil,                                |                       |                       |                    |           |             | eded, explain any answers in Rema                       |  |        |
| SUMMARY OF FINDINGS -                                |                       |                       |                    |           |             |   |  | , etc. |
|  |                       | . Y                   |                    |           |             |   |  |        |
| Hydrophytic Vegetation Present? Hydric Soil Present? | Yes N<br>Yes N        |                       |                    | Is the Sa | ampled      |   |  |        |
| Wetland Hydrology Present?                           | Yes N                 |                       | ,                  | within a  | a Wetlan    | d? Yes No <u>&gt;</u>                                   | <u> </u>   |        |
| Remarks:   |                       |                       |                    |           |             |   |  |        |
|  |                       |                       |                    |           |             |   |  |        |
|  |                       |                       |                    |           |             |   |  |        |
| <b>VEGETATION</b> – Use scientifi                    | c names of plants     |                       |                    |           |             |   |  |        |
| T 0: (D) : 30  | ,                     | Absolute              |                    |           |             | Dominance Test worksheet:                               |  |        |
| Tree Stratum (Plot size: 30                          |                       | % Cover               |                    |           |             | Number of Dominant Species That Are OBL, FACW, or FAC:  | 0 (  | (A)    |
| 2  |                       |                       |                    |           |             | Total Number of Dominant                                | 0  |        |
| 3  |                       |                       |                    |           |             | Species Across All Strata:                              | 2 (  | (B)    |
| 4<br>5   |                       |                       |                    |           |             | Percent of Dominant Species That Are OBL, FACW, or FAC: | 0 (  | (A/R)  |
|  |                       |                       |                    | l Cover   |             | matric CDL, Friend, of Frie.                            |  | (٨/٥)  |
| Sapling/Shrub Stratum (Plot size:                    | · ·                   |                       |                    |           |             | Prevalence Index worksheet:                             | Maritim Ira Ira                                  |        |
| 1  |                       |                       |                    |           |             | Total % Cover of:                                       |  |        |
| 2  |                       |                       |                    |           |             | OBL species x 1 FACW species x 2                        |  |        |
| 3<br>4   |                       |                       |                    |           |             | FAC species x 3   |  | -      |
| 5  |                       |                       |                    |           |             | FACU species 60 x 4                                     |  |        |
|  |                       |                       |                    |           |             | UPL species x 5   |  |        |
| Herb Stratum (Plot size: 5                           | )                     | 40                    | V                  | Ε.        | \ CI I      | Column Totals: 60 (A)                                   | 240  | (B)    |
| 1. Festuca sp. 2 Glechoma hederacea                  |                       | - <del>40</del><br>20 | Y<br>Y             |           | ACU<br>ACU  | Prevalence Index = B/A = 2                              | 4  |        |
| <u>-</u> ,   |                       |                       | <u> </u>           |           |             | Hydrophytic Vegetation Indicate                         |  | -      |
| 3<br>4   |                       |                       |                    |           |             | Dominance Test is >50%                                  | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,          |        |
| 5  |                       |                       |                    |           |             | Prevalence Index is ≤3.0 <sup>1</sup>                   |  |        |
| 6  |                       |                       |                    |           |             | Morphological Adaptations <sup>1</sup> (F               | rovide supportir                                 | ng     |
| 7.   |                       |                       |                    |           |             | data in Remarks or on a se                              |  |        |
| 8  |                       |                       |                    |           |             | Problematic Hydrophytic Vege                            | etation' (Explain)                               | )      |
| 9  |                       |                       |                    |           |             | <sup>1</sup> Indicators of hydric soil and wetland      | nd bydrology my                                  | uet    |
| 10   |                       |                       |                    |           |             | be present, unless disturbed or pro                     |  | มอเ    |
| Woody Vine Stratum (Plot size: 1                     | 5 \                   | 60                    | = Total            | l Cover   |             |   |  |        |
| 1  |                       |                       |                    |           |             | Hydrophytic   |  |        |
| 2.   |                       |                       |                    |           |             | Vegetation  | N. X   |        |
|  |                       |                       |                    |           |             | Present? Yes  | NO <u>*,                                    </u> |        |
| Remarks: (Include photo numbers                      | here or on a separate | sheet \               |                    |           |             |   |  |        |
|  | or on a soparate      | 511001.7              |                    |           |             |   |  |        |
|  |                       |                       |                    |           |             |   |  |        |

SOIL Sampling Point: S5W121UPL

|              | cription: (Descri              | be to the dep    |                   |                                |                   | or confirm       | n the absence of          | indicators.)                            |
|--------------|--------------------------------|------------------|-------------------|--------------------------------|-------------------|------------------|---------------------------|---|
| Depth        | Matrix                         |                  |                   | Redox Feature                  |                   | 12               | T                         | D                                       |
| (inches)     | Color (moist)                  |                  | Color (mois       | t) %                           | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                   | Remarks                                 |
| 0-18         | 10YR 4/4                       | 100              |                   |                                |                   |                  | silt loam                 |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  | -                 |                                |                   |                  |                           |   |
| -            |                                |                  |                   | <del></del>                    |                   |                  |                           |   |
|              | - <u></u>                      |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
| 1Typo: C-C   | Concontration D-F              | Opplotion PM-    | -Poducod Matr     | iv CS-Covere                   | d or Coate        | d Sand C         | rains <sup>2</sup> Locati | on: PL=Pore Lining, M=Matrix.           |
|              | Concentration, D=E Indicators: | Depletion, Rivis | =Reduced Mati     | ix, CS=Covere                  | d of Coale        | u Sanu G         |                           | Problematic Hydric Soils <sup>3</sup> : |
| Histoso      |                                |                  | 90                | ndy Gleyed M                   | atriv (SA)        |                  |                           | irie Redox (A16)                        |
|              | Epipedon (A2)                  |                  |                   | indy Gleyed M<br>indy Redox (S |                   |                  |                           | ganese Masses (F12)                     |
|              | listic (A3)                    |                  |                   | ripped Matrix (                |                   |                  |                           | plain in Remarks)                       |
|              | en Sulfide (A4)                |                  |                   | amy Mucky M                    | ,                 |                  | Other (EX                 | plant in remarks)                       |
|              | ed Layers (A5)                 |                  |                   | amy Gleyed M                   |                   |                  |                           |   |
|              | luck (A10)                     |                  |                   | pleted Matrix                  |                   |                  |                           |   |
|              | ed Below Dark Sur              | face (A11)       |                   | dox Dark Surf                  |                   |                  |                           |   |
|              | ark Surface (A12)              |                  |                   | pleted Dark S                  | . ,               |                  | 3Indicators of            | hydrophytic vegetation and              |
|              | Mucky Mineral (S1              |                  |                   | edox Depression                |                   |                  |                           | vdrology must be present,               |
| 5 cm M       | ucky Peat or Peat              | (S3)             |                   |                                |                   |                  | unless dis                | sturbed or problematic.                 |
| Restrictive  | Layer (if observe              | ed):             |                   |                                |                   |                  |                           |   |
| Type:        |                                |                  |                   |                                |                   |                  |                           |   |
| Depth (ir    | nches):                        |                  |                   |                                |                   |                  | Hydric Soil Pr            | esent? Yes No X                         |
| 1            |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
| HYDROLO      |                                |                  |                   |                                |                   |                  |                           |   |
|              | drology Indicato               |                  |                   |                                |                   |                  |                           |   |
|              | icators (minimum o             | of one is requi  |                   |                                |                   |                  |                           | Indicators (minimum of two require      |
|              | e Water (A1)                   |                  |                   | r-Stained Lea                  | ` ,               |                  |                           | e Soil Cracks (B6)                      |
| High W       | ater Table (A2)                |                  | Aqua              | tic Fauna (B1                  | 3)                |                  | Draina                    | ge Patterns (B10)                       |
| Saturat      | ion (A3)                       |                  | True              | Aquatic Plants                 | s (B14)           |                  | Dry-Se                    | ason Water Table (C2)                   |
| Water I      | Marks (B1)                     |                  | Hydro             | ogen Sulfide C                 | dor (C1)          |                  | Crayfis                   | h Burrows (C8)                          |
| Sedime       | ent Deposits (B2)              |                  | Oxidi             | zed Rhizosph                   | eres on Liv       | ing Roots        | (C3) Saturat              | ion Visible on Aerial Imagery (C9)      |
| Drift De     | eposits (B3)                   |                  | Prese             | ence of Reduc                  | ed Iron (C4       | 1)               | Stunted                   | d or Stressed Plants (D1)               |
| Algal M      | lat or Crust (B4)              |                  | Rece              | nt Iron Reduc                  | tion in Tille     | d Soils (C       | 6) Geomo                  | rphic Position (D2)                     |
| Iron De      | posits (B5)                    |                  | Thin              | Muck Surface                   | (C7)              |                  | FAC-N                     | eutral Test (D5)                        |
| Inunda       | tion Vis ble on Aeri           | al Imagery (B    | 7) Gaug           | ge or Well Data                | a (D9)            |                  |                           |   |
| Sparse       | ly Vegetated Conc              | ave Surface (I   | B8) Othe          | r (Explain in R                | emarks)           |                  |                           |   |
| Field Obse   | rvations:                      | •                |                   |                                | <u> </u>          |                  |                           |   |
| Surface Wa   | iter Present?                  | Yes              | No X Dep          | th (inches):                   |                   |                  |                           |   |
| Water Table  |                                |                  | No X Dep          |                                |                   | l l              |                           |   |
| Saturation F |                                |                  | No X Dep          |                                |                   |                  | land Hydrology P          | resent? Yes No X                        |
|              | apillary fringe)               | 165              | МО Бер            | ui (iiiciies)                  |                   | _   wet          | ianu nyurology F          | resent: res NO                          |
|              | ecorded Data (stre             | am gauge, mo     | onitoring well, a | erial photos, p                | revious ins       | pections)        | , if available:           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
| Remarks:     |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |
|              |                                |                  |                   |                                |                   |                  |                           |   |

| Project/Site: I-69 Bloomington to Martinsvill | le                                     |              | City/County | : Morgan                   |                                       | Sampling Date: 10/14/2011  |      |  |
|---|--|--------------|-------------|----------------------------|---------------------------------------|--|------|--|
| Applicant/Owner: INDOT                        |  |              |             |                            |                                       | Sampling Point: S5W122   |      |  |
| Investigator(s): K. Schroeder, D. White       |  |              | Section, To | wnship, Rai                | nge: 13, 11N, 1W                      |  |      |  |
| Landform (hillslope, terrace, etc.): ditch    |  |              |             | Local relief               | (concave, convex, none):              | Concave  |      |  |
| Slope (%): <5% Lat: 39.3855321                |  |              |             |                            |                                       |  |      |  |
| Soil Map Unit Name: Martinsville Loam 0-2     | % slope                                |              |             |                            | NWI classific                         | ation: PEMC  |      |  |
| Are climatic / hydrologic conditions on the   | site typical for this                  | time of yea  | ar? Yes x   | No                         | (If no, explain in Re                 | emarks.)   |      |  |
| Are Vegetation, Soil, or Hy                   | drologysi                              | ignificantly | disturbed?  | Are "                      | Normal Circumstances" p               | resent? Yes x No _   |      |  |
| Are Vegetation, Soil, or Hy                   | drologyn                               | aturally pro | blematic?   | (If ne                     | eded, explain any answei              | rs in Remarks.)  |      |  |
| SUMMARY OF FINDINGS – Atta                    | sch site map s                         | showing      | samplin     | g point le                 | ocations, transects                   | , important features,  | etc. |  |
| Hydrophytic Vegetation Present?               | Yes X No                               | )            | 1- 41-      | - Cll                      | A                                     |  |      |  |
| Hydric Soil Present?                          | Yes x No                               | o            |             | ie Sampled<br>iin a Wetlar |                                       | No   |      |  |
| Wetland Hydrology Present?                    | Yes x No                               | <u> </u>     | With        | iii a vvetiai              | iu: 165                               |  |      |  |
| Remarks:                                      |  |              |             |                            |                                       |  |      |  |
|   |  |              |             |                            |                                       |  |      |  |
| VEGETATION – Use scientific nar               | mae of plante                          |              |             |                            |                                       |  |      |  |
| - Ose scientific hal                          | —————————————————————————————————————— | Absolute     | Dominant    | Indicator                  | Dominance Test work                   | sheet:   |      |  |
| Tree Stratum (Plot size: 30                   | )                                      |              | Species?    |                            | Number of Dominant Sp                 |  |      |  |
| 1   |  |              |             |                            | That Are OBL, FACW, o                 |  | ۲)   |  |
| 2   |  |              |             |                            | Total Number of Domina                | ant  |      |  |
| 3   |  |              |             |                            | Species Across All Stra               | ta: <u>3</u> (B  | 3)   |  |
| 4   |  |              |             |                            | Percent of Dominant Sp                | pecies   |      |  |
| 5   |  |              |             |                            | That Are OBL, FACW, o                 | or FAC: 100 (A   | 4/B) |  |
| Sapling/Shrub Stratum (Plot size: 15          | )                                      | -            | = Total Cov | vei                        | Prevalence Index worl                 | rsheet:  |      |  |
| 1   |  |              |             |                            | Total % Cover of:                     |  |      |  |
| 2   |  |              |             |                            |                                       | x 1 = 10   |      |  |
| 3   |  | . ———        |             |                            |                                       | x 2 = 220  |      |  |
| 4   |  |              |             |                            |                                       | x 3 =  |      |  |
| 5   |  |              |             |                            |                                       | x 4 =  |      |  |
| Herb Stratum (Plot size: 5                    | )                                      |              | = Total Cov | ver                        | Column Totals: 120                    | x 5 =<br>(Δ) 230   | (B)  |  |
| 1. Phalaris arundinacea                       |  | 50           | Υ           | FACW                       | Column Totals                         | (A) (  | (D)  |  |
| 2. Bidens frondosa                            |  | 30           | Υ           | FACW                       | Prevalence Index                      | = B/A = <u>1.92</u>  |      |  |
| 3. Cyperus esculentus                         |  | 30           | Υ           | FACW                       | Hydrophytic Vegetatio                 |  |      |  |
| 4. Polygonum hydropiper                       |  | 5            | N           | OBL                        | X Dominance Test is                   |  |      |  |
| 5. Typha latifolia                            |  | 5            | N           | OBL                        | X Prevalence Index is                 |  |      |  |
| 6   |  |              |             |                            | Morphological Adap<br>data in Remarks | otations <sup>1</sup> (Provide supporting<br>s or on a separate sheet) | j    |  |
| 7   |  |              |             |                            |                                       | phytic Vegetation <sup>1</sup> (Explain)                               |      |  |
| 8   |  |              |             |                            | _ , ,                                 | , , ,  |      |  |
| 9   |  |              | -           |                            |                                       | and wetland hydrology mus  | st   |  |
| 10  |  | 120          | = Total Cov |                            | be present, unless distu              | rbed or problematic.   |      |  |
| Woody Vine Stratum (Plot size: 15             | )                                      |              | - Total Co  | vei                        |                                       |  |      |  |
| 1   |  |              |             |                            | Hydrophytic                           |  |      |  |
| 2   |  |              |             |                            | Vegetation<br>Present? Yes            | s <u>x</u> No  |      |  |
|   |  |              | = Total Cov | ver                        |                                       |  |      |  |
| Remarks: (Include photo numbers here of       | or on a separate s                     | sheet.)      |             |                            | I                                     |  |      |  |
|   |  |              |             |                            |                                       |  |      |  |
|   |  |              |             |                            |                                       |  |      |  |

SOIL Sampling Point: S5W122

| Profile Desc   | cription: (Describ                    | e to the dep  | oth needed to docu     | ment the                 | indicator         | or confirm       | n the absence of in | dicators.)  |
|----------------|---------------------------------------|---------------|------------------------|--------------------------|-------------------|------------------|---------------------|---|
| Depth          | Matrix                                |               |                        | ox Feature               |                   |                  |                     |   |
| (inches)       | Color (moist)                         | %             | Color (moist)          | %                        | Type <sup>1</sup> | Loc <sup>2</sup> | Texture             | Remarks   |
| 0-12           | 2.5Y 5/1                              | 98            | 10YR 6/6               | 2                        | С                 | М                | loamy sand          |   |
|                |                                       |               |                        |                          | -                 |                  |                     | <u>.</u>  |
|                |                                       |               |                        | _                        |                   |                  |                     | _   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               | -                      |                          |                   |                  |                     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               |                        | _                        |                   |                  |                     |   |
|                |                                       |               |                        | _                        | ·                 |                  |                     |   |
|                | -                                     |               | -                      |                          |                   |                  |                     |   |
|                |                                       | pletion, RM   | =Reduced Matrix, C     | S=Covere                 | d or Coate        | ed Sand G        |                     | : PL=Pore Lining, M=Matrix.                       |
| Hydric Soil    | Indicators:                           |               |                        |                          |                   |                  | Indicators for F    | Problematic Hydric Soils <sup>3</sup> :           |
| Histosol       |                                       |               |                        | Gleyed Ma                |                   |                  |                     | ie Redox (A16)                                    |
|                | pipedon (A2)                          |               |                        | Redox (S                 |                   |                  |                     | nese Masses (F12)                                 |
|                | istic (A3)                            |               |                        | ed Matrix (              |                   |                  | Other (Expl         | ain in Remarks)                                   |
|                | en Sulfide (A4)                       |               |                        | Mucky Mi                 |                   |                  |                     |   |
|                | d Layers (A5)                         |               |                        | Gleyed M                 |                   |                  |                     |   |
|                | uck (A10)                             | (444)         |                        | ed Matrix (              |                   |                  |                     |   |
|                | d Below Dark Surfa                    | ice (A11)     |                        | Dark Surfa               | . ,               | `                | 311:                | odnosilo di consentatione and                     |
|                | ark Surface (A12)  Mucky Mineral (S1) |               |                        | ed Dark Su               |                   | )                |                     | ydrophytic vegetation and rology must be present, |
|                | ucky Peat or Peat (                   | 53)           | Redux                  | Depression               | 115 (F6)          |                  | •                   | rology must be present,                           |
|                | Layer (if observed                    |               |                        |                          |                   |                  | unicss diste        | indea of problematic.                             |
|                | Layer (ii observed                    | •             |                        |                          |                   |                  |                     |   |
| , , <u> </u>   |                                       |               | <del></del>            |                          |                   |                  | Unadaia Cail Basa   | sent? Yes X No                                    |
| Depth (in      | cnes):                                |               |                        |                          |                   |                  | Hydric Soil Pres    | sent? Yes X No                                    |
| Remarks:       |                                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
| <b>HYDROLO</b> | GY                                    |               |                        |                          |                   |                  |                     |   |
| Wetland Hy     | drology Indicators                    | S:            |                        |                          |                   |                  |                     |   |
| _              |                                       |               | red; check all that a  | nnly)                    |                   |                  | Secondary Inc       | dicators (minimum of two required)                |
| X Surface      |                                       | 0110 10 10 44 |                        | ained Leav               | (BQ)              |                  |                     | Soil Cracks (B6)                                  |
|                | ` ,                                   |               |                        | auna (B13                | ` ,               |                  |                     | Patterns (B10)                                    |
| X Saturation   | ater Table (A2)                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               | True Aqu               | alic Flants<br>Sulfide O |                   |                  |                     | son Water Table (C2)<br>Burrows (C8)              |
|                | larks (B1)                            |               |                        |                          | , ,               | ina Dooto        |                     | ` '   |
|                | nt Deposits (B2)                      |               |                        |                          |                   | ing Roots        |                     | n Visible on Aerial Imagery (C9)                  |
| 1              | posits (B3)                           |               |                        | of Reduce                |                   |                  | 1/                  | or Stressed Plants (D1)                           |
|                | at or Crust (B4)                      |               |                        |                          |                   | ed Soils (Co     |                     | phic Position (D2)                                |
|                | posits (B5)                           |               | Thin Muc               |                          |                   |                  | FAC-Neu             | ıtral Test (D5)                                   |
|                | on Vis ble on Aeria                   |               |                        |                          |                   |                  |                     |   |
|                | y Vegetated Conca                     | ve Surface (  | B8) Other (Ex          | plain in Re              | emarks)           |                  |                     |   |
| Field Obser    |                                       | ~             |                        | 0                        | _                 |                  |                     |   |
| Surface Wat    |                                       |               | No Depth (in           |                          |                   |                  |                     |   |
| Water Table    | Present?                              | Yes X         | No Depth (in           | nches): St               | ırface            |                  |                     |   |
| Saturation P   | resent?                               | Yes X         | No Depth (ir           | nches): Su               | ırface            | Wet              | land Hydrology Pre  | esent? Yes X No                                   |
| (includes car  |                                       |               |                        |                          |                   |                  | if a callable       |   |
| Describe Re    | corded Data (strea                    | m gauge, m    | onitoring well, aerial | photos, pi               | evious in         | spections),      | , if available:     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
| Remarks:       |                                       |               |                        |                          |                   |                  |                     |   |
| Roadside       | e drainage di                         | tch           |                        |                          |                   |                  |                     |   |
|                | 9                                     |               |                        |                          |                   |                  |                     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |
|                |                                       |               |                        |                          |                   |                  |                     |   |

| Project/Site: I-69 Bloomington to Martin   | sville              |                     | City/Coun                             | <sub>ity:</sub> Morgan |  | Sampling Date:         | 2-19-2013              |  |
|--|---------------------|---------------------|---------------------------------------|------------------------|--|------------------------|------------------------|--|
| Applicant/Owner: INDOT                     |                     |                     |                                       |                        | State: IN  |                        |                        |  |
| •    |                     |                     | Section, Township, Range: 13, 11N, 1W |                        |  |                        |                        |  |
| Landform (hillslope, terrace, etc.): ditch |                     |                     |                                       |                        |  | Concave                |                        |  |
| Slope (%): <5% Lat: 39.38620               |                     |                     |                                       |                        |  |                        |                        |  |
| Soil Map Unit Name: Martinsville Loam      |                     |                     |                                       |                        |  |                        |                        |  |
| Are climatic / hydrologic conditions on t  |                     |                     |                                       |                        |  |                        | -                      |  |
| Are Vegetation, Soil, or                   |                     |                     |                                       |                        |  |                        | No                     |  |
|  |                     |                     |                                       |                        |  |                        | NO                     |  |
| Are Vegetation, Soil, or                   |                     |                     |                                       |                        | eded, explain any answ   |                        |                        |  |
| SUMMARY OF FINDINGS – A                    | ttach site map      | showing             | sampli                                | ng point l             | ocations, transect   | s, important fe        | eatures, etc.          |  |
| Hydrophytic Vegetation Present?            | Yes                 | No X                |                                       | d Ol-d                 | A  |                        |                        |  |
| Hydric Soil Present?                       | Yes                 | No X                |                                       | the Sampled            |  | No X                   |                        |  |
| Wetland Hydrology Present?                 | Yes                 | No <u>X</u>         | Wi                                    | tnin a wetiar          | id? fes  | NO <u>^</u>            | _                      |  |
| Remarks:                                   |                     |                     |                                       |                        |  |                        |                        |  |
|  |                     |                     |                                       |                        |  |                        |                        |  |
|  |                     |                     |                                       |                        |  |                        |                        |  |
| VEGETATION – Use scientific                | names of plants     |                     |                                       |                        |  |                        |                        |  |
| Tree Stratum (Plot size: 30                | )                   | Absolute<br>% Cover |                                       | nt Indicator Status    | Dominance Test wor   |                        |                        |  |
| 1  |                     |                     |                                       |                        | Number of Dominant S<br>That Are OBL, FACW,                    | 3pecies<br>. or FAC: 0 | (A)                    |  |
| 2.   |                     |                     |                                       |                        |  |                        |                        |  |
| 3.   |                     |                     |                                       |                        | Total Number of Domi<br>Species Across All Str                 | nant<br>ata: 2         | (B)                    |  |
| 4  |                     |                     |                                       |                        |  |                        |                        |  |
| 5  |                     |                     |                                       |                        | Percent of Dominant S<br>That Are OBL, FACW,                   | or FAC:                | (A/B)                  |  |
| 0 11 (0) 1 0 1 1                           |                     |                     | = Total C                             | over                   |  |                        |                        |  |
| Sapling/Shrub Stratum (Plot size: 15       |                     |                     |                                       |                        | Prevalence Index wo  Total % Cover of:                         |                        | alv by:                |  |
| 1  |                     |                     |                                       |                        | OBL species  |                        |                        |  |
| 2  |                     |                     |                                       |                        | FACW species   |                        |                        |  |
| 3<br>4                                     |                     |                     |                                       |                        | FAC species  |                        |                        |  |
| 5  |                     |                     |                                       |                        | FACU species 80  |                        |                        |  |
|  |                     |                     | = Total C                             |                        | -  | x 5 =                  |                        |  |
|  | )                   |                     |                                       |                        | Column Totals: 80  | (A) <u>320</u>         | O (B)                  |  |
| 1. Festuca sp.                             |                     | 50                  | Y                                     | FACU                   |  | D/A 1                  |                        |  |
| 2. Glechoa hederacea                       |                     | 30                  | Y                                     | FACU                   | Prevalence Inde  |                        |                        |  |
| 3  |                     |                     |                                       |                        | Hydrophytic Vegetat  Dominance Test is                         |                        |                        |  |
| 4  |                     |                     |                                       |                        | Prevalence Index   |                        |                        |  |
| 5  |                     |                     |                                       |                        | Morphological Ada  |                        | e supportina           |  |
| 6<br>7                                     |                     |                     |                                       |                        | data in Remark   | ks or on a separate    | e sheet)               |  |
| 8.   |                     |                     |                                       |                        | Problematic Hydro  | ophytic Vegetation     | <sup>1</sup> (Explain) |  |
| 9.   |                     |                     |                                       |                        |  |                        |                        |  |
| 10   |                     |                     |                                       |                        | <sup>1</sup> Indicators of hydric so<br>be present, unless dis |                        |                        |  |
|  |                     |                     | = Total C                             | over                   | be present, unless dis   | urbed of problems      | alic.                  |  |
| Woody Vine Stratum (Plot size: 15          | )                   |                     |                                       |                        |  |                        |                        |  |
| 1  |                     |                     |                                       |                        | Hydrophytic<br>Vegetation                                      |                        |                        |  |
| 2  |                     |                     |                                       | _                      | Present? You   | es No _X               | <u></u>                |  |
|  |                     |                     | = Total C                             | over                   |  |                        |                        |  |
| Remarks: (Include photo numbers he         | re or on a separate | e sheet.)           |                                       |                        | •  |                        |                        |  |
|  |                     |                     |                                       |                        |  |                        |                        |  |
|  |                     |                     |                                       |                        |  |                        |                        |  |

SOIL Sampling Point: S5W122UPL

| Depth                          | mption: (Descrii<br>Matri)             |                | ptn need          | Redox Features   | COMMITM          | the absence           | or indicators.)  |
|--------------------------------|--|----------------|-------------------|--|------------------|-----------------------|--|
| (inches)                       | Color (moist)                          | %              | Colo              | or (moist) % Type <sup>1</sup>   | Loc <sup>2</sup> | Texture               | Remarks  |
| 0-18                           | 10YR 4/3                               | 100            |                   |  |                  | silty sand            |  |
|                                |  |                | -                 |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
| 1Typo: C-C                     | ncontration D_C                        | lonlotion PM   | 1_Poduce          | ed Matrix, CS=Covered or Coated S  | Sand Gra         | nine <sup>2</sup> Loc | ation: PL=Pore Lining, M=Matrix.                       |
| Hydric Soil I                  |  | repietion, Kiv | i=Neduce          | ed Matrix, C3=Covered or Coaled C  | Sanu Gra         |                       | for Problematic Hydric Soils <sup>3</sup> :            |
| Histosol                       |  |                |                   | Sandy Gleyed Matrix (S4)   |                  |                       | Prairie Redox (A16)                                    |
|                                | pipedon (A2)                           |                |                   | Sandy Redox (S5)   |                  |                       | anganese Masses (F12)                                  |
| Black His                      |  |                |                   | Stripped Matrix (S6)   |                  |                       | Explain in Remarks)                                    |
|                                | n Sulfide (A4)                         |                |                   | Loamy Mucky Mineral (F1)   |                  |                       |  |
|                                | Layers (A5)                            |                |                   | Loamy Gleyed Matrix (F2)   |                  |                       |  |
| 2 cm Mu                        |  |                |                   | Depleted Matrix (F3)   |                  |                       |  |
|                                | Below Dark Surf                        | ace (A11)      |                   | Redox Dark Surface (F6)  |                  | 3                     |  |
|                                | ark Surface (A12)<br>lucky Mineral (S1 | `              |                   | Depleted Dark Surface (F7)   |                  |                       | of hydrophytic vegetation and                          |
|                                | icky Peat or Peat                      | ,              |                   | Redox Depressions (F8)   |                  |                       | I hydrology must be present, disturbed or problematic. |
|                                | ayer (if observe                       |                |                   |  |                  | 1                     | distance of problematic.                               |
|                                | , (                                    | •              |                   |  |                  |                       |  |
| Depth (inc                     |  |                |                   |  |                  | Hydric Soil           | Present? Yes No X                                      |
| Remarks:                       |  |                |                   |  |                  | ,                     |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
| HYDROLO                        | GV.                                    |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
| _                              | drology Indicato                       |                | معاميات مداد      |  |                  | C                     |  |
| -                              | cators (minimum o                      | or one is requ | <u>iirea; cne</u> |  |                  |                       | ry Indicators (minimum of two required)                |
|                                | Water (A1)                             |                |                   | _ Water-Stained Leaves (B9)  |                  | · <del></del>         | ace Soil Cracks (B6)                                   |
| <u> </u>                       | ter Table (A2)                         |                |                   | _ Aquatic Fauna (B13)  |                  |                       | nage Patterns (B10)                                    |
| Saturatio                      |  |                | _                 | _ True Aquatic Plants (B14)  |                  |                       | Season Water Table (C2)                                |
|                                | arks (B1)                              |                | _                 | <ul><li>Hydrogen Sulfide Odor (C1)</li><li>Oxidized Rhizospheres on Living</li></ul> | Doote (          |                       | rish Burrows (C8)                                      |
|                                | nt Deposits (B2)                       |                | _                 | Presence of Reduced Iron (C4)  | Roots (C         |                       | ration Visible on Aerial Imagery (C9)                  |
|                                | oosits (B3)<br>at or Crust (B4)        |                |                   | Recent Iron Reduction in Tilled S  | coile (C6)       |                       | ted or Stressed Plants (D1) morphic Position (D2)      |
| Iron Dep                       |  |                |                   | Thin Muck Surface (C7)   | ons (Co)         |                       | -Neutral Test (D5)                                     |
|                                | on Vis ble on Aeri                     | al Imagery (F  |                   | _ Gauge or Well Data (D9)  |                  | 1 AC                  | -Neutral Test (D3)                                     |
|                                | Vegetated Conc                         | 0 , (          | , <u> </u>        | _ Other (Explain in Remarks)   |                  |                       |  |
| Field Observ                   |  | ave Gariace    | (B0)              | _ circi (Explain in Romano)  | 1                |                       |  |
| Surface Wate                   |  | Vec            | No X              | Depth (inches):  |                  |                       |  |
| Water Table                    |  |                |                   | Depth (inches):  |                  |                       |  |
|                                |  |                |                   |  | Wetle            | and Usednelean        | Present? Yes No X                                      |
| Saturation Pr<br>(includes cap |  | res            | INO /             | Depth (inches):  | vvetia           | ilia nyarology        | / Present? Yes No X                                    |
|                                |  | am gauge, m    | onitoring         | well, aerial photos, previous inspe  | ctions), il      | f available:          |  |
|                                |  |                |                   |  |                  |                       |  |
| Remarks:                       |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |
|                                |  |                |                   |  |                  |                       |  |

| Applicant/Owner   NDOT   | Project/Site: I-69 Bloomington to Martinsville  |                  | City/Co | unty: Monroe C  | ounty                                 | Sampling Date: 10                     | )/14/2011 |
|--|---|------------------|---------|-----------------|---------------------------------------|---------------------------------------|-----------|
|  | Applicant/Owner: INDOT  |                  |         | -               | State: IN                             | Sampling Point: St                    | 5W125a    |
| Landform (hillslope, terrace, etc.):   Elocolplein   Local relief (concave, convex, none):   none   Datum; NAD 83  | Investigator(s): K. Schroeder, D. White   |                  |         |                 |                                       |                                       |           |
| Signate   Sign |   |                  |         |                 |                                       | none                                  |           |
| Note   Continue   Section   Sectio |   |                  |         |                 |                                       |                                       |           |
| Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no. explain in Remarks.)  Are Vegetation Soil or Hydrology significantly disturbed? Are Normal Circumstances' present? Yes X No Are Normal Circumstances' present? Yes X No Are Vegetation Soil or Hydrology ansturally problematic?  SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present? Yes X No   | Soil Map Unit Name: Bonnie Silt Loam  |                  |         |                 |                                       |                                       |           |
| Are Vegetation   |   |                  |         |                 |                                       |                                       |           |
| Summary   Soil   |   |                  |         |                 |                                       |                                       | No        |
| SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.  Hydrophytic Vegetation Present?   |   |                  |         |                 |                                       |                                       | _ 110     |
| Is the Sampled Area within a Wetland?   Yes x   No within a  |   |                  |         |                 |                                       |                                       | turas atc |
| Wetland Hydrology Present?   Yes X   No  |   |                  | Junip   | Jiiiig point it | Journal St. Harriscott                | - Important road                      |           |
| VEGETATION - Use scientific names of plants   Tree Stratum (Plot size: 30   )  |   |                  |         | ls the Sampled  | Area                                  |                                       |           |
| VEGETATION – Use scientific names of plants.           Tree Stratum (Plot size: 30 )         Absolute Species? Secies? Status         Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)           1   |   |                  | ١,      | within a Wetlar | nd? Yes <u>x</u>                      | No                                    |           |
| Absolute   Dominant Indicator   Species?   Status   Status   Status   Species?   Status   Species?   Status   Species?   Status   Species?   Status   Species?   Status   Species?   Status   Status   Species?   Status   Species?   Status   Species?   Status   Species Across Al Girata   2 (A)   Species Across Al Girata   2 (B)   Sapling/Shrub Stratum   (Plot size: 15 )  |   |                  |         |                 |                                       |                                       |           |
| Absolute   Species   Stratum   Color   Species   Status   Stratar   Species   Status   Species   Status   Stratar   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Stratar   Stratar   Species   Stratar   Stratar   Species   Stratar   Stratar   Species   Stratar   S |   |                  |         |                 |                                       |                                       |           |
| Absolute   Species   Stratum   Color   Species   Status   Stratar   Species   Status   Species   Status   Stratar   Species   Status   Species   Status   Species   Status   Species   Status   Species   Status   Species   Stratar   Stratar   Species   Stratar   Stratar   Species   Stratar   Stratar   Species   Stratar   S |   |                  |         |                 |                                       |                                       |           |
| Number of Dominant Species   Status   Number of Dominant Species   That Are OBL, FACW, or FAC:   2   | VEGETATION – Use scientific names of pla  | ants.            |         |                 |                                       |                                       |           |
| 1  | Tree Stratum (Plot size: 30   | Absolute % Cover |         |                 |                                       |                                       |           |
| 2.   |   |                  |         |                 |                                       | pecies<br>or FAC: 2                   | (A)       |
| 3  |   |                  |         |                 |                                       |                                       |           |
| Percent of Dominant Species That Are OBL, FACW, or FAC:   100   (A/B)  |   |                  |         |                 |                                       |                                       | (B)       |
| That Are OBL, FACW, or FAC: 100 (A/B)  | 4   |                  |         |                 | Percent of Dominant S                 |                                       |           |
| Prevalence Index worksheet:   Total % Cover of:  | 5   |                  |         |                 |                                       | or FAC: 100                           | (A/B)     |
| 1.   | Sanling/Shruh Stratum (Plot size: 15  | ,                | = Total | Cover           | Prevalence Index wor                  | ksheet:                               |           |
| 2.   |   |                  |         |                 |                                       |                                       | bv:       |
| 3  |   |                  |         |                 |                                       |                                       |           |
| 4.   |   |                  |         |                 |                                       |                                       |           |
| FACU species   X 4 =   |   |                  |         |                 |                                       |                                       |           |
| Herb Stratum (Plot size: 5   1   1   Juncus effuses   25   Y   OBL   2   Polygonum pensylvanicum   15   Y   FACW   Prevalence Index = B/A =   1.43  |   |                  |         |                 | FACU species                          | x 4 =                                 |           |
| 1. Juncus effuses 2. Polygonum pensylvanicum 3. Carex sp. 4. Aster simplex 5. Lysimachia nummularia 6. Xanthium chinense 7. 8. 9. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10   | 5   |                  | = Total | Cover           | ·                                     |                                       |           |
| 2. Polygonum pensylvanicum       15       Y       FACW       Prevalence Index = B/A = 1.43         3. Carex sp.       10       N       OBL         4. Aster simplex       10       N       FACW         5. Lysimachia nummularia       5       N       OBL         6. Xanthium chinense       2       N       FAC         7.       —       Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)         9.       —       Problematic Hydrophytic Vegetation¹ (Explain)         10.       —       Problematic Hydrophytic soil and wetland hydrology must be present, unless disturbed or problematic.         Woody Vine Stratum (Plot size: 15       )         1.       —       —         2.       —       —         4. Aster simplex       —       —         5. N OBL       —       —         Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)       —         —       Problematic Hydrophytic vegetation¹ (Explain)         ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.         Vegetation       Yes x       No  |   | 25               | Υ       | OBL             | Column Totals: 67                     | (A) <u>96</u>                         | (B)       |
| 3. Carex sp. 4. Aster simplex 5. Lysimachia nummularia 6. Xanthium chinense 7. 8   |   |                  |         |                 | Prevalence Index                      | x = B/A = 1.43                        |           |
| 4. Aster simplex 10 N FACW X Dominance Test is >50%   5. Lysimachia nummularia 5 N OBL X Prevalence Index is ≤3.0¹   6. Xanthium chinense 2 N FAC Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)   7   |   | 10               | N       |                 |                                       | · · · · · · · · · · · · · · · · · · · |           |
| 6. Xanthium chinense 2 N FAC  Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  10  |   | 10               | N       | FACW            |                                       |                                       |           |
| 7  | 5. Lysimachia nummularia  | 5                | N       | OBL             | X Prevalence Index i                  | s ≤3.0 <sup>1</sup>                   |           |
| Problematic Hydrophytic Vegetation¹ (Explain)  9   | 6. Xanthium chinense  | 2                | N       | FAC             |                                       |                                       |           |
| 8  | 7   |                  |         |                 |                                       |                                       | •         |
| 10   |   |                  |         |                 | Problematic Hydro                     | phytic Vegetation (E                  | =xplain)  |
| 10   | 9   |                  | _       |                 | <sup>1</sup> Indicators of hydric and | il and watland bydra                  | logy must |
| Woody Vine Stratum         (Plot size: 15 )         Hydrophytic Vegetation Present?         Yes X No   | 10  |                  |         |                 |                                       |                                       |           |
| 1  | Woody Vine Stratum (Plat size, 15   | 67               | = Total | Cover           |                                       | -                                     |           |
| 2 = Total Cover Vegetation Present? Yes X No   |   |                  |         |                 | Hydronhytic                           |                                       |           |
| = Total Cover  | 2   |                  |         | <u> </u>        | Vegetation                            |                                       |           |
|  |   |                  | = Total | Cover           | Present? Ye                           | s <u>x</u> No                         | _         |
| кетаккs: (Include photo numbers here or on a separate sheet.)  | December (technical transfer in the control of the |                  | - 10101 | . 50101         |                                       |                                       |           |
|  | Remarks: (Include photo numbers here or on a sepa   | arate sheet.)    |         |                 |                                       |                                       |           |
|  |   |                  |         |                 |                                       |                                       |           |

SOIL Sampling Point: S5W125a

| Profile Des            | cription: (Describ                     | e to the dep | th needed to docu      | ment the              | indicator         | or confir        | m the absence of indica          | ators.)                        |
|------------------------|--|--------------|------------------------|-----------------------|-------------------|------------------|----------------------------------|--------------------------------|
| Depth                  | Matrix                                 |              |                        | ox Feature            |                   | . 2              |                                  | _                              |
| (inches)               | Color (moist)                          |              | Color (moist)          | %                     | Type <sup>1</sup> | Loc <sup>2</sup> | <u>Texture</u>                   | Remarks                        |
| 0-11                   | 2.5Y 7/1                               | 90           | 10YR 4/6               | 10                    | <u>C</u>          | М                | silty clay loam                  |                                |
| 11-20                  | 2.5Y 8/1                               | 80           | 10YR 6/8               | 20                    | С                 | М                | Silty clay loam                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
|                        |  |              |                        |                       |                   | •                |                                  |                                |
| -                      | -                                      |              | _                      |                       |                   |                  | <del></del>                      |                                |
|                        |  |              |                        |                       |                   |                  | <del></del>                      |                                |
|                        |  |              |                        |                       |                   |                  | <u> </u>                         |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
| <sup>1</sup> Type: C=C | Concentration, D=De                    | epletion, RM | =Reduced Matrix, C     | S=Covere              | ed or Coate       | ed Sand G        | Grains. <sup>2</sup> Location: P | L=Pore Lining, M=Matrix.       |
|                        | Indicators:                            |              |                        |                       |                   |                  |                                  | lematic Hydric Soils³:         |
| Histoso                | l (A1)                                 |              | Sandy                  | Gleyed M              | atrix (S4)        |                  | Coast Prairie R                  | edox (A16)                     |
|                        | pipedon (A2)                           |              |                        | Redox (S              |                   |                  | Iron-Manganese                   |                                |
|                        | listic (A3)                            |              |                        | ed Matrix (           |                   |                  | Other (Explain i                 | n Remarks)                     |
|                        | en Sulfide (A4)                        |              |                        |                       | ineral (F1)       |                  |                                  |                                |
| I .                    | ed Layers (A5)                         |              |                        | Gleyed M<br>ed Matrix |                   |                  |                                  |                                |
|                        | uck (A10)<br>ed Below Dark Surfa       | oce (Δ11)    |                        | Dark Surf             | . ,               |                  |                                  |                                |
|                        | eark Surface (A12)                     | ice (ATT)    |                        |                       | urface (F7        | )                | <sup>3</sup> Indicators of hydro | phytic vegetation and          |
|                        | Mucky Mineral (S1)                     |              |                        | Depression            |                   | ,                |                                  | gy must be present,            |
|                        | ucky Peat or Peat (                    | S3)          | <del></del>            | •                     | ` ,               |                  |                                  | d or problematic.              |
| Restrictive            | Layer (if observed                     | l):          |                        |                       |                   |                  |                                  |                                |
| Type:                  |  |              |                        |                       |                   |                  |                                  |                                |
| Depth (in              | nches):                                |              |                        |                       |                   |                  | Hydric Soil Present              | ? Yes <sup>X</sup> No          |
| Remarks:               |  |              |                        |                       |                   |                  |                                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
| HYDROLO                | OGY                                    |              |                        |                       |                   |                  |                                  |                                |
| Wetland Hy             | drology Indicators                     | S:           |                        |                       |                   |                  |                                  |                                |
| Primary Indi           | icators (minimum of                    | one is requi | red; check all that a  | ipply)                |                   |                  | Secondary Indica                 | tors (minimum of two required) |
| Surface                | Water (A1)                             |              | X Water-Sta            | ained Lea             | ves (B9)          |                  | Surface Soil                     | Cracks (B6)                    |
| High W                 | ater Table (A2)                        |              | Aquatic F              | auna (B1              | 3)                |                  | X Drainage Pat                   | terns (B10)                    |
| Saturat                |  |              | True Aqu               |                       |                   |                  | Dry-Season \                     |                                |
| Water N                | Marks (B1)                             |              | Hydroger               | n Sulfide C           | Odor (C1)         |                  | Crayfish Burr                    | ows (C8)                       |
| Sedime                 | ent Deposits (B2)                      |              | X Oxidized             | Rhizosph              | eres on Liv       | ing Roots        | (C3) Saturation Vi               | sible on Aerial Imagery (C9)   |
| Drift De               | posits (B3)                            |              | Presence               | of Reduc              | ed Iron (C        | 4)               | Stunted or St                    | ressed Plants (D1)             |
| Algal M                | at or Crust (B4)                       |              | Recent Ir              | on Reduc              | tion in Tille     | ed Soils (C      | Geomorphic                       | Position (D2)                  |
| Iron De                | posits (B5)                            |              | Thin Muc               | k Surface             | (C7)              |                  | FAC-Neutral                      | Test (D5)                      |
|                        | ion Vis ble on Aeria                   |              |                        | Well Data             | a (D9)            |                  |                                  |                                |
| X Sparsel              | ly Vegetated Conca                     | ve Surface ( | B8) Other (Ex          | cplain in R           | emarks)           |                  |                                  |                                |
| Field Obse             |  |              | .,                     |                       |                   |                  |                                  |                                |
| Surface Wa             | ter Present?                           | Yes          | No X Depth (ii         | nches):               |                   |                  |                                  |                                |
| Water Table            | Present?                               | Yes          | No X Depth (ii         | nches):               |                   |                  |                                  |                                |
| Saturation F           | Present?                               | Yes          | No X Depth (ii         | nches):               |                   | Wet              | tland Hydrology Presen           | t? Yes X No                    |
| (includes ca           | pillary fringe)<br>ecorded Data (strea |              | onitaring wall parial  | nhotoo n              | raviana in        | an antional      | if eveilable.                    |                                |
| Describe Re            | ecorded Data (Strea                    | m gauge, m   | onitoring well, aerial | priotos, p            | revious in        | spections)       | , ii avaliable:                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
| Remarks:               |  |              |                        |                       |                   |                  |                                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |
|                        |  |              |                        |                       |                   |                  |                                  |                                |

| Project/Site: I-69 Bloomington to Martinsville  |                      | Citv/Cou                            | Sampling Date: 10/14/2011 |                           |   |     |  |  |
|---|----------------------|-------------------------------------|---------------------------|---------------------------|---|-----|--|--|
| Applicant/Owner: INDOT  |                      | -                                   | -                         |                           | Sampling Point: S5W125f                               |     |  |  |
| -   |                      | Section, Township, Range: 4, 9N, 1W |                           |                           |   |     |  |  |
| • , ,   |                      |                                     |                           | (concave, convex, none)   | none  |     |  |  |
| Slope (%): <2% Lat: 39.24132626460  |                      |                                     |                           |                           |   |     |  |  |
| Soil Map Unit Name: Bonnie Silt Loam  |                      |                                     |                           | NWI classific             |   |     |  |  |
|   |                      |                                     |                           |                           |   |     |  |  |
| Are climatic / hydrologic conditions on the site typical Are Vegetation, Soil, or Hydrology |                      |                                     |                           |                           |   |     |  |  |
|   |                      |                                     |                           |                           |   |     |  |  |
| Are Vegetation, Soil, or Hydrology<br>SUMMARY OF FINDINGS — Attach site                     |                      |                                     |                           |                           |   | tc. |  |  |
| Hydrophytic Vegetation Present?  Yes X  | No                   |                                     |                           |                           |   |     |  |  |
|   | No                   |                                     | s the Sampled             |                           |   |     |  |  |
| Wetland Hydrology Present?  Yes   X   |                      | V                                   | vithin a Wetlar           | nd? Yes X                 | No  |     |  |  |
| Remarks:  |                      |                                     |                           |                           |   |     |  |  |
|   |                      |                                     |                           |                           |   |     |  |  |
|   |                      |                                     |                           |                           |   |     |  |  |
| <b>VEGETATION</b> – Use scientific names of p   | lants.               |                                     |                           |                           |   |     |  |  |
|   | Absolute             |                                     | ant Indicator             | Dominance Test work       | ksheet:   |     |  |  |
| Tree Stratum (Plot size: 30 )   | <u>% Cover</u><br>20 | Specie<br>Y                         | Status EACW               | Number of Dominant S      |   |     |  |  |
| Fraxinus pennsylvanica     Carya ovata  | 20                   | Y Y                                 | FACU                      | That Are OBL, FACW,       | or FAC: 5 (A)   |     |  |  |
| 2. Carya ovata<br>3. Liquidambar styraciflua  | 15                   | <u>'</u>                            | FACW                      | Total Number of Domir     | ^   |     |  |  |
| 4. Platanus occidentalis  | 5                    | <u>'</u><br>N                       | FACW                      | Species Across All Stra   | ata: 6 (B)  |     |  |  |
|   |                      | -                                   |                           | Percent of Dominant S     | species   |     |  |  |
| 5   | 60                   | - Total                             | Cover                     | That Are OBL, FACW,       | or FAC: 83 (A/E                                       | 3)  |  |  |
| Sapling/Shrub Stratum (Plot size: 15  |                      | = Total                             | Cover                     | Prevalence Index wor      | rksheet:  |     |  |  |
| 1. Lindera benzoin  | 20                   | Υ                                   | FACW                      | Total % Cover of:         | Multiply by:  |     |  |  |
| 2. Liquidambar styraciflua  | 15                   | Υ                                   | FACW                      |                           | x 1 = 10  |     |  |  |
| 3. Carya ovata  | 5                    | N                                   | FACU                      | FACW species 75           | x 2 = 150   |     |  |  |
| 4. Rosa palustris   | 5                    | N                                   | OBL                       | -                         | x 3 =   |     |  |  |
| 5   |                      |                                     |                           | · · · · · ·               | x 4 = 100   |     |  |  |
| Hart Otation (Blatein 5   | 45                   | = Total                             | Cover                     |                           | x 5 =   |     |  |  |
| Herb Stratum (Plot size: 5 ) Carex lurida   | 5                    | Υ                                   | OBL                       | Column Totals: 110        | (A) <u>260</u> (B                                     | )   |  |  |
|   |                      | · <u></u>                           | <del></del>               | Prevalence Index          | x = B/A = 2.36  |     |  |  |
| 2   |                      |                                     |                           | Hydrophytic Vegetati      | <u> </u>  |     |  |  |
| 4   |                      |                                     |                           | X Dominance Test is       |   |     |  |  |
| 5   |                      |                                     |                           | X Prevalence Index        | is ≤3.0 <sup>1</sup>                                  |     |  |  |
| 6   |                      |                                     |                           | Morphological Ada         | aptations <sup>1</sup> (Provide supporting            |     |  |  |
| 7.  |                      |                                     |                           |                           | ks or on a separate sheet)                            |     |  |  |
| 8.  |                      |                                     |                           | Problematic Hydro         | ophytic Vegetation <sup>1</sup> (Explain)             |     |  |  |
| 9   |                      |                                     |                           | 1                         |   |     |  |  |
| 10  |                      |                                     |                           | be present, unless dist   | oil and wetland hydrology must turbed or problematic. |     |  |  |
|   |                      | = Total                             | Cover                     | ,                         |   |     |  |  |
| Woody Vine Stratum (Plot size: 15   | ,                    |                                     |                           | Lludrophutio              |   |     |  |  |
| 1   |                      |                                     |                           | Hydrophytic<br>Vegetation |   |     |  |  |
| 2   |                      |                                     | Cover                     |                           | es <u> </u>   |     |  |  |
|   |                      | = rotal                             | Cover                     |                           |   |     |  |  |
| Remarks: (Include photo numbers here or on a sep  | arate sheet.)        |                                     |                           |                           |   |     |  |  |
|   |                      |                                     |                           |                           |   |     |  |  |
|   |                      |                                     |                           |                           |   |     |  |  |

SOIL Sampling Point: S5W125f

|                        | . `                                    |               | pth needed to doo     |                             |                         | or confir         | n the absence of           | indicators.)                              |
|------------------------|--|---------------|-----------------------|-----------------------------|-------------------------|-------------------|----------------------------|---|
| Depth<br>(inches)      | Matrix Color (moist)                   | %             | Color (moist)         | dox Featur<br>%             | es<br>Type <sup>1</sup> | _Loc <sup>2</sup> | Texture                    | Remarks                                   |
| 0-20                   | 2.5Y 6/1                               | 90            | 10YR 5/6              | 5                           | С                       | М                 | silty clay loam            |   |
|                        | -                                      |               | -                     |                             | _                       |                   |                            | <del></del>                               |
|                        |  |               | -                     |                             | _                       | ·                 |                            |   |
|                        |  |               |                       |                             |                         |                   | ·                          |   |
|                        |  |               | _                     |                             | _                       |                   |                            |   |
|                        | - <u></u>                              |               | <u> </u>              |                             |                         |                   | . <u> </u>                 |   |
|                        |  |               |                       |                             |                         |                   |                            |   |
| -                      |  |               | - <del>-</del>        | <u> </u>                    |                         |                   | · <u>-</u>                 |   |
| <sup>1</sup> Type: C=C | Concentration, D=D                     | epletion, RN  | M=Reduced Matrix,     | CS=Covere                   | ed or Coat              | ed Sand G         | rains. <sup>2</sup> Locati | on: PL=Pore Lining, M=Matrix.             |
|                        | Indicators:                            |               |                       |                             |                         |                   |                            | r Problematic Hydric Soils <sup>3</sup> : |
| Histoso                | l (A1)                                 |               | Sand                  | y Gleyed M                  | latrix (S4)             |                   | Coast Pra                  | airie Redox (A16)                         |
|                        | pipedon (A2)                           |               |                       | y Redox (S                  |                         |                   |                            | ganese Masses (F12)                       |
|                        | listic (A3)                            |               |                       | oed Matrix                  |                         |                   | Other (Ex                  | xplain in Remarks)                        |
|                        | en Sulfide (A4)<br>ed Layers (A5)      |               |                       | ny Mucky M<br>ny Gleyed N   |                         |                   |                            |   |
| 2 cm M                 |  |               |                       | iy Gleyed it<br>eted Matrix |                         |                   |                            |   |
|                        | ed Below Dark Surf                     | ace (A11)     |                       | x Dark Sur                  |                         |                   |                            |   |
|                        | Park Surface (A12)                     | ` '           |                       | eted Dark S                 | . ,                     | ·)                | <sup>3</sup> Indicators of | hydrophytic vegetation and                |
|                        | Mucky Mineral (S1)                     |               | Redo                  | x Depressi                  | ons (F8)                |                   | wetland h                  | ydrology must be present,                 |
|                        | ucky Peat or Peat                      |               |                       |                             |                         |                   | unless dis                 | sturbed or problematic.                   |
|                        | Layer (if observe                      | d):           |                       |                             |                         |                   |                            |   |
| Type:                  |  |               |                       |                             |                         |                   |                            | Y   |
| Depth (ir Remarks:     | nches):                                |               |                       |                             |                         |                   | Hydric Soil Pr             | esent? Yes X No                           |
|                        |  |               |                       |                             |                         |                   |                            |   |
| HYDROLO                |  |               |                       |                             |                         |                   |                            |   |
|                        | drology Indicator                      |               | uired; check all that | annly)                      |                         |                   | Secondo»:                  | Indicators (minimum of two required)      |
|                        |  | i one is requ | <u>X</u> Water-S      |                             | , (DO)                  |                   |                            |   |
|                        | e Water (A1)<br>ater Table (A2)        |               |                       | Fauna (B1                   |                         |                   |                            | e Soil Cracks (B6)<br>ge Patterns (B10)   |
| Saturat                |  |               |                       | r adria (Br<br>juatic Plant | ,                       |                   |                            | eason Water Table (C2)                    |
|                        | Marks (B1)                             |               |                       | en Sulfide (                |                         |                   |                            | sh Burrows (C8)                           |
|                        | ent Deposits (B2)                      |               |                       | d Rhizosph                  | , ,                     | ving Roots        |                            | tion Visible on Aerial Imagery (C9)       |
|                        | eposits (B3)                           |               |                       | e of Reduc                  |                         | -                 | · · —                      | d or Stressed Plants (D1)                 |
|                        | lat or Crust (B4)                      |               |                       | Iron Reduc                  |                         |                   |                            | orphic Position (D2)                      |
| ·                      | posits (B5)                            |               |                       | ıck Surface                 | (C7)                    |                   | FAC-N                      | eutral Test (D5)                          |
|                        | tion Vis ble on Aeria                  |               |                       | or Well Dat                 | a (D9)                  |                   |                            |   |
|                        | ly Vegetated Conca                     | ave Surface   | (B8) Other (B         | Explain in R                | temarks)                |                   |                            |   |
| Field Obse             |  |               |                       |                             |                         |                   |                            |   |
|                        | ter Present?                           |               | No X Depth            |                             |                         |                   |                            |   |
| Water Table            |  | Yes           | No X Depth            | (inches): _                 |                         |                   |                            | ~   |
| Saturation F           |  | Yes           | No X Depth            | (inches):                   |                         | Wet               | land Hydrology P           | Present? Yes X No                         |
|                        | pillary fringe)<br>ecorded Data (strea | am gauge, n   | nonitoring well, aeri | al photos, p                | revious in              | spections)        | , if available:            |   |
|                        | ,                                      | - 5           |                       |                             |                         | ,                 |                            |   |
| Remarks:               |  |               |                       |                             |                         |                   |                            |   |
|                        |  |               |                       |                             |                         |                   |                            |   |
|                        |  |               |                       |                             |                         |                   |                            |   |
|                        |  |               |                       |                             |                         |                   |                            |   |
|                        |  |               |                       |                             |                         |                   |                            |   |

| Project/Site: I-69 Bloomington to Martinsville                        |                  | City/County: Monroe County Sampling Date: 2-19-20 |                 |   |  |  |  |
|---|------------------|---|-----------------|---|--|--|--|
|   |                  |   |                 |   | Sampling Point: S5W125UPL  |  |  |
| Investigator(s): D. White, T. Keefe                                   |                  |   |                 |   |  |  |  |
|   |                  |   | Local relief (  | none  |  |  |  |
| Slope (%): <2% Lat: 39.24167524900                                    |                  |   |                 |   |  |  |  |
|   |                  |   |                 | NWI classific                                   |  |  |  |
| Are climatic / hydrologic conditions on the site typical for this     |                  |   |                 |   |  |  |  |
| Are Vegetation, Soil, or Hydrologysi                                  |                  |   |                 |   |  |  |  |
| Are Vegetation, Soil, or Hydrologyna                                  |                  |   |                 |   |  |  |  |
| SUMMARY OF FINDINGS – Attach site map s                               |                  |   |                 |   |  |  |  |
|   |                  |   |                 |   |  |  |  |
| Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No No |                  |   | s the Sampled   |   | V  |  |  |
| Wetland Hydrology Present? Yes No                                     |                  | W   | vithin a Wetlan | id? Yes   | No X   |  |  |
| Remarks:  |                  |   |                 |   |  |  |  |
|   |                  |   |                 |   |  |  |  |
|   |                  |   |                 |   |  |  |  |
| <b>VEGETATION</b> – Use scientific names of plants.                   |                  |   |                 |   |  |  |  |
| Tree Stratum (Plot size: 30 )   | Absolute % Cover |   | ant Indicator   | Dominance Test work                             |  |  |  |
| 1   |                  |   |                 | Number of Dominant Sp<br>That Are OBL, FACW, of |  |  |  |
| 2.  |                  |   |                 | Total Number of Domina                          |  |  |  |
| 3   |                  |   |                 | Species Across All Stra                         | 4  |  |  |
| 4   |                  |   |                 | Percent of Dominant Sp                          | pecies   |  |  |
| 5   |                  |   |                 | That Are OBL, FACW, o                           |  |  |  |
| Sapling/Shrub Stratum (Plot size: 15 )                                |                  | = Total   | Cover           | Prevalence Index worl                           | ksheet:  |  |  |
| 1   |                  |   |                 | Total % Cover of:                               | Multiply by:   |  |  |
| 2.  |                  |   |                 | OBL species                                     | x 1 =  |  |  |
| 3   |                  |   |                 | FACW species                                    | x 2 =  |  |  |
| 4   |                  |   |                 |   | x 3 =  |  |  |
| 5   |                  |   |                 | *   | x 4 = 220  |  |  |
| Herb Stratum (Plot size: 5  |                  | = Total   | Cover           | · ·   | x 5 =  |  |  |
| 1 Festuca sp.   | 40               | Υ   | FACU            | Column Totals: 55                               | (A) <u>220</u> (B)   |  |  |
| 2 Solidago canadensis   | 10               | N   | FACU            | Prevalence Index                                | = B/A = <u>4</u>   |  |  |
| 3. Taraxacum officinale   | 5                | N   | FACU            | Hydrophytic Vegetation                          | on Indicators:   |  |  |
| 4.  |                  |   |                 | Dominance Test is                               | >50%   |  |  |
| 5   |                  |   |                 | Prevalence Index is                             |  |  |  |
| 6   |                  |   |                 | Morphological Adap                              | ptations <sup>1</sup> (Provide supporting                          |  |  |
| 7   |                  |   |                 |   | s or on a separate sheet) phytic Vegetation <sup>1</sup> (Explain) |  |  |
| 8   |                  |   |                 | Froblematic Hydrop                              | mytic vegetation (Explain)   |  |  |
| 9   |                  |   |                 | <sup>1</sup> Indicators of hydric soil          | I and wetland hydrology must                                       |  |  |
| 10  |                  |   |                 | be present, unless distu                        |  |  |  |
| Woody Vine Stratum (Plot size: 15 )                                   |                  | = Total   | Cover           |   |  |  |  |
| 1   |                  |   |                 | Hydrophytic                                     |  |  |  |
| 2.  |                  |   |                 | Vegetation<br>Present? Yes                      | s No_X   |  |  |
|   |                  |   | Cover           | 11030111: 16:                                   |  |  |  |
| Remarks: (Include photo numbers here or on a separate s               | heet.)           |   |                 |   |  |  |  |
| ,   | ,                |   |                 |   |  |  |  |
|   |                  |   |                 |   |  |  |  |

SOIL Sampling Point: S5W125UPL

|                                       | cription: (Describ                      | _                |                       |                        |                        | or confirr                              | n the absence          | e of indicators.)          |                  |
|---------------------------------------|---|------------------|-----------------------|------------------------|------------------------|---|------------------------|----------------------------|------------------|
| Depth<br>(inches)                     | Matrix Color (moist)                    | <u> </u>         | Red Color (moist)     | ox Feature<br>%        | S<br>Type <sup>1</sup> | Loc <sup>2</sup>                        | Texture                | Remarks                    |                  |
| 0-20                                  | 10YR 4/3                                | 100              | COIOI (IIIOISI)       |                        | i ype                  | LUC                                     | silty clay loam        | Remarks                    |                  |
| 0-20                                  | 1011( 4/3                               |                  |                       |                        |                        |   | Sity Clay Idam         | <u> </u>                   |                  |
|                                       | <u> </u>                                |                  |                       |                        |                        |   |                        | -                          |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       |   |                  |                       |                        | ·                      |   |                        |                            |                  |
| -                                     |   |                  |                       |                        |                        |   |                        | ·                          |                  |
|                                       | <u> </u>                                |                  |                       |                        |                        |   | -                      | <u></u>                    |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |
| 1Typo: C-C                            | Concentration, D=D                      | unlation PM-I    | Poducod Matrix C      | - Covered              | d or Coate             | nd Sand G                               | rains <sup>2</sup> Lo  | cation: PL=Pore Lining,    | M-Matrix         |
|                                       | Indicators:                             | epietion, Kivi=i | Neduced Matrix, C     | 3=Covere               | u oi Coale             | u Sanu G                                |                        | s for Problematic Hydri    |                  |
| Histoso                               |   |                  | Sandy                 | Gloved Ma              | atriv (SA)             |   |                        | t Prairie Redox (A16)      |                  |
|                                       | Epipedon (A2)                           |                  |                       | Gleyed Ma<br>Redox (S5 |                        |   |                        | Manganese Masses (F12      | ١                |
|                                       | Histic (A3)                             |                  |                       | ed Matrix (S           |                        |   |                        | r (Explain in Remarks)     | )                |
|                                       | en Sulfide (A4)                         |                  |                       | Mucky Mir              |                        |   | 00.                    | (Explain in Romano)        |                  |
|                                       | ed Layers (A5)                          |                  |                       | Gleyed Ma              |                        |   |                        |                            |                  |
| · · · · · · · · · · · · · · · · · · · | luck (A10)                              |                  |                       | ed Matrix (            |                        |   |                        |                            |                  |
|                                       | ed Below Dark Surf                      | ace (A11)        |                       | Dark Surfa             |                        |   |                        |                            |                  |
|                                       | Oark Surface (A12)                      |                  | Deplet                | ed Dark Su             | ırface (F7)            | )                                       | <sup>3</sup> Indicator | rs of hydrophytic vegetati | on and           |
| Sandy                                 | Mucky Mineral (S1                       | )                | Redox                 | Depressio              | ns (F8)                |   | wetlar                 | nd hydrology must be pre   | esent,           |
|                                       | lucky Peat or Peat                      | , ,              |                       |                        |                        |   | unles                  | s disturbed or problemati  | c.               |
| Restrictive                           | Layer (if observe                       | d):              |                       |                        |                        |   |                        |                            |                  |
| Type:                                 |   |                  |                       |                        |                        |   |                        |                            |                  |
| Depth (ii                             | nches):                                 |                  |                       |                        |                        |   | Hydric So              | il Present? Yes            | No X             |
| LIVEROLO                              | 20V                                     |                  |                       |                        |                        |   |                        |                            |                  |
| HYDROLO                               |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       | ydrology Indicator                      |                  | adı abadı all that a  | (, dan                 |                        |   | Casana                 | dary Indicators (minimum   | of two required) |
|                                       | icators (minimum c                      | orie is require  |                       |                        | (DO)                   |   |                        |                            | or two requirea) |
|                                       | e Water (A1)                            |                  |                       | ained Leav             | ` '                    |   |                        | rface Soil Cracks (B6)     |                  |
|                                       | ater Table (A2)                         |                  |                       | auna (B13              |                        |   |                        | ainage Patterns (B10)      | 10)              |
| Saturat                               | , ,                                     |                  | True Aqu              |                        | . ,                    |   |                        | y-Season Water Table (C    | (2)              |
|                                       | Marks (B1)                              |                  |                       | Sulfide O              |                        |   |                        | ayfish Burrows (C8)        | (00)             |
|                                       | ent Deposits (B2)                       |                  |                       | Rhizosphe              |                        | -                                       |                        | turation Visible on Aerial |                  |
|                                       | eposits (B3)                            |                  |                       | of Reduce              |                        |   |                        | unted or Stressed Plants   | (D1)             |
|                                       | lat or Crust (B4)                       |                  | Recent Ir             |                        |                        | d Soils (Ci                             | , <u> </u>             | eomorphic Position (D2)    |                  |
|                                       | eposits (B5)                            | (5-)             | Thin Muc              |                        | . ,                    |   | FA                     | C-Neutral Test (D5)        |                  |
|                                       | tion Vis ble on Aeria                   |                  | _                     |                        |                        |   |                        |                            |                  |
|                                       | ly Vegetated Conc                       | ave Surface (B   | 8) Other (E)          | cplain in Re           | emarks)                |   |                        |                            |                  |
| Field Obse                            |   |                  | V                     |                        |                        |   |                        |                            |                  |
| Surface Wa                            | iter Present?                           |                  | lo X Depth (i         |                        |                        |   |                        |                            |                  |
| Water Table                           | e Present?                              |                  | lo X Depth (i         |                        |                        |   |                        |                            | V                |
| Saturation I                          |   | Yes N            | lo X Depth (i         | nches):                |                        | Wet                                     | land Hydrolog          | gy Present? Yes            | No <u>^</u>      |
|                                       | apillary fringe)<br>ecorded Data (strea | am gauge, mor    | nitoring well, aerial | photos, pr             | evious ins             | pections).                              | if available:          |                            |                  |
| Dodding 10                            | ocordod Bala (oli ol                    | am gaago, moi    | moning won, dona      | priotoc, pr            | 0110001110             | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | ii availabio.          |                            |                  |
| Remarks:                              |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |
|                                       |   |                  |                       |                        |                        |   |                        |                            |                  |

| Project/Site: I-69 Bloomington to Martin | nsville             |            | City/Cou                              | unty: Monroe     |                                      | Sampling Date:                            | 10-14-11      |
|--|---------------------|------------|---------------------------------------|------------------|--------------------------------------|---|---------------|
| Applicant/Owner: INDOT                   |                     |            |                                       |                  | State: IN                            |   |               |
| Investigator(s): K. Schroeder, D. White  |                     |            |                                       |                  |                                      |   |               |
| Landform (hillslope, terrace, etc.): Dep |                     |            |                                       |                  | (concave, convex, none):             | Concave                                   |               |
| Slope (%): <2% Lat: 39.2420              |                     |            |                                       |                  |                                      |   |               |
| Soil Map Unit Name: Bonnie Silt Loam     | 1                   |            |                                       |                  | NWI classific                        |   |               |
| Are climatic / hydrologic conditions on  |                     |            |                                       |                  |                                      |   |               |
| Are Vegetation, Soil, o                  |                     |            |                                       |                  |                                      |   | No            |
| Are Vegetation, Soil, o                  |                     |            |                                       |                  |                                      |   |               |
| SUMMARY OF FINDINGS –                    |                     |            |                                       |                  |                                      |   | eatures, etc. |
| Hydrophytic Vegetation Present?          | Yes X               | No         |                                       |                  |                                      |   |               |
| Hydric Soil Present?                     | Yes x               |            |                                       | s the Sampled    |                                      | Na  |               |
| Wetland Hydrology Present?               |                     |            | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | vitnin a vvetiar | nd? Yes X                            | NO  | -             |
| Remarks:                                 |                     |            | •                                     |                  |                                      |   |               |
|  |                     |            |                                       |                  |                                      |   |               |
| VEGETATION – Use scientific              | names of plan       | ts         |                                       |                  |                                      |   |               |
|  | Tiamoo or plan      | Absolute   | Domin                                 | ant Indicator    | Dominance Test work                  | sheet:                                    |               |
| Tree Stratum (Plot size: 30              | )                   |            | Specie                                | es? Status       | Number of Dominant S                 |   |               |
| 1. Acer rubrum                           |                     | 45         | Y                                     | FAC              | That Are OBL, FACW,                  |   | (A)           |
| 2. Quercus palustris                     |                     | 15         | <u>Y</u>                              | FACW             | Total Number of Domin                | nant                                      |               |
| 3. Ulmus americana                       |                     | 10         | N                                     | FACW             | Species Across All Stra              | _   | (B)           |
| 4. Platanus occidentalis                 |                     | 2          | N                                     | FACW             | Percent of Dominant S                | pecies                                    |               |
| 5  |                     |            |                                       |                  | That Are OBL, FACW,                  | or FAC: 100                               | (A/B)         |
| Sapling/Shrub Stratum (Plot size: 1      | 5 \                 | 72         | = Total                               | Cover            | Prevalence Index wor                 | ·kshoot·                                  |               |
| 1 Rosa palustris                         | ,                   | 10         | Υ                                     | OBL              | Total % Cover of:                    |   | ly by:        |
| Lindara hanzain                          |                     |            | Y                                     | FACW             |                                      | x 1 = 10                                  |               |
| 3  |                     |            |                                       |                  | FACW species 44                      |   |               |
| 4  |                     |            |                                       |                  |                                      | x 3 = 135                                 |               |
| 5  |                     |            |                                       |                  | FACU species                         |   |               |
|  |                     | 15         | = Total                               | Cover            | *                                    | x 5 =                                     |               |
|  | )                   |            |                                       |                  | Column Totals: 99                    |   | (B)           |
| Lysimachia nummularia                    |                     | 10         | Υ                                     | FACW             |                                      | 0.05                                      |               |
| 2. Carex sp.                             |                     | 2          | N                                     | FACW             | Prevalence Index                     |   |               |
| 3  |                     |            |                                       |                  | Hydrophytic Vegetatio                |   |               |
| 4  |                     |            |                                       |                  | X Dominance Test is                  |   |               |
| 5  |                     |            |                                       |                  | X Prevalence Index i                 |   |               |
| 6  |                     |            |                                       |                  | Morphological Ada<br>data in Remark  | iptations" (Provide<br>s or on a separate |               |
| 7  |                     |            |                                       |                  | Problematic Hydro                    | •   | ,             |
| 8  |                     |            |                                       |                  | _ ,                                  | . , .                                     | ` ' '         |
| 9  |                     |            |                                       | <del></del>      | <sup>1</sup> Indicators of hydric so |   |               |
| 10                                       |                     |            | T-1-1                                 |                  | be present, unless dist              | urbed or problema                         | ıtic.         |
| Woody Vine Stratum (Plot size: 15        | )                   | 12         | = Total                               | Cover            |                                      |   |               |
| 1  |                     |            |                                       |                  | Hydrophytic                          |   |               |
| 2.                                       |                     |            |                                       |                  | Vegetation                           | es X No _                                 |               |
|  |                     |            | = Total                               | Cover            | Present? Ye                          | 3 NU                                      |               |
| Remarks: (Include photo numbers h        | ere or on a separat | te sheet.) |                                       |                  |                                      |   |               |
|  | 5. 5.1 a 50parai    | 0500.      |                                       |                  |                                      |   |               |
|  |                     |            |                                       |                  |                                      |   |               |
| I  |                     |            |                                       |                  |                                      |   |               |

SOIL Sampling Point: S5W127

| Profile Des  | cription: (Describe                     | e to the de  | oth needed to docu                      | ment the      | indicator                | or confi         | rm the absence of it         | ndicators.)                             |
|--------------|---|--------------|---|---------------|--------------------------|------------------|------------------------------|---|
| Depth        | Matrix                                  |              |   | ox Featur     |                          |                  | <u> </u>                     |   |
| (inches)     | Color (moist)                           | %            | Color (moist)                           | %             | Type <sup>1</sup>        | Loc <sup>2</sup> | Texture                      | Remarks                                 |
| 0-6          | 10YR 5/1                                | 90           | 7.5YR 5/6                               | 10            | <u>C</u>                 | M                | silty clay loam              |   |
| 6-20         | 2.5Y 7/1                                | 65           | 7.5YR 5/8                               | 35            | С                        | M                | silty clay loam              |   |
|              |   |              |   |               |                          |                  |                              |   |
|              |   |              |   |               |                          |                  |                              |   |
|              |   |              | -                                       |               |                          |                  |                              |   |
| l            |   |              |   |               |                          |                  |                              |   |
|              |   |              |   |               | _                        |                  |                              |   |
|              |   |              |   |               |                          |                  |                              |   |
| ¹Tvpe: C=C   | concentration. D=De                     | pletion. RM  | l=Reduced Matrix, C                     | S=Covere      | ed or Coate              | ed Sand          | Grains. <sup>2</sup> Locatio | n: PL=Pore Lining, M=Matrix.            |
| Hydric Soil  |   | <u></u>      | , |               |                          |                  |                              | Problematic Hydric Soils <sup>3</sup> : |
| Histoso      | I (A1)                                  |              | Sandy                                   | Gleyed M      | latrix (S4)              |                  | Coast Prai                   | rie Redox (A16)                         |
| Histic E     | pipedon (A2)                            |              |   | Redox (S      |                          |                  | Iron-Manga                   | anese Masses (F12)                      |
|              | istic (A3)                              |              |   | d Matrix (    |                          |                  | Other (Exp                   | lain in Remarks)                        |
|              | en Sulfide (A4)                         |              |   | -             | ineral (F1)              |                  |                              |   |
|              | d Layers (A5)                           |              |   |               | Matrix (F2)              |                  |                              |   |
|              | uck (A10)                               | (\( \) ( \)  | Depiete                                 | ed Matrix     |                          |                  |                              |   |
|              | d Below Dark Surfa<br>ark Surface (A12) | ice (A11)    |   | Dark Sur      | race (F6)<br>surface (F7 | ١                | 3Indicators of h             | ydrophytic vegetation and               |
|              | Mucky Mineral (S1)                      |              |   | Depressi      | ,                        | )                |                              | drology must be present,                |
|              | ucky Peat or Peat (                     | S3)          | 11000X                                  | Боргоооп      | 0110 (1 0)               |                  |                              | urbed or problematic.                   |
|              | Layer (if observed                      |              |   |               |                          |                  |                              | ·                                       |
| Type:        | ,                                       |              |   |               |                          |                  |                              |   |
| Depth (in    | iches):                                 |              |   |               |                          |                  | Hydric Soil Pre              | sent? Yes X No                          |
| Remarks:     |   |              |   |               |                          |                  | ,                            |   |
|              |   |              |   |               |                          |                  |                              |   |
| HYDROLO      |   |              |   |               |                          |                  |                              |   |
| _            | drology Indicators                      |              |   |               |                          |                  |                              |   |
|              |   | one is requ  | ired; check all that a                  |               |                          |                  | Secondary Ir                 | ndicators (minimum of two required)     |
|              | Water (A1)                              |              | X Water-Sta                             |               | . ,                      |                  |                              | Soil Cracks (B6)                        |
| _            | ater Table (A2)                         |              | Aquatic F                               |               |                          |                  | _                            | e Patterns (B10)                        |
| Saturati     | , ,                                     |              | True Aqu                                |               |                          |                  |                              | son Water Table (C2)                    |
|              | Marks (B1)                              |              | Hydrogen                                |               | , ,                      |                  |                              | Burrows (C8)                            |
|              | nt Deposits (B2)                        |              | X Oxidized                              |               |                          | _                |                              | on Visible on Aerial Imagery (C9)       |
|              | posits (B3)                             |              |   |               | ed Iron (C               |                  |                              | or Stressed Plants (D1)                 |
| _            | at or Crust (B4)                        |              |   |               | tion in Tille            | a Solis (G       | · —                          | phic Position (D2)                      |
|              | posits (B5)                             | I Imagarı /E | Thin Muc                                |               | , ,                      |                  | FAC-Ne                       | utral Test (D5)                         |
| V            | ion Vis ble on Aerial y Vegetated Conca |              |   |               |                          |                  |                              |   |
| Field Obser  | · · ·                                   | ve Suriace   | (B6) Other (Ex                          | .piaiii iii N | emarks)                  |                  |                              |   |
|              |   | Voo          | No X Depth (ir                          | achoo):       |                          |                  |                              |   |
|              |   |              |   |               |                          |                  |                              |   |
| Water Table  |   |              | No X Depth (ir                          |               |                          |                  |                              | X                                       |
| Saturation F | resent?<br>pillary fringe)              | Yes          | No X Depth (ir                          | ncnes):       |                          | We               | etiand Hydrology Pro         | esent? Yes X No                         |
| Describe Re  | ecorded Data (stream                    | m gauge, m   | onitoring well, aerial                  | photos, p     | revious ins              | spections        | s), if available:            |   |
|              |   |              |   |               |                          |                  |                              |   |
| Remarks:     |   |              |   |               |                          |                  |                              |   |
|              |   |              |   |               |                          |                  |                              |   |
|              |   |              |   |               |                          |                  |                              |   |
|              |   |              |   |               |                          |                  |                              |   |
|              |   |              |   |               |                          |                  |                              |   |

| Project/Site: I-69 Bloomington to Mar   | tinsville             | (             | City/Co | ounty:                  | Monroe                |  | Sampling Date: 2-19-2013  | 3     |
|---|-----------------------|---------------|---------|-------------------------|-----------------------|--|---|-------|
| Applicant/Owner: INDOT                  |                       |               |         | Sampling Point: S5W127U |                       |  |   |       |
| Investigator(s): D. White, T. Keefe     |                       |               |         |                         |                       |  |   |       |
| Landform (hillslope, terrace, etc.): Do | epression             |               |         | L                       | ocal relief           | (concave, convex, none):                         | Concave   |       |
| Slope (%): <2% Lat: 39.241              |                       |               |         |                         |                       | 0  |   |       |
| Soil Map Unit Name: Bonnie Silt Loa     |                       |               |         |                         |                       | NWI classific                                    |   |       |
| Are climatic / hydrologic conditions o  |                       |               |         |                         |                       |  |   |       |
| Are Vegetation, Soil,                   | or Hydrology          | significantly | disturb | ed?                     | Are "                 | Normal Circumstances" p                          | present? Yes x No_  |       |
| Are Vegetation, Soil,                   | or Hydrology          | naturally pro | blemat  | tic?                    | (If ne                | eded, explain any answe                          | rs in Remarks.)   |       |
| SUMMARY OF FINDINGS -                   | Attach site map       | showing       | sam     | pling                   | point lo              | ocations, transects                              | , important features,   | etc.  |
| Hydrophytic Vegetation Present?         | Yes N                 | No X          |         | Ja 4h a                 | Camandad              | A  |   |       |
| Hydric Soil Present?                    | Yes N                 | No X          |         |                         | Sampled<br>n a Wetlan |  | No X  |       |
| Wetland Hydrology Present?              | Yes N                 | No <u>X</u>   |         | WILLIII                 | ii a vvetiaii         | 163  |   |       |
| Remarks:                                |                       |               |         |                         |                       |  |   |       |
|   |                       |               |         |                         |                       |  |   |       |
| VEGETATION – Use scientifi              | c names of plants     | <u> </u>      |         |                         |                       |  |   |       |
| Coc odicitant                           | - Tarries of plants   | Absolute      | Domi    | inant                   | Indicator             | Dominance Test work                              | sheet:  |       |
| Tree Stratum (Plot size: 30             |                       | % Cover       | Spec    | ies?                    | Status                | Number of Dominant Sp<br>That Are OBL, FACW, of  | pecies  | (A)   |
| 2                                       |                       |               |         |                         |                       | Total Number of Domin                            | ant   |       |
| 3                                       |                       |               |         |                         |                       | Species Across All Stra                          | ta: <u>1</u> (I   | (B)   |
| 4.       5.                             |                       |               |         |                         |                       | Percent of Dominant Sp<br>That Are OBL, FACW, of |   | (A/B) |
| Sapling/Shrub Stratum (Plot size:       | 15 \                  |               | = Tota  | al Cove                 | er                    | Prevalence Index wor                             | ksheet:   |       |
| 1                                       |                       |               |         |                         |                       | Total % Cover of:                                |   |       |
| 2.                                      |                       |               |         |                         |                       |  | x 1 =   |       |
| 3.                                      |                       |               |         |                         |                       |  | x 2 = 10  |       |
| 4                                       |                       |               |         |                         |                       |  | x 3 =   |       |
| 5                                       |                       |               |         |                         |                       | *  | x 4 = 120   |       |
| Herb Stratum (Plot size: 5              | \                     | 15            | = Tota  | al Cove                 | er                    |  | x 5 =   |       |
| . Facture en                            | )                     | 30            | Υ       |                         | FACU                  | Column Totals: 35                                | (A) <u>130</u>  | (B)   |
| - Carey sp                              |                       | 5             | N       |                         | FACW                  | Prevalence Index                                 | = B/A = <u>3.71</u>   |       |
| 3.                                      |                       |               |         |                         |                       | Hydrophytic Vegetation                           | on Indicators:  |       |
| 4                                       |                       |               |         |                         |                       | Dominance Test is                                |   |       |
| 5                                       |                       |               |         |                         |                       | Prevalence Index is                              |   |       |
| 6                                       |                       |               |         |                         |                       | Morphological Adap                               | ptations <sup>1</sup> (Provide supportin<br>s or on a separate sheet) | ıg    |
| 7                                       |                       |               |         |                         |                       |  | phytic Vegetation <sup>1</sup> (Explain)                              | )     |
| 8                                       |                       |               |         |                         |                       | 1 105101114110 119410                            | my no vogotanom (Explain)   | ,     |
| 9                                       |                       |               |         | <del></del> .           |                       | <sup>1</sup> Indicators of hydric soi            | l and wetland hydrology mu  | ıst   |
| 10                                      |                       |               |         |                         |                       | be present, unless distu                         | urbed or problematic.   |       |
| Woody Vine Stratum (Plot size: 1        | 5 )                   |               | = Tota  | ai Cove                 | er                    |  |   |       |
| 1                                       |                       |               |         |                         |                       | Hydrophytic                                      |   |       |
| 2                                       |                       |               |         |                         |                       | Vegetation<br>Present? Yes                       | s No X  |       |
|   |                       |               | = Tota  | al Cove                 | er                    |  |   |       |
| Remarks: (Include photo numbers         | here or on a separate | sheet.)       |         |                         |                       | I  |   |       |
|   |                       |               |         |                         |                       |  |   |       |
|   |                       |               |         |                         |                       |  |   |       |

SOIL Sampling Point: S5W127UPL

|                   | cription: (Descri                      | _                  |                      |                        |                   | or confirr       | n the absenc          | e of indicators.)           |                  |
|-------------------|--|--------------------|----------------------|------------------------|-------------------|------------------|-----------------------|-----------------------------|------------------|
| Depth<br>(inches) | Matrix<br>Color (moist)                | <u> </u>           | Red<br>Color (moist) | ox Features<br>%       | Type <sup>1</sup> | Loc <sup>2</sup> | Texture               | Remarks                     |                  |
| 0-16              | 10YR 4/3                               | 100                | COIOI (IIIOISI)      |                        | i ype             | LUC              | silty clay            | Remarks                     | <u> </u>         |
| 0-10              | 1011( 4/3                              |                    |                      |                        |                   |                  | Silly Clay            | _                           |                  |
|                   | <u> </u>                               |                    |                      |                        |                   |                  |                       | _                           |                  |
|                   |  |                    |                      |                        |                   |                  |                       |                             |                  |
|                   |  |                    |                      |                        |                   |                  | -                     |                             |                  |
| -                 |  |                    |                      |                        | -                 |                  | -                     |                             |                  |
|                   | <u> </u>                               |                    |                      |                        |                   |                  |                       |                             |                  |
|                   |  |                    |                      |                        |                   |                  |                       |                             |                  |
|                   | -                                      |                    |                      |                        |                   |                  |                       | _                           |                  |
| 1Typo: C-C        | Concentration, D=D                     | Nonletion PM-E     | Poducod Matrix C     | S-Covered              | d or Coata        | nd Sand G        | raine <sup>2</sup> I  | ocation: PL=Pore Lining,    | M-Matrix         |
|                   | Indicators:                            | repletion, itivi=i | reduced Matrix, C    | O-COVERE               | J OI COALE        | u Sanu G         |                       | rs for Problematic Hydri    |                  |
| Histoso           |  |                    | Sandy                | Gloved Ma              | triv (SA)         |                  |                       | st Prairie Redox (A16)      |                  |
|                   | Epipedon (A2)                          |                    |                      | Gleyed Ma<br>Redox (S5 |                   |                  |                       | Manganese Masses (F12       | 1                |
|                   | Histic (A3)                            |                    |                      | ed Matrix (S           |                   |                  |                       | r (Explain in Remarks)      | )                |
|                   | en Sulfide (A4)                        |                    |                      | Mucky Mir              |                   |                  | 00                    | (Explain in Romano)         |                  |
|                   | ed Layers (A5)                         |                    |                      | Gleyed Ma              |                   |                  |                       |                             |                  |
|                   | luck (A10)                             |                    |                      | ed Matrix (F           |                   |                  |                       |                             |                  |
|                   | ed Below Dark Sur                      | face (A11)         |                      | Dark Surfa             | ,                 |                  |                       |                             |                  |
|                   | Oark Surface (A12)                     | , ,                |                      | ed Dark Su             | , ,               |                  | <sup>3</sup> Indicato | rs of hydrophytic vegetati  | on and           |
|                   | Mucky Mineral (S1                      | )                  |                      | Depression             |                   |                  |                       | and hydrology must be pre   |                  |
| 5 cm M            | lucky Peat or Peat                     | (S3)               |                      |                        |                   |                  | unles                 | ss disturbed or problemat   | ic.              |
| Restrictive       | Layer (if observe                      | d):                |                      |                        |                   |                  |                       |                             |                  |
| Type:             |  |                    |                      |                        |                   |                  |                       |                             |                  |
| Depth (ii         | nches):                                |                    |                      |                        |                   |                  | Hydric Sc             | oil Present? Yes            | No X             |
| HYDROLO           | nev                                    |                    |                      |                        |                   |                  |                       |                             |                  |
|                   | ydrology Indicato                      | rei                |                      |                        |                   |                  |                       |                             |                  |
| _                 | icators (minimum o                     |                    | d: chack all that a  | nnly)                  |                   |                  | Socon                 | dary Indicators (minimum    | of two required) |
|                   | •                                      | or one is require  | •                    | ained Leave            | oo (DO)           |                  |                       | *                           | or two required) |
|                   | e Water (A1)                           |                    |                      |                        | ` '               |                  |                       | urface Soil Cracks (B6)     |                  |
|                   | ater Table (A2)                        |                    |                      | auna (B13)             |                   |                  |                       | rainage Patterns (B10)      | 20)              |
| Saturat           | , ,                                    |                    | True Aqu             |                        | . ,               |                  |                       | ry-Season Water Table (C    | ,2)              |
|                   | Marks (B1)                             |                    |                      | Sulfide Od             |                   | D ( .            |                       | rayfish Burrows (C8)        | 1(00)            |
|                   | ent Deposits (B2)                      |                    |                      | Rhizosphe              |                   | -                |                       | aturation Visible on Aerial |                  |
|                   | eposits (B3)                           |                    |                      | of Reduce              |                   |                  |                       | unted or Stressed Plants    | (D1)             |
|                   | lat or Crust (B4)                      |                    | Recent Ir            |                        |                   | d Soils (Ci      | · —                   | eomorphic Position (D2)     |                  |
|                   | eposits (B5)                           | (5-)               | Thin Muc             | ,                      | ,                 |                  | FA                    | AC-Neutral Test (D5)        |                  |
|                   | tion Vis ble on Aeri                   |                    | _                    |                        |                   |                  |                       |                             |                  |
|                   | ly Vegetated Conc                      | ave Surface (B8    | B) Other (Ex         | plain in Re            | marks)            |                  |                       |                             |                  |
| Field Obse        |  |                    | V                    |                        |                   |                  |                       |                             |                  |
| Surface Wa        | iter Present?                          |                    | o X Depth (ii        |                        |                   | l l              |                       |                             |                  |
| Water Table       | e Present?                             |                    | o X Depth (ii        |                        |                   |                  |                       |                             | V                |
| Saturation I      |  | Yes No             | o X Depth (ii        | nches):                |                   | Wet              | land Hydrolo          | gy Present? Yes             | No <u>^</u>      |
|                   | apillary fringe)<br>ecorded Data (stre | am gauge, mon      | itoring well, aerial | photos, pre            | evious ins        | nections).       | if available:         |                             |                  |
| Describe IV       | coorded Data (one                      | am gaago, mon      | noring well, derial  | priotos, pri           | CVIOGO IIIO       | ,pcotio115),     | ii availabio.         |                             |                  |
| Remarks:          |  |                    |                      |                        |                   |                  |                       |                             |                  |
|                   |  |                    |                      |                        |                   |                  |                       |                             |                  |
|                   |  |                    |                      |                        |                   |                  |                       |                             |                  |
|                   |  |                    |                      |                        |                   |                  |                       |                             |                  |
|                   |  |                    |                      |                        |                   |                  |                       |                             |                  |
|                   |  |                    |                      |                        |                   |                  |                       |                             |                  |

| Project/Site: I-69 Bloomington to Martinsville                 |                     | City/Coun      | ty: Monroe           |  | Sampling Date: 04/27/12   |    |
|--|---------------------|----------------|----------------------|--|---|----|
| Applicant/Owner: INDOT   |                     |                |                      |  | Sampling Point: S5W128a   |    |
| Investigator(s): K. Schroeder, D. White                        |                     |                |                      |  |   |    |
| • , , -  |                     |                |                      | (concave, convex, none):                         | Concave   |    |
| Slope (%): <2% Lat: 39.33337347310                             |                     |                |                      |  |   |    |
| Soil Map Unit Name: Berks-We kert Complex                      |                     |                |                      | NWI classific                                    |   | _  |
| Are climatic / hydrologic conditions on the site typical for t |                     |                |                      |  |   |    |
| Are Vegetation, Soil, or Hydrology                             |                     |                |                      |  |   |    |
|  |                     |                |                      |  |   |    |
| Are Vegetation, Soil, or Hydrology                             |                     |                |                      |  |   | _  |
| SUMMARY OF FINDINGS – Attach site ma                           | p snowing           | Sampii         | ng point i           | ocations, transects                              | , important leatures, et  | Ċ. |
| Hydrophytic Vegetation Present? Yes X                          |                     | Is             | the Sampled          | Area   |   |    |
| Hydric Soil Present? Yes x                                     |                     |                | •                    | nd? Yes X  | No  |    |
| Wetland Hydrology Present? Yes X                               | No                  |                |                      |  |   |    |
| Remarks:   |                     |                |                      |  |   |    |
|  |                     |                |                      |  |   |    |
|  |                     |                |                      |  |   |    |
| <b>VEGETATION</b> – Use scientific names of plant              |                     |                |                      |  |   |    |
| Tree Stratum (Plot size: 30 )                                  | Absolute<br>% Cover |                | nt Indicator  Status | Dominance Test work                              |   |    |
| 1. Platanus occidentalis                                       | 20                  | Υ              | FACW                 | Number of Dominant S That Are OBL, FACW,         |   |    |
| 2. Fraxinus pennsylvanica                                      | 15                  | Υ              | FACW                 |  |   |    |
| 3. Acer rubrum   | 5                   | N              | FAC                  | Total Number of Domin<br>Species Across All Stra | <b>–</b>  |    |
| 4.   |                     | -              |                      |  |   |    |
| 5  |                     |                |                      | Percent of Dominant Sport That Are OBL, FACW,    |   | 3) |
| 45   | 40                  | = Total C      | over                 |  |   |    |
| Sapling/Shrub Stratum (Plot size: 15                           | 15                  | V              | FACW                 | Prevalence Index wor                             |   |    |
| 1. Acer negundo 2. Acer rubrum                                 | 5                   | Y              | FAC                  | Total % Cover of:                                |   |    |
| 3 Viburnum dentatum  |                     | N              | FAC                  |  | $x 1 = \frac{2}{134}$<br>$x 2 = \frac{134}{134}$                    |    |
| 4. Salix nigra   | $-\frac{2}{2}$      | N              | OBL                  |  | $x = \frac{102}{102}$   |    |
|  |                     | <del>···</del> |                      | *  | x 4 =   |    |
| 5  | 24                  | = Total C      | over                 |  | x 5 =   |    |
| Herb Stratum (Plot size: 5                                     |                     | - 10tai 0      | OVOI                 | Column Totals: 103                               |   | ,  |
| 1. Lysimachia nummularia                                       | 10                  | Υ              | FACW                 |  |   |    |
| 2. Carex sp.   | 5                   | Υ              | FACW                 | Prevalence Index                                 |   |    |
| 3. Onoclea sens blis   | 2                   | N              | FACW                 | Hydrophytic Vegetation                           |   |    |
| 4. Agrimonia parviflora  | 2                   | N              | FAC                  | X Dominance Test is                              |   |    |
| 5  |                     |                |                      | X Prevalence Index i                             |   |    |
| 6  |                     |                |                      | Morphological Ada<br>data in Remark              | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |    |
| 7  |                     | -              |                      |  | phytic Vegetation <sup>1</sup> (Explain)                            |    |
| 8  |                     |                |                      |  |   |    |
| 9  |                     |                |                      | <sup>1</sup> Indicators of hydric soi            | il and wetland hydrology must                                       |    |
| 10   |                     | T-1-1-0        |                      | be present, unless distr                         | urbed or problematic.   |    |
| Woody Vine Stratum (Plot size: 15 )                            | 19                  | = Total C      | over                 |  |   |    |
| 1. Toxicodendron radicans                                      | 20                  | Υ              | FAC                  | Hydrophytic                                      |   |    |
| 2.   |                     |                |                      | Vegetation<br>Present? Ye                        | es X No   |    |
|  | 20                  | = Total C      | over                 | Tresent: Te                                      | 3110  |    |
| Remarks: (Include photo numbers here or on a separat           | e sheet )           |                |                      | <u> </u>   |   |    |
| Temano. (molado prioto hamboro horo or on a separat            | 5.1561.)            |                |                      |  |   |    |
|  |                     |                |                      |  |   |    |
|  |                     |                |                      |  |   |    |

SOIL Sampling Point: S5W128a

| Profile Des              | cription: (Describe         | e to the depth | needed to docu              | ment the          | indicator         | or confi         | rm the absence of i        | indicators.)                            |
|--------------------------|-----------------------------|----------------|-----------------------------|-------------------|-------------------|------------------|----------------------------|---|
| Depth                    | Matrix                      |                |                             | ox Feature        | 4                 | . 0              | _                          |   |
| (inches)                 | Color (moist)               |                | Color (moist)               | %                 | Type <sup>1</sup> | Loc <sup>2</sup> | Texture                    | Remarks                                 |
| 0-20                     | 2.5Y 7/1                    | 70             | 7.5YR 5/6                   | 30                | С                 | M                | Silt Loam                  |   |
|                          |                             |                |                             |                   |                   |                  |                            |   |
|                          |                             |                |                             |                   |                   |                  |                            |   |
|                          |                             |                |                             |                   |                   |                  |                            |   |
|                          |                             |                |                             | _                 | -                 |                  |                            |   |
|                          | _                           |                |                             |                   |                   |                  |                            |   |
|                          |                             |                |                             |                   |                   |                  |                            |   |
|                          | -                           |                |                             |                   |                   |                  |                            |   |
|                          | Concentration, D=De         | pletion, RM=F  | Reduced Matrix, C           | S=Covere          | d or Coate        | ed Sand (        |                            | on: PL=Pore Lining, M=Matrix.           |
| _                        | Indicators:                 |                |                             |                   |                   |                  |                            | Problematic Hydric Soils <sup>3</sup> : |
| Histoso                  | ` '                         |                |                             | Gleyed M          |                   |                  |                            | irie Redox (A16)                        |
|                          | pipedon (A2)<br>listic (A3) |                |                             | Redox (Sandarix ( |                   |                  |                            | anese Masses (F12)<br>plain in Remarks) |
|                          | en Sulfide (A4)             |                |                             |                   | neral (F1)        |                  | Other (Ex                  | Sialit iii Remarks)                     |
|                          | ed Layers (A5)              |                |                             | Gleyed M          |                   |                  |                            |   |
| ·                        | uck (A10)                   |                |                             | ed Matrix         |                   |                  |                            |   |
|                          | ed Below Dark Surfa         | ce (A11)       |                             | Dark Surf         |                   |                  |                            |   |
| Thick D                  | ark Surface (A12)           |                | Deplete                     | ed Dark S         | urface (F7        | )                | <sup>3</sup> Indicators of | hydrophytic vegetation and              |
|                          | Mucky Mineral (S1)          |                | Redox                       | Depression        | ons (F8)          |                  |                            | drology must be present,                |
|                          | ucky Peat or Peat (\$       |                |                             |                   |                   |                  | unless dis                 | turbed or problematic.                  |
|                          | Layer (if observed          | •              |                             |                   |                   |                  |                            |   |
| Type:                    | t \                         |                | <del></del>                 |                   |                   |                  | United a Cold Day          | esent? Yes X No                         |
| Depth (Ir                | nches):                     |                |                             |                   |                   |                  | Hydric Soil Pre            | esent? Yes ^ No                         |
|                          |                             |                |                             |                   |                   |                  |                            |   |
| HYDROLC                  | OGY                         |                |                             |                   |                   |                  |                            |   |
| Wetland Hy               | drology Indicators          | s:             |                             |                   |                   |                  |                            |   |
| Primary Indi             | icators (minimum of         | one is require | d; check all that a         | pply)             |                   |                  | Secondary I                | ndicators (minimum of two required)     |
|                          | Water (A1)                  |                |                             | ained Leav        | . ,               |                  |                            | Soil Cracks (B6)                        |
|                          | ater Table (A2)             |                | Aquatic F                   |                   |                   |                  | Drainag                    | ge Patterns (B10)                       |
| X Saturati               | , ,                         |                |                             | atic Plants       |                   |                  |                            | ason Water Table (C2)                   |
| X Water N                |                             |                | X Hydroger                  |                   | , ,               |                  |                            | n Burrows (C8)                          |
|                          | ent Deposits (B2)           |                | ·                           |                   | eres on Liv       | •                | · · —                      | ion Visible on Aerial Imagery (C9)      |
|                          | posits (B3)                 |                |                             |                   | ed Iron (C        | ,                |                            | or Stressed Plants (D1)                 |
|                          | at or Crust (B4)            |                |                             |                   | ion in Tille      | d Soils (0       |                            | rphic Position (D2)                     |
|                          | posits (B5)                 | . I (D.7)      | Thin Muc                    |                   |                   |                  | FAC-Ne                     | eutral Test (D5)                        |
| V                        | ion Vis ble on Aerial       |                |                             |                   |                   |                  |                            |   |
| Field Obse               | ly Vegetated Conca          | ve Surrace (Ba | B) Other (Ex                | (piain in K       | emarks)           | 1                |                            |   |
|                          |                             | Vaa N          | o X Depth (ir               | a a b a a \ .     |                   |                  |                            |   |
|                          |                             |                | o Deptit (ii<br>o Depth (ii |                   | ırface            |                  |                            |   |
| Water Table Saturation F |                             |                | o Depth (ir<br>o Depth (ir  |                   |                   | _                | stland Usdralams D         | resent? Yes X No                        |
| (includes ca             | pillary fringe)             |                |                             |                   |                   |                  |                            | resent? res No                          |
| Describe Re              | ecorded Data (stream        | m gauge, mon   | itoring well, aerial        | photos, p         | revious ins       | spections        | ), if available:           |   |
|                          |                             |                |                             |                   |                   |                  |                            |   |
| Remarks:                 |                             |                |                             |                   |                   |                  |                            |   |
| Standir                  | ng water in mi              | iddle app      | rox. 3" deep                | -                 |                   |                  |                            |   |
|                          |                             |                |                             |                   |                   |                  |                            |   |
|                          |                             |                |                             |                   |                   |                  |                            |   |

| Project/Site: I-69 Bloomington to Marti              | insville                | (                   | City/County | y: Monroe          | Sampling Date: 2/19/2013   |  |
|--|-------------------------|---------------------|-------------|--------------------|--|--|
| Applicant/Owner: INDOT                               |                         |                     |             |                    | Sampling Point: S5W128UPL  |  |
| Investigator(s): D. White, T. Keefe                  |                         |                     |             |                    |  |  |
| Landform (hillslope, terrace, etc.): De              | pression                |                     |             | Local relief       | (concave, convex, none):   | Concave                                  |
| Slope (%): <2% Lat: 39.3334                          |                         |                     |             |                    | 0  |  |
| Soil Map Unit Name: Berks-We kert C                  |                         |                     |             |                    | NWI classific  | <u></u>                                  |
| Are climatic / hydrologic conditions on              |                         |                     |             |                    |  |  |
| Are Vegetation, Soil, c                              |                         | •                   |             |                    | · ·  | ,  |
| Are Vegetation, Soil, c                              |                         |                     |             |                    | eded, explain any answe  |  |
| SUMMARY OF FINDINGS -                                |                         |                     |             |                    |  |  |
|  |                         |                     |             | 31                 |  | , , ,                                    |
| Hydrophytic Vegetation Present? Hydric Soil Present? | Yes <u>X</u> N<br>Yes N |                     |             | he Sampled         |  |  |
| Wetland Hydrology Present?                           | Yes N                   |                     | witl        | hin a Wetlar       | nd? Yes  | No X                                     |
| Remarks:   |                         |                     |             |                    |  |  |
|  |                         |                     |             |                    |  |  |
| VECETATION LIPS asignificant                         |                         |                     |             |                    |  |  |
| VEGETATION – Use scientific                          | names of plants.        |                     |             |                    |  |  |
| Tree Stratum (Plot size: 30                          | )                       | Absolute<br>% Cover |             | t Indicator Status | Dominance Test work  |  |
| 1  |                         |                     |             |                    | Number of Dominant Sp<br>That Are OBL, FACW, of                    |  |
| 2  |                         |                     |             |                    | Total Number of Domina   | ant                                      |
| 3  |                         |                     |             |                    | Species Across All Stra  | •  |
| 4  |                         |                     |             |                    | Percent of Dominant Sp   | pecies                                   |
| 5  |                         |                     |             |                    | That Are OBL, FACW, o  | or FAC: 100 (A/B)                        |
| Sapling/Shrub Stratum (Plot size:                    | 15 )                    |                     | = Total Co  | over               | Prevalence Index work  | ksheet:                                  |
|  |                         | 10                  | Υ           | FAC                | Total % Cover of:  | Multiply by:                             |
| 2  |                         |                     |             |                    |  | x 1 =                                    |
| 3  |                         |                     |             |                    |  | x 2 = 60                                 |
| 4  |                         |                     |             |                    |  | x 3 = <u>96</u>                          |
| 5  |                         | 10                  |             |                    |  | x 4 =                                    |
| Herb Stratum (Plot size: 5                           | )                       | 10                  | = Total Co  | over               | Column Totals: 62  | x 5 =<br>(A) 156 (B)                     |
| 1. Phalaris arundinacea                              | ,                       | 20                  | Υ           | FACW               | Column Totals.   | (A) (B)                                  |
| 2. Carex sp.   |                         | 10                  | Υ           | FACW               | Prevalence Index   | = B/A = 2.52                             |
| 3. Agrimonia pariflora                               |                         | 2                   | N           | FAC                | Hydrophytic Vegetation   |  |
| 4  |                         |                     |             |                    | X Dominance Test is  |  |
| 5  |                         |                     |             |                    | X Prevalence Index is  | s ≤3.0°<br>otations¹ (Provide supporting |
| 6  |                         |                     |             |                    | data in Remarks  | s or on a separate sheet)                |
| 7  |                         |                     |             |                    | Problematic Hydrop   | ohytic Vegetation <sup>1</sup> (Explain) |
| 8<br>9   |                         |                     |             |                    |  |  |
| 10.  |                         |                     |             |                    | <sup>1</sup> Indicators of hydric soil<br>be present, unless distu | l and wetland hydrology must             |
|  |                         | 32                  | = Total Co  | ver                | be present, unless dist  | Thed of problematic.                     |
| Woody Vine Stratum (Plot size: 15                    | )                       | 20                  | V           | FAC                |  |  |
| 1. Toxicodendron radicans                            |                         | 20                  | Υ           | FAC                | Hydrophytic<br>Vegetation  |  |
| 2  |                         | 20                  | Total Co    |                    | Present? Yes   | s <u>X</u> No                            |
|  |                         |                     | = Total Co  | vei                |  |  |
| Remarks: (Include photo numbers h                    | ere or on a separate s  | sheet.)             |             |                    |  |  |
|  |                         |                     |             |                    |  |  |
|  |                         |                     |             |                    |  |  |

SOIL Sampling Point: S5W128UPL

| Depth                          | Matrix                                 |               | otn need  | Redox Features                                 | or confirm       | the absence of                        | or indicators.)  |               |
|--------------------------------|--|---------------|-----------|--|------------------|---------------------------------------|--|---------------|
| (inches)                       | Color (moist)                          | %             | Colo      | or (moist) % Type <sup>1</sup>                 | Loc <sup>2</sup> | Texture                               | Remarks  |               |
| 0-18                           | 10YR 4/3                               | 100           |           |  |                  | Silt Loam                             |  | _             |
| -                              | _                                      | · ·           | -         |  |                  |                                       |  | _             |
|                                |  |               | -         |  | <u> </u>         |                                       |  |               |
| -                              |  |               | -         |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               | -         |  |                  |                                       |  |               |
| 1 <sub>Turnou</sub> C. Co      | naontration D D                        | anlation DN   | I Dadua   | ed Matrix, CS=Covered or Coa                   | end Cond Cr      | 21 000                                | ation: DI Doro Lining M                                  | Motrix        |
| Hydric Soil I                  |  | epielion, Riv | i=Reduce  | ed Matrix, C5=Covered or Coal                  | eu Sanu Gr       |                                       | ation: PL=Pore Lining, Marger   for Problematic Hydric S |               |
| Histosol                       |  |               |           | Sandy Gleyed Matrix (S4)                       |                  |                                       | Prairie Redox (A16)                                      |               |
|                                | ipedon (A2)                            |               |           | Sandy Redox (S5)                               |                  |                                       | anganese Masses (F12)                                    |               |
| Black His                      |  |               |           | Stripped Matrix (S6)                           |                  |                                       | Explain in Remarks)                                      |               |
|                                | n Sulfide (A4)                         |               |           | Loamy Mucky Mineral (F1                        | )                |                                       | ,  |               |
| Stratified                     | Layers (A5)                            |               |           | Loamy Gleyed Matrix (F2)                       |                  |                                       |  |               |
| 2 cm Mu                        |  |               |           | Depleted Matrix (F3)                           |                  |                                       |  |               |
|                                | Below Dark Surf                        | ace (A11)     |           | Redox Dark Surface (F6)                        | _,               | 3                                     |  |               |
|                                | rk Surface (A12)                       |               |           | Depleted Dark Surface (F)                      | 7)               |                                       | of hydrophytic vegetation                                |               |
|                                | lucky Mineral (S1)<br>cky Peat or Peat |               |           | Redox Depressions (F8)                         |                  |                                       | I hydrology must be prese<br>disturbed or problematic.   | nt,           |
|                                | ayer (if observe                       |               |           |  |                  | unicss (                              | distarbed of problematic.                                |               |
|                                | ayor (ii oboor to                      | •             |           |  |                  |                                       |  |               |
| Depth (inc                     |  |               |           |  |                  | Hydric Soil I                         | Present? Yes   | No X          |
| Remarks:                       |  |               |           |  |                  | Tryuno con I                          | 110001111 1100   |               |
| rtornamo.                      |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                | OV                                     |               |           |  |                  |                                       |  |               |
| HYDROLO(                       |  |               |           |  |                  |                                       |  |               |
| _                              | Irology Indicator                      |               |           |  |                  |                                       |  |               |
|                                | ators (minimum o                       | t one is requ | ired; che |  |                  |                                       | ry Indicators (minimum of                                | two required) |
|                                | Water (A1)                             |               |           | _ Water-Stained Leaves (B9)                    |                  | · · · · · · · · · · · · · · · · · · · | ace Soil Cracks (B6)                                     |               |
| <u> </u>                       | ter Table (A2)                         |               | _         | _ Aquatic Fauna (B13)                          |                  |                                       | nage Patterns (B10)                                      |               |
| Saturatio                      |  |               | _         | _ True Aquatic Plants (B14)                    |                  |                                       | Season Water Table (C2)                                  |               |
| Water M                        | ` '                                    |               | _         | _ Hydrogen Sulfide Odor (C1)                   | des Deste (      |                                       | fish Burrows (C8)  | (00)          |
|                                | t Deposits (B2)                        |               | -         | Oxidized Rhizospheres on Li                    |                  | · · —                                 | ration Visible on Aerial Im                              |               |
|                                | osits (B3)                             |               | _         | Presence of Reduced Iron (C                    | ,                |                                       | ted or Stressed Plants (D                                | 1)            |
| Algai Ma                       | t or Crust (B4)                        |               | _         | Recent Iron Reduction in Till                  | ed 50115 (C6     |                                       | morphic Position (D2)                                    |               |
|                                | osits (65)<br>on Vis ble on Aeria      | al Imagary (F |           | Thin Muck Surface (C7) Gauge or Well Data (D9) |                  | FAC-                                  | -Neutral Test (D5)                                       |               |
|                                | Vegetated Conc                         | 0, 1          |           | Other (Explain in Remarks)                     |                  |                                       |  |               |
| Field Observ                   |  | ave Suriace   | (БО)      | _ Other (Explain in Remarks)                   |                  |                                       |  |               |
|                                |  | Voc           | No X      | Depth (inches):                                |                  |                                       |  |               |
| Surface Wate                   |  |               |           |  |                  |                                       |  |               |
| Water Table                    |  |               |           | Depth (inches):                                |                  |                                       | a. v   | X             |
| Saturation Pr<br>(includes cap |  | Yes           | No _^_    | Depth (inches):                                | Wetla            | and Hydrology                         | Present? Yes   | No X          |
|                                |  | am gauge, m   | onitoring | well, aerial photos, previous in               | spections), i    | if available:                         |  |               |
|                                | •                                      | -             | Ü         |  | •                |                                       |  |               |
| Remarks:                       |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |
|                                |  |               |           |  |                  |                                       |  |               |

| Project/Site: I-69 Bloomington to Martinsville                    |        | City/County: Bloomington/Monroe Sampling Date: |               |   |   |  |  |
|---|--------|--|---------------|---|---|--|--|
| Applicant/Owner: INDOT  |        |  |               | State: IN                                   | Sampling Point: S5W145                    |  |  |
| Investigator(s): K. Schroeder, D. White                           |        |  |               |   |   |  |  |
| Landform (hillslope, terrace, etc.): Slope                        |        |  |               | -   |   |  |  |
| Slope (%): <5% Lat: 39.27255796550                                |        |  |               | ,   |   |  |  |
|   |        |  |               | NWI classific                               |   |  |  |
| Are climatic / hydrologic conditions on the site typical for this |        |  |               |   |   |  |  |
| Are Vegetation, Soil, or Hydrologysi                              |        |  |               |   |   |  |  |
| Are Vegetation, Soil, or Hydrology na                             |        |  |               |   |   |  |  |
| SUMMARY OF FINDINGS – Attach site map s                           |        |  |               |   |   |  |  |
| Hydrophytic Vegetation Present? Yes X No.                         | )      | la di  | - Cll         | A   |   |  |  |
| Hydric Soil Present? Yes x No                                     |        |  | e Sampled     | nd? Yes X                                   | No  |  |  |
| Wetland Hydrology Present? Yes x No                               |        | WILLI  | iii a vvetiai | iu: 165 <u>···</u>                          |   |  |  |
| Remarks:  |        |  |               |   |   |  |  |
|   |        |  |               |   |   |  |  |
|   |        |  |               |   |   |  |  |
| <b>VEGETATION</b> – Use scientific names of plants.               |        |  |               |   |   |  |  |
| Tree Stratum (Plot size: 30 )                                     |        | Dominant Species?                              |               | Dominance Test work                         |   |  |  |
| 1   |        |  |               | Number of Dominant S<br>That Are OBL, FACW, |   |  |  |
| 2   |        |  |               | Total Number of Domin                       |   |  |  |
| 3   |        |  |               | Species Across All Stra                     | ^   |  |  |
| 4   |        |  |               | Percent of Dominant S                       | necies                                    |  |  |
| 5   |        |  |               | That Are OBL, FACW,                         |   |  |  |
| Sapling/Shrub Stratum (Plot size: 15 )                            |        | = Total Cov                                    | /er           | Prevalence Index wor                        | ksheet:                                   |  |  |
| 1. Salix sericea  | 5      | Υ  | OBL           |   | Multiply by:                              |  |  |
| 2.  |        |  |               |   | x 1 = 5                                   |  |  |
| 3   |        |  |               |   | x 2 = 220                                 |  |  |
| 4   |        |  |               | FAC species 10                              | x 3 = 30                                  |  |  |
| 5   |        |  |               |   | x 4 =                                     |  |  |
|   | 5      | = Total Cov                                    | /er           |   | x 5 = <u>25</u>                           |  |  |
| Herb Stratum (Plot size: 5 )  1 Polygonum pensylvanicum           | 40     | Υ  | FACW          | Column Totals: 130                          | (A) <u>280</u> (B)                        |  |  |
| 2. Carex sp.  | 40     | <u>·</u><br>Y                                  | FACW          | Prevalence Index                            | = B/A = 2.15                              |  |  |
| 3. Polygonum persicaria   | 20     | N  | FACW          | Hydrophytic Vegetation                      |   |  |  |
| 4 Prunella vulgaris   | 10     | N  | FAC           | X Dominance Test is                         |   |  |  |
| 5. Impatiens sp.  | 10     | N  | FACW          | X Prevalence Index i                        | s ≤3.0 <sup>1</sup>                       |  |  |
| 6. Brassica rapa  | 5      | N  | UPL           |   | ptations <sup>1</sup> (Provide supporting |  |  |
| 7   |        |  |               |   | s or on a separate sheet)                 |  |  |
| 8   |        |  |               | Problematic Hydro                           | phytic Vegetation <sup>1</sup> (Explain)  |  |  |
| 9   |        |  |               | <sup>1</sup> Indicators of hydric soi       | il and wetland hydrology must             |  |  |
| 10  |        |  |               | be present, unless dist                     |   |  |  |
| Woody Vine Stratum (Plot size: 15 )                               | 125    | = Total Cov                                    | /er           |   |   |  |  |
| 1   |        |  |               | Hydrophytic                                 |   |  |  |
| 2   |        |  |               | Vegetation                                  | V   |  |  |
|   |        | = Total Cov                                    | /er           | Present? Ye                                 | s <u>×</u> No                             |  |  |
| Remarks: (Include photo numbers here or on a separate s           |        |  |               |   |   |  |  |
| Tremains. (Include prioto numbers here of on a separate s         | neet.) |  |               |   |   |  |  |
|   |        |  |               |   |   |  |  |
|   |        |  |               |   |   |  |  |

SOIL Sampling Point: S5W145

| Profile Des            | cription: (Describe                      | to the dep    |                       |                         |               | or confi         | rm the absence of indicators                                | s.)                       |
|------------------------|--|---------------|-----------------------|-------------------------|---------------|------------------|---|---------------------------|
| Depth                  | Matrix                                   |               |                       | ox Feature              |               | . 2              |   | 5                         |
| (inches)               | Color (moist)                            | %             | Color (moist)         | %                       | Type'         | Loc <sup>2</sup> |   | Remarks                   |
| 0-4                    | 2.5YR 5/1                                | 95            | 10YR 4/6              | 5                       | <u>C</u>      | M                | silt loam   |                           |
| 4-20                   | 10YR 5/2                                 | 80            | 7.5YR 5/6             | 20                      | <u>C</u>      | M                | clay loam   |                           |
|                        |  |               |                       |                         |               |                  |   |                           |
| _                      | · -                                      |               |                       |                         |               |                  | <u> </u>  |                           |
| -                      | -  |               |                       |                         |               |                  |   |                           |
|                        |  |               |                       |                         |               |                  |   |                           |
|                        |  |               |                       |                         |               |                  |   |                           |
|                        |  |               |                       |                         |               |                  |   |                           |
| <sup>1</sup> Type: C=C | Concentration, D=De                      | pletion. RM=  | Reduced Matrix. C     | S=Covere                | ed or Coate   | ed Sand          | Grains. <sup>2</sup> Location: PL=Po                        | ore Lining, M=Matrix.     |
|                        | Indicators:                              | ,             | , -                   |                         |               |                  | Indicators for Problem                                      |                           |
| Histoso                | ol (A1)                                  |               | Sandy                 | Gleyed M                | latrix (S4)   |                  | Coast Prairie Redox   | (A16)                     |
|                        | Epipedon (A2)                            |               |                       | Redox (S                |               |                  | Iron-Manganese Ma   |                           |
| Black H                | Histic (A3)                              |               | Strippe               | ed Matrix (             | (S6)          |                  | Other (Explain in Re  | emarks)                   |
|                        | en Sulfide (A4)                          |               |                       |                         | ineral (F1)   |                  |   |                           |
|                        | ed Layers (A5)                           |               |                       |                         | Matrix (F2)   |                  |   |                           |
| 2 cm M                 | , ,                                      | (* ( 4 )      |                       | ed Matrix               | ` '           |                  |   |                           |
| -                      | ed Below Dark Surfa                      | ce (A11)      |                       | Dark Sur                | . ,           | `                | 31.2.11.2.12.2.2.2.2.1.2.2.2.2.2.2.2.2.2                    | :                         |
|                        | Dark Surface (A12)<br>Mucky Mineral (S1) |               |                       | ed Dark S<br>Depression | furface (F7   | )                | <sup>3</sup> Indicators of hydrophyt<br>wetland hydrology m | =                         |
|                        | lucky Peat or Peat (\$1)                 | 33)           | Redux                 | Debiessi                | UIIS (FO)     |                  | unless disturbed or   |                           |
|                        | Layer (if observed                       |               |                       |                         |               |                  | dilicoo diotarbed of  | problematic.              |
| Type:                  |  |               |                       |                         |               |                  |   |                           |
|                        | nches):                                  |               |                       |                         |               |                  | Hydric Soil Present?  | Yes X No                  |
| Remarks:               |  |               |                       |                         |               |                  | Tryunc 3011 Tesent:   | 163140                    |
|                        |  |               |                       |                         |               |                  |   |                           |
| HYDROLO                | OGY                                      |               |                       |                         |               |                  |   |                           |
| Wetland Hy             | ydrology Indicators                      | :             |                       |                         |               |                  |   |                           |
| Primary Ind            | icators (minimum of                      | one is requir | ed; check all that a  | pply)                   |               |                  | Secondary Indicators  | (minimum of two required) |
| <del></del>            | e Water (A1)                             |               | Water-Sta             |                         | ` ,           |                  | Surface Soil Crac   | ks (B6)                   |
| X High W               | ater Table (A2)                          |               | Aquatic F             | auna (B1                | 3)            |                  | Drainage Pattern  | s (B10)                   |
| X Saturat              | tion (A3)                                |               | True Aqu              | atic Plants             | s (B14)       |                  | Dry-Season Water  | er Table (C2)             |
| Water N                | Marks (B1)                               |               | Hydroger              |                         | , ,           |                  | Crayfish Burrows  | (C8)                      |
| Sedime                 | ent Deposits (B2)                        |               |                       |                         | eres on Liv   | -                | ts (C3) Saturation Visible                                  | on Aerial Imagery (C9)    |
|                        | eposits (B3)                             |               |                       |                         | ed Iron (C    | ,                | Stunted or Stress   |                           |
| Algal M                | lat or Crust (B4)                        |               | Recent Ir             | on Reduc                | tion in Tille | d Soils (        |   | ` '                       |
|                        | eposits (B5)                             |               | Thin Muc              |                         | . ,           |                  | FAC-Neutral Test  | (D5)                      |
|                        | tion Vis ble on Aerial                   |               | -                     |                         |               |                  |   |                           |
|                        | ly Vegetated Concar                      | /e Surface (E | 38) Other (Ex         | plain in R              | emarks)       |                  |   |                           |
| Field Obse             |  |               | V                     |                         |               |                  |   |                           |
| Surface Wa             |  |               | No X Depth (ir        |                         |               |                  |   |                           |
| Water Table            |  |               | No Depth (ir          |                         |               |                  |   |                           |
| Saturation F           |  | Yes X I       | No Depth (ir          | nches): S               | urface        | We               | etland Hydrology Present?                                   | Yes X No                  |
| (includes ca           | apillary fringe)<br>ecorded Data (streai | m dalide mo   | nitoring well aerial  | nhotos n                | revious in    | spections        | s) if available:  |                           |
| Describe 10            | ooorada Bala (olreal                     | n gaage, me   | mitoring well, derica | priotos, p              | 70000 111     | pootione         | ), ii avaliabio.  |                           |
| Remarks:               |  |               |                       |                         |               |                  |   |                           |
|                        |  |               |                       |                         |               |                  |   |                           |
|                        |  |               |                       |                         |               |                  |   |                           |
|                        |  |               |                       |                         |               |                  |   |                           |
| l                      |  |               |                       |                         |               |                  |   |                           |

| Project/Site: I-69 Bloomington to Martin             | nsville              | (                | City/Cou | unty: Bloomingto             | on/Monroe   | Sampling Date: 2-19-2013                           |  |
|--|----------------------|------------------|----------|------------------------------|---|--|--|
| Applicant/Owner: INDOT                               |                      |                  |          |                              | State: IN   | Sampling Point: S5W145UPL                          |  |
| Investigator(s): D. White, T. Keefe                  |                      |                  |          |                              |   |  |  |
| Landform (hillslope, terrace, etc.): Slo             | ре                   |                  |          | Local relief (               | (concave, convex, none):                          | Concave  |  |
| Slope (%): <5% Lat: 39.2726                          |                      |                  |          |                              |   |  |  |
| Soil Map Unit Name: Crider Silt loam                 |                      |                  | _        |                              | NWI classific                                     |  |  |
| Are climatic / hydrologic conditions on              |                      |                  |          |                              |   |  |  |
| Are Vegetation, Soil, o                              |                      |                  |          |                              |   |  |  |
| Are Vegetation, Soil, o                              |                      |                  |          |                              |   |  |  |
| SUMMARY OF FINDINGS – A                              |                      |                  |          |                              |   |  |  |
|  |                      |                  |          | g                            |   | ,,   |  |
| Hydrophytic Vegetation Present? Hydric Soil Present? | Yes N<br>Yes N       |                  | I        | s the Sampled                |   |  |  |
| Wetland Hydrology Present?                           | Yes N                |                  | V        | within a Wetlan              | nd? Yes   | No X   |  |
| Remarks:   |                      |                  |          |                              |   |  |  |
|  |                      |                  |          |                              |   |  |  |
|  |                      |                  |          |                              |   |  |  |
| VEGETATION – Use scientific                          | names of plants.     |                  |          |                              |   |  |  |
| Tree Stratum (Plot size: 30                          | )                    | Absolute % Cover |          | nant Indicator<br>es? Status | Dominance Test work                               |  |  |
| 1  |                      |                  |          |                              | Number of Dominant Sp<br>That Are OBL, FACW, o    |  |  |
| 2.<br>3.   |                      |                  |          |                              | Total Number of Domini<br>Species Across-All Stra | 0  |  |
| 4  |                      |                  |          |                              | Percent of Dominant Sp                            |  |  |
| 5  |                      |                  |          |                              | That Are OBL, FACW, of                            |  |  |
| Sapling/Shrub Stratum (Plot size: 1                  | 5                    |                  | = Total  | Cover                        | Prevalence Index worl                             | ksheet:  |  |
| 1  |                      |                  |          |                              | Total % Cover of:                                 |  |  |
| 2.   |                      |                  |          |                              | OBL species                                       | x 1 =  |  |
| 3  |                      |                  |          |                              | FACW species 10                                   | x 2 = <u>20</u>                                    |  |
| 4  |                      |                  |          |                              | FAC species 5                                     | x 3 = <u>15</u>                                    |  |
| 5  |                      |                  |          |                              |   | x 4 = 160  |  |
| Herb Stratum (Plot size: 5                           | ,                    |                  | = Total  | Cover                        |   | x 5 = 25   |  |
| Herb Stratum (Plot size: 2                           | )                    | 40               | Υ        | FACU                         | Column Totals: 60                                 | (A) <u>220</u> (B)                                 |  |
| 2. Carex sp.   |                      | 10               | <u>Y</u> | FACW                         | Prevalence Index                                  | = B/A = 3.66                                       |  |
| 3. Prunella vulgaris                                 |                      | 5                | N        | FAC                          | Hydrophytic Vegetation                            |  |  |
| 4. Brassica rapa                                     |                      | 5                | N        | UPL                          | Dominance Test is                                 |  |  |
| 5  |                      |                  |          | <u> </u>                     | Prevalence Index is                               | s ≤3.0 <sup>1</sup>                                |  |
| 6.   |                      |                  |          |                              | Morphological Adap                                | otations <sup>1</sup> (Provide supporting          |  |
| 7.   |                      |                  |          |                              |   | s or on a separate sheet)                          |  |
| 8  |                      |                  |          |                              | Problematic Hydror                                | ohytic Vegetation <sup>1</sup> (Explain)           |  |
| 9  |                      |                  | -        |                              | 1 Indicators of budgie soil                       | l and watland hydrology must                       |  |
| 10   |                      |                  |          |                              | be present, unless distu                          | l and wetland hydrology must urbed or problematic. |  |
| Woody Vine Stratum (Plot size: 15                    | )                    | 60               | = Total  | Cover                        |   |  |  |
|  |                      |                  |          |                              | Hydrophytic                                       |  |  |
| 1<br>2.  |                      |                  |          | <u> </u>                     | Vegetation  | V  |  |
| <u>-</u> .   |                      |                  |          | Cover                        | Present? Yes                                      | s No X   |  |
| Remarks: (Include photo numbers h                    | ere or on a congrate |                  |          |                              |   |  |  |
| Nomains. (include prioto numbers in                  | or or a separate :   | 31166t. <i>)</i> |          |                              |   |  |  |
|  |                      |                  |          |                              |   |  |  |
|  |                      |                  |          |                              |   |  |  |

SOIL Sampling Point: S5W145UPL

| Depth         Matrix         Redox Features           (inches)         Color (moist)         %         Color (moist)         %         Type¹         Loc²           0-4         5YR 4/3         100   |   |
|---|---|
|   | Toytura   |
| O T O I N T/O I O O   | Texture Remarks clay loam   |
| 4-20 7.5YR 5/3 60 7.5YR 5/6 40 M  | clay loam   |
| 7.511(0/0 00 7.511(0/0 40 10)   |   |
|   |   |
|   |   |
|   |   |
|   |   |
|   |   |
| 1   | 2   |
| <sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grain Hydric Soil Indicators:   | ins. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :   |
|   | •   |
| Histosol (A1) Sandy Gleyed Matrix (S4)<br>Histic Epipedon (A2) Sandy Redox (S5)   | Coast Prairie Redox (A16) Iron-Manganese Masses (F12)   |
| Black Histic (A3)  Stripped Matrix (S6)   | Other (Explain in Remarks)  |
| Black History (46) Stripped History (66) Loamy Mucky Mineral (F1)   | Onlor (Explain in Nomarko)  |
| Stratified Layers (A5) Loamy Gleyed Matrix (F2)   |   |
| 2 cm Muck (A10) Depleted Matrix (F3)  |   |
| Depleted Below Dark Surface (A11) Redox Dark Surface (F6)   |   |
| Thick Dark Surface (A12) Depleted Dark Surface (F7)   | <sup>3</sup> Indicators of hydrophytic vegetation and   |
| Sandy Mucky Mineral (S1) Redox Depressions (F8)   | wetland hydrology must be present,  |
| 5 cm Mucky Peat or Peat (S3)  | unless disturbed or problematic.  |
| Restrictive Layer (if observed):  |   |
| Type:   | X   |
| Depth (inches):   | Hydric Soil Present? Yes No X   |
|   |   |
|   |   |
| HYDROLOGY   |   |
| HYDROLOGY Wetland Hydrology Indicators:   |   |
|   | Secondary Indicators (minimum of two required)  |
| Wetland Hydrology Indicators:   | Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)   |
| Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)   |   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1) Water-Stained Leaves (B9)  | Surface Soil Cracks (B6)  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1) Water-Stained Leaves (B9) High Water Table (A2) Aquatic Fauna (B13) Saturation (A3) True Aquatic Plants (B14) Water Marks (B1) Hydrogen Sulfide Odor (C1)  | <ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> </ul>   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1) High Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2)  Water Marks (B1) Oxidized Rhizospheres on Living Roots (C1)   | <ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> </ul>  |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  | <ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> </ul> |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  | <ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> </ul> |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)   |
| Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)   |
| Primary Indicators (minimum of one is required; check all that apply)  Surface Water (A1)   | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes No No Depth (inches):   | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Presence of Reduced Iron (C4)       Recent Iron Reduction in Tilled Soils (C6)         Inon Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes No X       Depth (inches):         Water Table Present?       Yes No X       Depth (inches):  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)                   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes NoX       Depth (inches):         Water Table Present?       Yes NoX       Depth (inches):         Saturation Present?       Yes NoX       Depth (inches):  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes No X       Depth (inches): Wetlar         Water Table Present?       Yes No X       Depth (inches): Wetlar         Saturation Present?       Yes No X       Depth (inches): Wetlar  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)                   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes NoX       Depth (inches):         Water Table Present?       Yes NoX       Depth (inches):         Saturation Present?       Yes NoX       Depth (inches):  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)                   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes No X       Depth (inches): Wetlar         Water Table Present?       Yes No X       Depth (inches): Wetlar         Saturation Present?       Yes No X       Depth (inches): Wetlar  | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)                   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes No _X Depth (inches):         Water Table Present?       Yes No _X Depth (inches):         Saturation Present?       Yes No _X Depth (inches):         (includes capillary fringe)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Depth (inches): Depth (inches): Depth (inches): <td> Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)</td> | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)                   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes No _X Depth (inches):         Water Table Present?       Yes No _X Depth (inches):         Saturation Present?       Yes No _X Depth (inches):         (includes capillary fringe)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Depth (inches): Depth (inches): Depth (inches): <td> Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)</td> | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)                   |
| Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C1)         Drift Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Vis ble on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes NoX       Depth (inches):         Water Table Present?       Yes NoX       Depth (inches):         Saturation Present?       Yes NoX       Depth (inches):         Wetlar (includes capillary fringe)       Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if   | Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) FAC-Neutral Test (D5)                   |

| Project/Site: I-69 Bloomington to Martinsville               | ngton/Monroe    | Sampling Date: _( | 04/26/12       |                                      |                     |              |
|--|-----------------|-------------------|----------------|--------------------------------------|---------------------|--------------|
| Applicant/Owner: INDOT                                       |                 | 0.1,70            |                | State: IN                            |                     |              |
| • •  |                 | Section           |                | Range: 28, 10N, 1W                   |                     |              |
| Landform (hillslope, terrace, etc.): Depression              |                 |                   |                | ef (concave, convex, none):          | Concave             |              |
|  |                 |                   |                | 230                                  |                     |              |
| Soil Map Unit Name: Bonnie Silt Loam                         |                 |                   |                |                                      |                     |              |
|  |                 |                   |                | NWI classific                        |                     |              |
| Are climatic / hydrologic conditions on the site typical for |                 |                   |                |                                      |                     |              |
| Are Vegetation, Soil, or Hydrology                           |                 |                   |                |                                      |                     | No           |
| Are Vegetation, Soil, or Hydrology                           | _ naturally pro | blema             | tic? (If       | needed, explain any answe            | rs in Remarks.)     |              |
| SUMMARY OF FINDINGS – Attach site ma                         | ap showing      | sam               | pling point    | locations, transects                 | , important fe      | atures, etc. |
| Hydrophytic Vegetation Present? Yes x                        | No              |                   | lo the Commi   | ad Araa                              |                     |              |
| Hydric Soil Present? Yes X                                   | No              |                   | Is the Sample  |                                      | No                  |              |
| Wetland Hydrology Present? Yes X                             | No              |                   | within a wet   | aliu: 165 <u>···</u>                 | NO                  | •            |
| Remarks:  VEGETATION – Use scientific names of plan          | nte.            |                   |                |                                      |                     |              |
| VEGETATION – Ose scientific flames of plan                   | Absolute        | Dom               | inant Indicato | r Dominance Test work                | sheet               |              |
| <u>Tree Stratum</u> (Plot size: <u>30</u>                    |                 |                   | cies? Status   |                                      | pecies              |              |
| 1. Quercus bicolor   | 10              | <u>Y</u>          | FACW           | _ That Are OBL, FACW,                | ' -                 | (A)          |
| 2. Acer rubrum   |                 | Y                 | FAC            | Total Number of Domin                | ant                 |              |
| 3. Fraxinus pennsylvanica                                    | 5               | Υ                 | FACW           | _ Species Across All Stra            | ta: <u>8</u>        | (B)          |
| 4  |                 |                   |                | Percent of Dominant Sp               | pecies              |              |
| 5  | <br>25          |                   |                | That Are OBL, FACW,                  | or FAC: 88          | (A/B)        |
| Sapling/Shrub Stratum (Plot size: 15                         |                 | = I ota           | al Cover       | Prevalence Index wor                 | ksheet:             |              |
| 1. Fraxinus pennsylvanica                                    | 15              | Υ                 | FACW           | Total % Cover of:                    | Multiply            | y by:        |
| 2. Acer saccharum  | 15              | Υ                 | FACU           | OBL species 5                        | x 1 = 5             |              |
| 3. Acer rubrum   | 10              | Υ                 | FAC            | FACW species 69                      |                     |              |
| 4. Ulmus americana   | 2               | N                 | FACW           |                                      | x 3 = <u>60</u>     |              |
| 5. Quercus bicolor   | 2               | N                 | FACW           |                                      | x 4 = <u>60</u>     |              |
| Harb Christian (Districts 5                                  | 44              | = Tota            | al Cover       |                                      | x 5 =               |              |
| Herb Stratum (Plot size: 5 )  1 Phalaris arundinacea         | 25              | Υ                 | FACW           | Column Totals: 109                   | (A) <u>263</u>      | (B)          |
| 2 Carex sp.  | 10              | Υ                 | FACW           | <ul> <li>Prevalence Index</li> </ul> | = B/A = 2.41        |              |
| 3. Carex lupulina  | 5               | N                 | OBL            | Hydrophytic Vegetation               | on Indicators:      |              |
| 4.   |                 |                   |                | X Dominance Test is                  | >50%                |              |
| 5.   |                 |                   |                | X Prevalence Index is                | s ≤3.0 <sup>1</sup> |              |
| 6  |                 |                   |                | Morphological Ada                    |                     |              |
| 7  |                 |                   |                | - Problematic Hydro                  | s or on a separate  | •            |
| 8  |                 |                   |                | - Froblematic Hydro                  | priytic vegetation  | (Explain)    |
| 9  |                 |                   |                | Indicators of hydric soi             | l and wetland hydr  | rology must  |
| 10   |                 |                   |                | be present, unless distu             |                     |              |
| Woody Vine Stratum (Plot size: 15 )                          | 40              | = Tota            | al Cover       |                                      |                     |              |
| 1  |                 |                   |                | Hydrophytic                          |                     |              |
| 2  |                 |                   |                | Vegetation                           | v                   |              |
|  |                 |                   | al Cover       | - Present? Ye                        | s <u>x</u> No       |              |
| Remarks: (Include photo numbers here or on a separa          |                 |                   |                |                                      |                     |              |
| Tremaiks. (include prioto numbers here or on a separa        | ue SHEEL.)      |                   |                |                                      |                     |              |
|  |                 |                   |                |                                      |                     |              |

SOIL Sampling Point: S5W146

| Profile Des  | cription: (Describe        | e to the dep | th needed to docu      | ment the            | indicator         | or confi         | irm the absence of indicators.)  |       |  |  |
|--------------|----------------------------|--------------|------------------------|---------------------|-------------------|------------------|--|-------|--|--|
| Depth        | Matrix                     |              |                        | ox Feature          |                   | . 2              | _  |       |  |  |
| (inches)     | Color (moist)              | %            | Color (moist)          | %                   | Type <sup>1</sup> | Loc <sup>2</sup> | Texture Remarks  |       |  |  |
| 0-5          | 2.5Y3/1                    | 98           | 10YR 5/6               | _ 2                 |                   | M                | muck   |       |  |  |
| 5-8          | 10YR 5/1                   | 85           | 10YR 5/6               | 15                  | <u>D</u>          | M                | silt loam  |       |  |  |
| 8-20         | 2.5Y6/1                    | 85           | 7.5YR5/8               | 15                  | D                 | M                | silty clay loam  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
|              | -                          |              |                        |                     | _                 |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  | <del>-</del>   | —     |  |  |
| <u> </u>     |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            | pletion, RM: | Reduced Matrix, C      | S=Covere            | ed or Coate       | ed Sand          |  |       |  |  |
| Hydric Soil  |                            |              |                        |                     |                   |                  | Indicators for Problematic Hydric Soils <sup>3</sup> :                           |       |  |  |
| Histoso      |                            |              |                        | Gleyed M            |                   |                  | Coast Prairie Redox (A16)  |       |  |  |
|              | pipedon (A2)<br>istic (A3) |              |                        | Redox (Sad Matrix ( |                   |                  | <ul><li>Iron-Manganese Masses (F12)</li><li>Other (Explain in Remarks)</li></ul> |       |  |  |
|              | en Sulfide (A4)            |              |                        |                     | ineral (F1)       |                  | Other (Explain in Remarks)   |       |  |  |
|              | d Layers (A5)              |              |                        | -                   | latrix (F2)       |                  |  |       |  |  |
|              | uck (A10)                  |              |                        | ed Matrix           |                   |                  |  |       |  |  |
|              | d Below Dark Surfa         | ce (A11)     |                        | Dark Surf           | . ,               |                  |  |       |  |  |
| Thick D      | ark Surface (A12)          | , ,          | Deplete                | ed Dark S           | urface (F7        | )                | <sup>3</sup> Indicators of hydrophytic vegetation and                            |       |  |  |
|              | Mucky Mineral (S1)         |              | Redox                  | Depression          | ons (F8)          |                  | wetland hydrology must be present,   |       |  |  |
|              | ucky Peat or Peat (        | ,            |                        |                     |                   |                  | unless disturbed or problematic.   |       |  |  |
| Restrictive  | Layer (if observed         | ):           |                        |                     |                   |                  |  |       |  |  |
| Type:        |                            |              |                        |                     |                   |                  | V  |       |  |  |
| Depth (in    | ches):                     |              |                        |                     |                   |                  | Hydric Soil Present? Yes X No  |       |  |  |
| Remarks:     |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
| HYDROLO      | GY                         |              |                        |                     |                   |                  |  |       |  |  |
| Wetland Hy   | drology Indicators         | s:           |                        |                     |                   |                  |  |       |  |  |
| Primary Indi | cators (minimum of         | one is requi | red; check all that a  | pply)               |                   |                  | Secondary Indicators (minimum of two requ  | ired) |  |  |
| X Surface    | Water (A1)                 |              | X Water-Sta            | ained Lea           | ves (B9)          |                  | Surface Soil Cracks (B6)   |       |  |  |
| High Wa      | ater Table (A2)            |              | Aquatic F              | auna (B13           | 3)                |                  | Drainage Patterns (B10)  |       |  |  |
| X Saturati   | on (A3)                    |              | True Aqua              | atic Plants         | s (B14)           |                  | Dry-Season Water Table (C2)  |       |  |  |
| Water N      | Marks (B1)                 |              | Hydrogen               | Sulfide C           | odor (C1)         |                  | Crayfish Burrows (C8)  |       |  |  |
| Sedime       | nt Deposits (B2)           |              | Oxidized               | Rhizosph            | eres on Liv       | ing Root         | ts (C3) Saturation Visible on Aerial Imagery (C                                  | 9)    |  |  |
| Drift De     | posits (B3)                |              | Presence               | of Reduc            | ed Iron (C        | 4)               | Stunted or Stressed Plants (D1)  |       |  |  |
| Algal M      | at or Crust (B4)           |              | Recent Iro             | on Reduct           | tion in Tille     | d Soils (        | (C6) Geomorphic Position (D2)  |       |  |  |
| Iron De      | posits (B5)                |              | Thin Mucl              | k Surface           | (C7)              |                  | FAC-Neutral Test (D5)  |       |  |  |
| Inundat      | ion Vis ble on Aeria       | I Imagery (B | 7) Gauge or            | Well Data           | a (D9)            |                  |  |       |  |  |
| X Sparsel    | y Vegetated Conca          | ve Surface ( | B8) Other (Ex          | plain in R          | emarks)           |                  |  |       |  |  |
| Field Obser  |                            |              |                        |                     |                   |                  |  |       |  |  |
| Surface Wat  | ter Present?               | Yes X        | No Depth (ir           | nches): 0           | .5"               |                  |  |       |  |  |
| Water Table  |                            |              | No Depth (ir           |                     |                   |                  |  |       |  |  |
| Saturation F |                            |              | No Depth (ir           |                     |                   | We               | etland Hydrology Present? Yes $\frac{X}{}$ No                                    |       |  |  |
| (includes ca | pillary fringe)            |              |                        |                     |                   |                  |  |       |  |  |
| Describe Re  | ecorded Data (streat       | m gauge, mo  | onitoring well, aerial | photos, p           | revious ins       | spections        | s), if available:  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
| Remarks:     |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
|              |                            |              |                        |                     |                   |                  |  |       |  |  |
| 1            |                            |              |                        |                     |                   |                  |  |       |  |  |

| Project/Site: I-69 Bloomington to Martinsville   | (            | City/Cou      | nty: Bloomingto                | on/Monroe  | Sampling Date: 2-19-2013  |
|--|--------------|---------------|--------------------------------|--|---|
| Applicant/Owner: INDOT   |              |               |                                | State: IN  | Sampling Point: S5W146UPL   |
| Investigator(s): D. White, T. Keefe  |              |               |                                |  |   |
|  |              |               |                                | (concave, convex, none):                         | Concave   |
| Slope (%): <5% Lat: 39.23542184200   |              |               |                                |  |   |
|  |              |               |                                | NWI classific                                    |   |
| Are climatic / hydrologic conditions on the site typical for this  |              |               |                                |  |   |
| Are Vegetation, Soil, or Hydrologysi   | gnificantly  | disturbed     | d? Are "                       | Normal Circumstances" p                          | present? Yes X No   |
| Are Vegetation, Soil, or Hydrologyn  | aturally pro | blematic      | :? (If ne                      | eded, explain any answe                          | rs in Remarks.)   |
| SUMMARY OF FINDINGS – Attach site map  | showing      | sampl         | ling point lo                  | ocations, transects                              | , important features, etc.  |
| Hydrophytic Vegetation Present? Yes No   | , X          | la            | the Compled                    | Area   |   |
| Hydric Soil Present? Yes X No  |              |               | the Sampled<br>vithin a Wetlan |  | No_X  |
| Wetland Hydrology Present? Yes No  | X            | VV            | itiliii a vvetiali             | id: 165  |   |
| Remarks:   |              |               |                                |  |   |
| $\label{lem:VEGETATION-Use scientific names of plants.} \label{lem:VEGETATION-Use scientific names of plants}$ |              |               |                                |  |   |
| Tree Stratum (Plot size: 30 )  | Absolute     |               | ant Indicator                  | Dominance Test work                              | sheet:  |
| 1. Acer rubrum   | % Cover 10   | Y             | s? Status<br>FAC               | Number of Dominant Sport That Are OBL, FACW, or  |   |
| 2. Acer saccharum  | 5            | N             | FACU                           |  |   |
| 3.   |              |               |                                | Total Number of Domin<br>Species Across All Stra | ^   |
| 4  |              |               | <u> </u>                       | Percent of Dominant Sp<br>That Are OBL, FACW,    |   |
|  | 4 =          | = Total (     | Cover                          |  |   |
| Sapling/Shrub Stratum (Plot size: 15 )   | 45           | V             | FACIL                          | Prevalence Index wor                             |   |
| 1. Acer saccharum 2. Acer rubrum   | 15           | <u>Y</u><br>N | FACU FAC                       |  | Multiply by:  |
|  |              | -             |                                |  | x 1 =<br>x 2 =  |
| 3  |              |               |                                |  | $x = \frac{1}{60}$  |
| 4  |              |               | <u> </u>                       |  | x 4 = 180   |
| 5  | 25           | = Total (     | Cover                          | · ·  | x 5 =   |
| Herb Stratum (Plot size: 5   |              | - Total (     | Cover                          | Column Totals: 75                                | (A) 260 (B)   |
| 1. Festuca sp.   | 25           | Υ             | FACU                           |  | (>,) (>)  |
| 2. Carex sp.   | 10           | N             | FACW                           | Prevalence Index                                 | <u> </u>  |
| 3  |              |               |                                | Hydrophytic Vegetation                           |   |
| 4  |              |               |                                | Dominance Test is                                |   |
| 5  | -            |               |                                | Prevalence Index is                              |   |
| 6  |              |               |                                | Morphological Ada                                | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |
| 7  |              |               |                                |  | phytic Vegetation <sup>1</sup> (Explain)                            |
| 8  |              |               |                                |  | priyas regulation (=Apiani)   |
| 9  |              |               |                                | <sup>1</sup> Indicators of hydric soi            | l and wetland hydrology must  |
| 10   | 0 =          |               |                                | be present, unless distu                         | urbed or problematic.   |
| Woody Vine Stratum (Plot size: 15 )  | 33           | = Total (     | Cover                          |  |   |
| 1  |              |               |                                | Hydrophytic                                      |   |
|  |              |               |                                | Vegetation                                       | s No <sup>X</sup>   |
|  |              |               | Cover                          | Present? Ye                                      | 5 NU <u>··</u>  |
| Remarks: (Include photo numbers here or on a separate s  | heet.)       |               |                                |  |   |
| ,  | - /          |               |                                |  |   |
|  |              |               |                                |  |   |

SOIL Sampling Point: S5W146UPL

| Profile Des         | cription: (Describ                        | e to the dep   | oth needed to docu   | ment the       | indicator                    | or confir        | m the absence of ir          | ndicators.)   |
|---------------------|---|----------------|--|----------------|------------------------------|------------------|------------------------------|---|
| Depth (inches)      | Depth Matrix (inches) Color (moist) %     |                |  | ox Feature     |                              | Loc <sup>2</sup> | - Toytura                    | Damarka   |
| 0-4                 | 10YR 4/3                                  | 90             | Color (moist)<br>10YR 6/8  | <u>%</u><br>10 | <u>Type<sup>1</sup></u><br>C | M                | Texture<br>silty clay        | Remarks   |
|                     | · -                                       |                |  |                | - —                          |                  |                              |   |
| 4-18                | 10YR 6/2                                  | 50             | 10YR 6/8   | 50             | С                            | M                | silty clay                   |   |
|                     |   |                |  |                |                              |                  |                              |   |
|                     |   |                |  |                | _                            |                  |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |
| -                   |   |                |  |                | -                            |                  |                              |   |
| 1 <sub>T</sub> 0. 0 |   | — — DM         | Dadward Matrix C   |                |                              |                  | 21                           | o. Di Done Lining M Matrix  |
|                     | Indicators:                               | epietion, Rivi | =Reduced Matrix, C   | S=Covere       | ed or Coat                   | ea Sana G        |                              | n: PL=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> : |
| Histoso             |   |                | Sandy  | Gleyed M       | atrix (S4)                   |                  |                              | ie Redox (A16)  |
|                     | pipedon (A2)                              |                |  | Redox (S       |                              |                  |                              | inese Masses (F12)  |
|                     | listic (A3)                               |                |  | ed Matrix (    |                              |                  |                              | ain in Remarks)   |
|                     | en Sulfide (A4)                           |                |  |                | ineral (F1)                  |                  |                              |   |
|                     | ed Layers (A5)                            |                | <del>\( \lambda \) \( \lambda \) \</del> | -              | fatrix (F2)                  |                  |                              |   |
|                     | uck (A10)                                 | (111)          | Dopice   | ed Matrix      |                              |                  |                              |   |
| -                   | ed Below Dark Surfa<br>Park Surface (A12) | ice (ATT)      |  | Dark Surf      | urface (F7                   | )                | <sup>3</sup> Indicators of h | ydrophytic vegetation and   |
|                     | Mucky Mineral (S1)                        |                |  | Depressi       |                              | ,                |                              | drology must be present,  |
|                     | ucky Peat or Peat (                       | S3)            | <del></del>  | ·              | ` ,                          |                  | •                            | urbed or problematic.   |
| Restrictive         | Layer (if observed                        | l):            |  |                |                              |                  |                              |   |
| Type:               |   |                | <u></u>  |                |                              |                  |                              | V   |
| Depth (ir           | nches):                                   |                |  |                |                              |                  | Hydric Soil Pres             | sent? Yes X No  |
| Remarks:            |   |                |  |                |                              |                  | •                            |   |
|                     |   |                |  |                |                              |                  |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |
| HYDROLC             |   |                |  |                |                              |                  |                              |   |
| Wetland Hy          | drology Indicators                        | S:             |  |                |                              |                  |                              |   |
| Primary Indi        | icators (minimum of                       | one is requ    | ired; check all that a   | pply)          |                              |                  | Secondary In                 | dicators (minimum of two required)                                    |
|                     | Water (A1)                                |                | Water-Sta  | ained Lea      | ves (B9)                     |                  | Surface                      | Soil Cracks (B6)  |
| High W              | ater Table (A2)                           |                | Aquatic F  | auna (B1       | 3)                           |                  | Drainage                     | e Patterns (B10)  |
| Saturat             | , ,                                       |                | True Aqu   |                |                              |                  |                              | son Water Table (C2)  |
|                     | Marks (B1)                                |                | Hydroger   |                |                              |                  |                              | Burrows (C8)  |
|                     | ent Deposits (B2)                         |                |  |                | eres on Liv                  | _                |                              | on Visible on Aerial Imagery (C9)                                     |
|                     | eposits (B3)                              |                | <del></del>  |                | ed Iron (C                   | •                |                              | or Stressed Plants (D1)   |
| _                   | at or Crust (B4)<br>posits (B5)           |                | Recent Ir<br>Thin Muc  |                |                              | ed Solls (C      |                              | ohic Position (D2)<br>utral Test (D5)                                 |
|                     | ion Vis ble on Aeria                      | l Imagery (F   |  |                | , ,                          |                  | FAC-Net                      | uliai Test (DS)   |
|                     | ly Vegetated Conca                        |                |  |                |                              |                  |                              |   |
| Field Obser         | , ,                                       | vo Garrago i   | (20) 0or (2)   | CPICHT III T   | omarko,                      |                  |                              |   |
|                     |   | Yes            | No X Depth (ii   | nches):        |                              |                  |                              |   |
| Water Table         |   |                | No X Depth (ii   |                |                              |                  |                              |   |
| Saturation F        |   |                | No X Depth (ii   |                |                              |                  | tland Hydrology Pre          | esent? Yes No X   |
| (includes ca        | pillary fringe)                           |                |  |                |                              |                  |                              |   |
| Describe Re         | ecorded Data (strea                       | m gauge, m     | onitoring well, aerial   | photos, p      | revious in                   | spections)       | ), if available:             |   |
|                     |   |                |  |                |                              |                  |                              |   |
| Remarks:            |   |                |  |                |                              | _                |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |
|                     |   |                |  |                |                              |                  |                              |   |

| Project/Site: I-69 Bloomington to Martin  | City/Cou             | nty: Bloomingt   | ton/Monroe | Sampling Date:          | 04/27/12                                     |                        |              |
|---|----------------------|------------------|------------|-------------------------|--|------------------------|--------------|
| Applicant/Owner: INDOT                    |                      |                  | •          | •                       | State: IN                                    | Sampling Point:        | S5W147       |
| Investigator(s): K. Schroeder, D. White   |                      |                  |            |                         |  |                        |              |
| Landform (hillslope, terrace, etc.): Dep  |                      |                  |            |                         | (concave, convex, none)                      | : Concave              |              |
| Slope (%): <5% Lat: 39.1348               |                      |                  |            |                         | 0  |                        |              |
| Soil Map Unit Name: Hagerstown Silt L     | .oam                 |                  |            |                         | NWI classifi                                 |                        |              |
| Are climatic / hydrologic conditions on t |                      |                  |            |                         |  |                        |              |
| Are Vegetation, Soil, or                  |                      |                  |            |                         |  |                        | No           |
| Are Vegetation, Soil, or                  |                      |                  |            |                         | eeded, explain any answe                     |                        | 110          |
| SUMMARY OF FINDINGS – A                   |                      |                  |            |                         |  |                        | atures, etc. |
| Hydrophytic Vegetation Present?           | Yes <u>x</u>         | No               |            |                         |  |                        |              |
| Hydric Soil Present?                      | Yes x                |                  |            | the Sampled             | nd? Yes <u>×</u>                             | No                     |              |
| Wetland Hydrology Present?                |                      |                  | , vv       | illilli a vvellai       | iu: 165 <u></u>                              | NO                     | -            |
| Remarks:                                  |                      |                  |            |                         |  |                        |              |
|   |                      |                  |            |                         |  |                        |              |
|   |                      |                  |            |                         |  |                        |              |
| VEGETATION – Use scientific               | names of plan        |                  |            |                         |  |                        |              |
| Tree Stratum (Plot size: 30               | )                    | Absolute % Cover |            | ant Indicator s? Status | Dominance Test wor                           |                        |              |
| 1. Fraxinus pennsylvanica                 | /                    | 15               | Y          | FACW                    | Number of Dominant S<br>That Are OBL, FACW,  | Species 7              | (A)          |
| 2. Ulmus americana                        |                      | 10               | Υ          | FACW                    |  |                        | (//)         |
| 3. Salix nigra                            |                      | 5                | N          | OBL                     | Total Number of Domi                         | 7                      | (B)          |
| 4. Platanus occidentalis                  |                      | 5                | N          | OBL                     |  |                        | (D)          |
| 5.  |                      |                  |            |                         | Percent of Dominant S<br>That Are OBL, FACW, |                        | (A/B)        |
|   |                      | 35               | = Total C  | Cover                   |  | 0117to                 | (////        |
| Sapling/Shrub Stratum (Plot size: 19      | 5)                   |                  |            |                         | Prevalence Index wo                          |                        |              |
| 1. Salix nigra                            |                      | 20               | <u>Y</u>   | OBL                     | Total % Cover of:                            |                        | y by:        |
| 2. Cornus amomum                          |                      | 15               | Y          | FACW                    |  | $x 1 = \frac{50}{124}$ |              |
| 3. Fraxinus pennsylvanica                 |                      | <u>8</u>         | N          | FACW                    | FACW species 62                              |                        |              |
| 4. Ulmus americana                        |                      |                  | N          | FACW                    |  | x 3 = 45               |              |
| 5   |                      | 45               |            |                         | FACU species                                 |                        |              |
| Herb Stratum (Plot size: 5                | )                    | <del></del>      | = Total (  | Cover                   | UPL species  Column Totals: 127              | x 5 = (A) 219          | (B)          |
| 1. Eleocharis acicularis                  |                      | 20               | Υ          | OBL                     | Column Totals.                               | (A) <u></u>            | (b)          |
| 2. Carex sp.                              |                      | 12               | Υ          | FACW                    | Prevalence Index                             | x = B/A = 1.72         |              |
| 3   |                      |                  | -          |                         | Hydrophytic Vegetati                         | on Indicators:         |              |
| 4   |                      |                  | -          |                         | X Dominance Test is                          |                        |              |
| 5   |                      |                  |            |                         | X Prevalence Index                           |                        |              |
| 6   |                      |                  |            |                         | Morphological Ada                            |                        |              |
| 7   |                      |                  |            |                         | Problematic Hydro                            | ks or on a separate    | ,            |
| 8   |                      |                  |            |                         | Floblematic Hydro                            | priytic vegetation     | (Explain)    |
| 9   |                      |                  |            |                         | <sup>1</sup> Indicators of hydric so         | oil and wetland hyd    | rology must  |
| 10  |                      |                  |            |                         | be present, unless dist                      |                        |              |
| Woody Vine Stratum (Plot size: 15         | \                    | 32               | = Total C  | Cover                   |  |                        |              |
| 1 Toxicodendron radicans                  | /                    | 10               | Υ          | FAC                     | Hydrophytic                                  |                        |              |
| 2. Parthenocissus quinquefolia            |                      | 5                | N          | FAC                     | Vegetation                                   | V                      |              |
|   |                      | 15               | = Total (  | Cover                   | Present? Ye                                  | es X No _              |              |
| Domorko: (Include abote assets as         | or on a constitution | -                |            |                         |  |                        |              |
| Remarks: (Include photo numbers he        | ere or on a separa   | ie sneet.)       |            |                         |  |                        |              |
|   |                      |                  |            |                         |  |                        |              |
|   |                      |                  |            |                         |  |                        |              |

SOIL Sampling Point: S5W147

| Profile Des                           | cription: (Describe             | to the dep   | th needed to docu      | ment the               | indicator         | or confi   | rm the absence of ir          | ndicators.)                             |  |  |
|---------------------------------------|---------------------------------|--------------|------------------------|------------------------|-------------------|------------|-------------------------------|---|--|--|
| Depth                                 | Depth Matrix Redox Features     |              |                        |                        |                   | _          |                               |   |  |  |
| (inches)                              |                                 |              | •                      |                        | Type <sup>1</sup> |            | Texture                       | Remarks                                 |  |  |
| 0-4                                   | 2.5Y3/1                         | 98           | 10YR 5/6               | _ 2                    | _ <u>D</u>        | М          | muck                          |   |  |  |
| 4-8                                   | 2.5Y 5/1                        | 100          |                        |                        |                   |            | silt loam                     |   |  |  |
| 8-20                                  | 10Y5/2                          | 80           | 7.5YR6/6               | 20                     | D                 | М          | Clay                          |   |  |  |
|                                       |                                 |              |                        | _                      | _                 |            |                               |   |  |  |
|                                       |                                 |              |                        |                        |                   | -          |                               |   |  |  |
|                                       |                                 |              |                        |                        | _                 |            |                               |   |  |  |
|                                       |                                 |              |                        | _                      |                   |            |                               |   |  |  |
|                                       |                                 |              |                        |                        |                   |            |                               |   |  |  |
| ¹Tvpe: C=C                            | oncentration. D=De              | pletion. RM: | =Reduced Matrix, C     | S=Covere               | ed or Coate       | ed Sand    | Grains. <sup>2</sup> Location | n: PL=Pore Lining, M=Matrix.            |  |  |
| Hydric Soil                           |                                 |              | ,                      |                        |                   |            |                               | Problematic Hydric Soils <sup>3</sup> : |  |  |
| Histoso                               | l (A1)                          |              | Sandy                  | Gleyed M               | atrix (S4)        |            | Coast Prair                   | rie Redox (A16)                         |  |  |
| Histic Epipedon (A2) Sandy Redox (S5) |                                 |              |                        |                        |                   |            | Iron-Manga                    | anese Masses (F12)                      |  |  |
|                                       | istic (A3)                      |              |                        | d Matrix (             |                   |            | Other (Exp                    | lain in Remarks)                        |  |  |
|                                       | en Sulfide (A4)                 |              |                        |                        | ineral (F1)       |            |                               |   |  |  |
|                                       | d Layers (A5)                   |              |                        |                        | fatrix (F2)       |            |                               |   |  |  |
|                                       | uck (A10)<br>d Below Dark Surfa | co (A11)     | Bopiot                 | ed Matrix<br>Dark Surl |                   |            |                               |   |  |  |
| -                                     | ark Surface (A12)               | CC (ATT)     |                        |                        | urface (F7        | )          | <sup>3</sup> Indicators of h  | ydrophytic vegetation and               |  |  |
|                                       | Mucky Mineral (S1)              |              |                        | Depressi               |                   | ,          |                               | drology must be present,                |  |  |
|                                       | ucky Peat or Peat (S            | S3)          | <del>_</del>           | ·                      | , ,               |            |                               | urbed or problematic.                   |  |  |
| Restrictive                           | Layer (if observed              | ):           |                        |                        |                   |            |                               |   |  |  |
| Type:                                 |                                 |              |                        |                        |                   |            |                               |   |  |  |
| Depth (in                             | iches):                         |              |                        |                        |                   |            | Hydric Soil Pres              | sent? Yes X No                          |  |  |
| Remarks:                              |                                 |              |                        |                        |                   |            |                               |   |  |  |
|                                       |                                 |              |                        |                        |                   |            |                               |   |  |  |
| HYDROLO                               | GY                              |              |                        |                        |                   |            |                               |   |  |  |
| Wetland Hy                            | drology Indicators              | ):           |                        |                        |                   |            |                               |   |  |  |
| Primary Indi                          | cators (minimum of              | one is requi | red; check all that a  | pply)                  |                   |            | Secondary Ir                  | ndicators (minimum of two required)     |  |  |
| Surface                               | Water (A1)                      |              | X Water-Sta            | ained Lea              | ves (B9)          |            | Surface Soil Cracks (B6)      |   |  |  |
| High Wa                               | ater Table (A2)                 |              | Aquatic F              | auna (B1               | 3)                |            | Drainage                      | e Patterns (B10)                        |  |  |
| X Saturati                            | ion (A3)                        |              | True Aqu               | atic Plants            | s (B14)           |            | Dry-Sea                       | son Water Table (C2)                    |  |  |
| Water N                               | /larks (B1)                     |              | Hydroger               | Sulfide C              | Odor (C1)         |            | Crayfish                      | Burrows (C8)                            |  |  |
| X Sedime                              | nt Deposits (B2)                |              | Oxidized               | Rhizosph               | eres on Liv       | ing Root   | s (C3) Saturation             | on Visible on Aerial Imagery (C9)       |  |  |
|                                       | posits (B3)                     |              |                        |                        | ed Iron (C        |            |                               | or Stressed Plants (D1)                 |  |  |
|                                       | at or Crust (B4)                |              |                        |                        | tion in Tille     | d Soils (0 | · —                           | phic Position (D2)                      |  |  |
| l —                                   | posits (B5)                     |              | Thin Muc               |                        | ` '               |            | FAC-Ne                        | utral Test (D5)                         |  |  |
| ·                                     | ion Vis ble on Aerial           |              | · — •                  |                        |                   |            |                               |   |  |  |
|                                       | y Vegetated Conca               | ve Surface ( | B8) Other (Ex          | plain in R             | emarks)           |            |                               |   |  |  |
| Field Obser                           |                                 | .,           | X                      |                        |                   |            |                               |   |  |  |
| Surface Wat                           |                                 |              | No X Depth (ir         |                        |                   |            |                               |   |  |  |
| Water Table                           |                                 |              | No Depth (ir           |                        |                   | — I        |                               | Y                                       |  |  |
| Saturation F                          | Present?<br>pillary fringe)     | Yes _^       | No Depth (ir           | nches): S              | uriace            | We         | etiand Hydrology Pro          | esent? Yes X No                         |  |  |
| Describe Re                           | ecorded Data (stream            | m gauge, m   | onitoring well, aerial | photos, p              | revious ins       | spections  | s), if available:             |   |  |  |
|                                       |                                 |              |                        |                        |                   |            |                               |   |  |  |
| Remarks:                              |                                 |              |                        |                        |                   |            |                               |   |  |  |
| Ground                                | and surface v                   | vater fed    | d. Drainage p          | attern                 | s signifi         | icant.     | Pools of stand                | ding water.                             |  |  |
|                                       |                                 |              | 5 1                    |                        | Ü                 |            |                               | -                                       |  |  |
|                                       |                                 |              |                        |                        |                   |            |                               |   |  |  |
| I                                     |                                 |              |                        |                        |                   |            |                               |   |  |  |

| Project/Site: 1-69 Bloomington to Martinsville         |                  | City/County: Blooming                 | ton/Monroe                                       | Sampling Date: 2-19-2013  |
|--|------------------|---------------------------------------|--|---|
| Applicant/Owner: INDOT                                 |                  |                                       | State: IN  | Sampling Point: S5W147UPL   |
| Investigator(s): D. White, T. Keefe                    |                  | Section, Township, Ra                 | nge: 18, 8N, 1W                                  |   |
| Landform (hillslope, terrace, etc.): Depression        |                  |                                       | (concave, convex, none):                         | Concave   |
|  |                  |                                       | 50   |   |
| Soil Map Unit Name: Hagerstown Silt Loam               |                  |                                       | NWI classific                                    |   |
| Are climatic / hydrologic conditions on the site typic |                  |                                       |  |   |
| Are Vegetation, Soil, or Hydrology                     | •                | · · · · · · · · · · · · · · · · · · · |  | present? Yes x No   |
| Are Vegetation, Soil, or Hydrology                     |                  |                                       | eeded, explain any answe                         | <del></del>   |
| SUMMARY OF FINDINGS – Attach sit                       |                  |                                       |  |   |
|  |                  |                                       | ocations, transcots                              | , important reatures, etc.  |
|  | No X             | Is the Sampled                        | l Area   |   |
|  | No X             | within a Wetla                        | nd? Yes  | No X  |
| Wetland Hydrology Present? Yes Remarks:                | No X             |                                       |  |   |
| Nomano.  |                  |                                       |  |   |
|  |                  |                                       |  |   |
| <b>VEGETATION</b> – Use scientific names of            | plants.          |                                       |  |   |
| Tree Stratum (Plot size: 30 )                          |                  | Dominant Indicator                    | Dominance Test work                              |   |
| 1  |                  | Species? Status                       | Number of Dominant S<br>That Are OBL, FACW,      |   |
| 2  |                  |                                       | Total Number of Domin<br>Species Across All Stra | 4   |
| 4<br>5   |                  |                                       | Percent of Dominant Sp                           | pecies  |
| · ·  |                  | = Total Cover                         | That Are OBL, FACW,                              | Jr FAC: <u>□</u> (A/B)  |
| Sapling/Shrub Stratum (Plot size: 15                   | )                | - 10tai 0010i                         | Prevalence Index wor                             |   |
| 1  |                  |                                       | Total % Cover of:                                | Multiply by:  |
| 2  |                  |                                       |  | x 1 =   |
| 3  |                  |                                       |  | x 2 =   |
| 4  |                  |                                       |  | x 3 =   |
| 5  |                  |                                       | FACU species 40 UPL species 10                   |   |
| Herb Stratum (Plot size: 5 )                           |                  | = Total Cover                         | Column Totals: 50                                | x = 50 (A) $210$ (B)  |
| 1. Festuca sp.   | 40               | Y FACU                                | Coldinii Totals.                                 | (N) (D)   |
| 2. Daucus carota                                       | 10               | N UPL                                 | Prevalence Index                                 | = B/A = 4.2   |
| 3  |                  |                                       | Hydrophytic Vegetation                           |   |
| 4  |                  |                                       | Dominance Test is                                |   |
| 5  |                  |                                       | Prevalence Index i                               |   |
| 6  |                  |                                       |  | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |
| 7  |                  |                                       |  | phytic Vegetation <sup>1</sup> (Explain)                            |
| 8  |                  |                                       | _ ,  | ,                             |
| 9  |                  |                                       | <sup>1</sup> Indicators of hydric soi            | and wetland hydrology must  |
| 10   |                  | = Total Cover                         | be present, unless distr                         | urbed or problematic.   |
| Woody Vine Stratum (Plot size: 15                      |                  | = Total Cover                         |  |   |
| 1.   |                  |                                       | Hydrophytic                                      |   |
| 2  |                  |                                       | Vegetation<br>Present? Ye                        | s No <sup>x</sup>   |
|  |                  | = Total Cover                         |  |   |
| Remarks: (Include photo numbers here or on a s         | separate sheet.) |                                       |  |   |
| ,                |                  |                                       |  |   |
|  |                  |                                       |  |   |

Soll Sampling Point: S5W147UPL

| Profile Des  | cription: (Describ               | e to the depth ne   | eded to docu    | ment the i             | ndicator    | or confirn              | n the absence          | e of indicators.)                               |
|--------------|----------------------------------|---------------------|-----------------|------------------------|-------------|-------------------------|------------------------|---|
| Depth        | Matrix                           |                     |                 | x Feature              |             | . 2                     | _                      |   |
| (inches)     | Color (moist)                    |                     | olor (moist)    | %                      | Type'       | Loc <sup>2</sup>        | Texture                | Remarks   |
| 0-18         | 5YR 4/4                          | 100                 |                 |                        |             |                         | Silty clay             | <del></del>                                     |
|              |                                  |                     |                 |                        |             |                         |                        |   |
|              |                                  |                     |                 |                        |             |                         |                        |   |
|              | -                                |                     |                 |                        |             |                         | -                      |   |
|              | · -                              |                     |                 | _                      |             |                         |                        |   |
|              |                                  |                     |                 | _                      |             |                         |                        |   |
|              |                                  |                     |                 |                        |             |                         |                        |   |
|              | -                                |                     |                 |                        |             |                         |                        |   |
| 1- 0.6       |                                  |                     |                 |                        |             |                         | . 21                   |   |
|              | Concentration, D=Del Indicators: | epletion, RM=Redu   | iced Matrix, C  | S=Covered              | d or Coate  | d Sand G                |                        | s for Problematic Hydric Soils <sup>3</sup> :   |
| *            |                                  |                     | Compality       | Olavia al Ma           | .t (C.4)    |                         |                        | •   |
| Histoso      | Epipedon (A2)                    |                     |                 | Gleyed Ma<br>Redox (S5 |             |                         |                        | t Prairie Redox (A16)<br>Manganese Masses (F12) |
|              | Histic (A3)                      |                     |                 | d Matrix (S            |             |                         |                        | r (Explain in Remarks)                          |
|              | en Sulfide (A4)                  |                     |                 | Mucky Mir              |             |                         | 0.1101                 | (Explain in Remarks)                            |
|              | ed Layers (A5)                   |                     |                 | Gleyed Ma              |             |                         |                        |   |
|              | luck (A10)                       |                     |                 | ed Matrix (I           |             |                         |                        |   |
|              | ed Below Dark Surfa              | ace (A11)           |                 | Dark Surfa             |             |                         |                        |   |
| Thick D      | Oark Surface (A12)               |                     | Deplete         | ed Dark Su             | ırface (F7) |                         | <sup>3</sup> Indicator | rs of hydrophytic vegetation and                |
|              | Mucky Mineral (S1)               |                     | Redox           | Depression             | ns (F8)     |                         | wetlar                 | nd hydrology must be present,                   |
|              | lucky Peat or Peat (             |                     |                 |                        |             |                         | unles                  | s disturbed or problematic.                     |
| Restrictive  | Layer (if observed               | l):                 |                 |                        |             |                         |                        |   |
| Type:        |                                  |                     |                 |                        |             |                         |                        | V   |
| Depth (ir    | nches):                          |                     |                 |                        |             |                         | Hydric So              | il Present? Yes No X                            |
| Remarks:     |                                  |                     |                 |                        |             |                         | •                      |   |
|              |                                  |                     |                 |                        |             |                         |                        |   |
| HYDROLO      | OGY                              |                     |                 |                        |             |                         |                        |   |
| Wetland Hy   | ydrology Indicator               | s:                  |                 |                        |             |                         |                        |   |
| Primary Ind  | icators (minimum of              | one is required; cl | heck all that a | oply)                  |             |                         | Second                 | dary Indicators (minimum of two required)       |
| Surface      | e Water (A1)                     |                     | Water-Sta       | ined Leav              | es (B9)     |                         | Su                     | rface Soil Cracks (B6)                          |
| High W       | ater Table (A2)                  |                     | Aquatic F       | auna (B13              | )           |                         |                        | ainage Patterns (B10)                           |
| Saturat      |                                  |                     | True Aqua       |                        |             |                         |                        | y-Season Water Table (C2)                       |
| ·            | Marks (B1)                       | ·                   | <br>Hydrogen    |                        | . ,         |                         |                        | ayfish Burrows (C8)                             |
| I '          | ent Deposits (B2)                |                     | Oxidized        |                        |             | ing Roots               |                        | turation Visible on Aerial Imagery (C9)         |
|              | eposits (B3)                     | ·                   | Presence        |                        |             | -                       |                        | unted or Stressed Plants (D1)                   |
|              | lat or Crust (B4)                |                     | Recent Iro      |                        |             |                         |                        | eomorphic Position (D2)                         |
|              | eposits (B5)                     | ·                   | Thin Mucl       |                        |             | `                       | · —                    | .C-Neutral Test (D5)                            |
|              | tion Vis ble on Aeria            | I Imagery (B7)      | Gauge or        |                        | ,           |                         |                        | ,   |
|              | ly Vegetated Conca               |                     | Other (Ex       |                        | ' '         |                         |                        |   |
| Field Obse   | rvations:                        |                     | <u> </u>        | <u> </u>               | · · ·       |                         |                        |   |
| Surface Wa   | iter Present?                    | Yes No X            | Depth (in       | ches):                 |             |                         |                        |   |
| Water Table  |                                  | Yes No X            |                 |                        |             | l l                     |                        |   |
| Saturation F |                                  | Yes No X            |                 |                        |             |                         | and Hydrolog           | gy Present? Yes No X                            |
| (includes ca | apillary fringe)                 |                     |                 |                        |             |                         |                        |   |
| Describe K   | ecorded Data (strea              | iii gauge, monitori | ng wen, aenai   | ρποιος, ρε             | evious iris | p <del>e</del> ctions), | ıı avallable:          |   |
| Remarks:     |                                  |                     |                 |                        |             |                         |                        |   |
|              |                                  |                     |                 |                        |             |                         |                        |   |
|              |                                  |                     |                 |                        |             |                         |                        |   |
|              |                                  |                     |                 |                        |             |                         |                        |   |
|              |                                  |                     |                 |                        |             |                         |                        |   |

| Project/Site: I-69 Bloomington to Martinsville               | (           | City/County: Mo | lonroe      | Sa   | ampling Date: 04/27/12                 |
|--|-------------|-----------------|-------------|--|--|
|  |             |                 |             | State: <u>IN</u> Sa                                  | mpling Point: S5W148                   |
| Investigator(s): K. Schroeder, D. White                      |             | Section, Towns  | ship, Ran   | ge: 3, 10N, 1W                                       |  |
| Landform (hillslope, terrace, etc.): Depression              |             | Loca            | al relief ( | concave, convex, none): Co                           | ncave                                  |
| Slope (%): <5% Lat: 39.33269120240                           |             |                 |             |  |  |
| Soil Map Unit Name: Berks-We kert Complex                    |             |                 |             | NWI classificatio                                    |  |
| Are climatic / hydrologic conditions on the site typical for |             |                 |             |  |  |
| Are Vegetation, Soil, or Hydrology                           |             |                 |             |  | ent? Yes x No                          |
| Are Vegetation, Soil, or Hydrology                           |             |                 |             | eded, explain any answers ir                         |  |
| SUMMARY OF FINDINGS – Attach site ma                         |             |                 | ,           |  | •                                      |
| SOMMAN OF THE HIGH STEETING                                  | ap snowing  |                 |             | Cations, transects, in                               | —————————————————————————————————————— |
| Hydrophytic Vegetation Present?  Yes X                       | No          | Is the Sa       | Sampled A   | Area   |  |
| Hydric Soil Present? Yes X                                   | No          | within a        | a Wetland   | d? Yes <u>×</u>                                      | No                                     |
| Wetland Hydrology Present? Yes X  Remarks:                   | No          |                 |             |  |  |
| Remarks.   |             |                 |             |  |  |
|  |             |                 |             |  |  |
| VEGETATION – Use scientific names of plan                    | nts.        |                 |             |  |  |
|  |             | Dominant Ind    | dicator     | Dominance Test workshe                               | et:                                    |
| <u>Tree Stratum</u> (Plot size: <u>30</u> ) 1)               |             | Species? S      |             | Number of Dominant Speci<br>That Are OBL, FACW, or F |  |
| 2.   |             |                 | l I         |  |  |
| 3  |             |                 | l I         | Total Number of Dominant Species Across All Strata:  | <u>1</u> (B)                           |
| 4  |             |                 |             | Percent of Dominant Speci                            | 20                                     |
| 5  |             |                 |             | That Are OBL, FACW, or F                             |  |
| Sapling/Shrub Stratum (Plot size: 15                         |             | = Total Cover   | -           | Prevalence Index worksh                              | eet:                                   |
| 1  | •           |                 |             |  | Multiply by:                           |
| 2  |             |                 |             |  | x 1 = 50                               |
| 3.   |             |                 |             | FACW species   |  |
| 4  |             |                 |             | FAC species  | x 3 =                                  |
| 5  |             |                 |             | FACU species   |  |
| Herb Stratum (Plot size: 5                                   |             | = Total Cover   |             | UPL species  |  |
| hero Stratum (Plot size: 5 )  1 Phalaris arundinacea         | 30          | Y OE            | BL          | Column Totals: 50                                    | (A) <u>50</u> (B)                      |
| 7 Typha angustifolia   | 20          | N OE            | BL          | Prevalence Index = E                                 | B/A = 1.0                              |
| 3  |             |                 |             | Hydrophytic Vegetation I                             | ndicators:                             |
| 4.   |             |                 |             | X Dominance Test is >50                              | )%                                     |
| 5.   |             |                 |             | X Prevalence Index is ≤3                             |  |
| 6  |             |                 |             | Morphological Adaptat                                |  |
| 7  |             |                 |             | Problematic Hydrophyt                                | on a separate sheet)                   |
| 8  |             |                 |             | Froblematic Hydrophyt                                | ic vegetation (Explain)                |
| 9  |             |                 |             | <sup>1</sup> Indicators of hydric soil an            | d wetland hydrology must               |
| 10   | = 0         |                 |             | be present, unless disturbe                          |  |
| Woody Vine Stratum (Plot size: 15 )                          | 50          | = Total Cover   |             |  |  |
| 1  |             |                 |             | Hydrophytic  |  |
| 2.   |             |                 |             | Vegetation Present? Yes X                            | No                                     |
|  |             | = Total Cover   |             |  |  |
| Remarks: (Include photo numbers here or on a separa          | ate sheet.) |                 |             |  |  |
| , , , , , , , , , , , , , , , , , , ,                        |             |                 |             |  |  |
|  |             |                 |             |  |  |

SOIL Sampling Point: S5W148

|  | Matrix Color (moist)   |   |  | lox Feature  | es   |                  |  |   |
|--|--|---|--|--|--|------------------|--|---|
|  | 00.01 (0.01)   | %   | Color (moist)  | <u>%</u>   | Type <sup>1</sup>  | Loc <sup>2</sup> | Texture  | Remarks   |
| -24  | 10YR 4/1   | 80  | 7.5 YR 5/6   | 20   | С  | PL               | Silt loam  |   |
|  | 2.5Y 7/1   | 70  | 10YR 6/6   | 30   | С  | М                | clay loam  |   |
|  |  |   |  |  |  |                  |  |   |
|  |  |   |  |  |  |                  | ·  |   |
|  |  |   |  |  |  |                  |  |   |
|  |  | pletion, RM   | M=Reduced Matrix, C  | S=Covere   | ed or Coate  | ed Sand G        |  | tion: PL=Pore Lining, M=Matrix.   |
| dric Soil In   |  |   |  |  |  |                  |  | or Problematic Hydric Soils <sup>3</sup> :  |
| _ Histosol (/  | ,  |   |  | Gleyed M   |  |                  |  | rairie Redox (A16)  |
| _ Histic Epip<br>Black Hist  | pedon (A2)   |   |  | Redox (Sed Matrix (  |  |                  |  | nganese Masses (F12)<br>Explain in Remarks)   |
| _  | n Sulfide (A4)   |   |  |  | ວ <sub>ຽ)</sub><br>ineral (F1)   |                  | Other (E   | explain in Remarks)   |
|  | Layers (A5)  |   |  | Gleyed M   |  |                  |  |   |
| 2 cm Muc   |  |   |  | ed Matrix  |  |                  |  |   |
| _  | Below Dark Surfa   | ce (A11)  |  | Dark Surf  | ` '  |                  |  |   |
| _ Thick Dar  | rk Surface (A12)   |   | Deplet   | ed Dark S  | urface (F7   | )                | <sup>3</sup> Indicators of                                       | of hydrophytic vegetation and   |
|  | ucky Mineral (S1)  |   | Redox  | Depressi   | ons (F8)   |                  |  | hydrology must be present,  |
|  | cky Peat or Peat (\$   |   |  |  |  |                  | unless d   | listurbed or problematic.   |
| strictive La   | ayer (if observed  | ):  |  |  |  |                  |  |   |
| Туре:  |  |   | <del></del>  |  |  |                  |  | V   |
| Depth (inch  | hes):  |   |  |  |  |                  | Hydric Soil P  | resent? Yes X No  |
| emarks:  |  |   |  |  |  |                  |  |   |
| emarks:  |  |   |  |  |  |                  |  |   |
| DROLOG   | rology Indicators  |   |  |  |  |                  |  |   |
| DROLOG   | rology Indicators  |   | uired; check all that a  |  |  |                  |  |   |
| DROLOG etland Hydr imary Indica  | rology Indicators<br>ators (minimum of<br>Vater (A1)   |   | X Water-St   | ained Lea  | ` ,  |                  | Surfa  | ce Soil Cracks (B6)   |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate  | rology Indicators<br>ators (minimum of<br>Vater (A1)<br>er Table (A2)  |   | X Water-St Aquatic F   | ained Lea<br>auna (B1  | 3)   |                  | Surfac   | ce Soil Cracks (B6)<br>age Patterns (B10)   |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturation   | rology Indicators<br>ators (minimum of<br>Vater (A1)<br>er Table (A2)<br>n (A3)  |   | X Water-St Aquatic F True Aqu  | ained Lea<br>auna (B1:<br>atic Plant   | 3)<br>s (B14)  |                  | Surface X Drains Dry-S   | ce Soil Cracks (B6)<br>age Patterns (B10)<br>eason Water Table (C2)   |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturation _ Water Ma  | rology Indicators<br>ators (minimum of<br>Vater (A1)<br>er Table (A2)<br>n (A3)<br>arks (B1)   |   | X Water-St Aquatic F True Aqu Hydroger   | ained Lea<br>Fauna (B1:<br>natic Plants<br>n Sulfide C   | 3)<br>s (B14)<br>Odor (C1)   |                  | Surfa<br>Draina<br>Dry-S<br>Crayfi                               | ce Soil Cracks (B6)<br>age Patterns (B10)<br>eason Water Table (C2)<br>ish Burrows (C8)   |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturatior _ Water Ma _ Sediment   | rology Indicators<br>ators (minimum of<br>Vater (A1)<br>er Table (A2)<br>n (A3)<br>arks (B1)<br>t Deposits (B2)  |   | X Water-St Aquatic F True Aqu Hydroger X Oxidized  | ained Lea<br>Fauna (B1<br>latic Plants<br>n Sulfide C<br>Rhizosph  | 3)<br>s (B14)<br>Odor (C1)<br>eres on Liv                                      | -                | Surfar<br>Drain:<br>Dry-S<br>Crayfi<br>(C3) Satura               | ce Soil Cracks (B6)<br>age Patterns (B10)<br>eason Water Table (C2)<br>ish Burrows (C8)<br>ation Visible on Aerial Imagery (C9  |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturatior _ Water Ma _ Sediment _ Drift Depo  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3)  |   | X Water-St Aquatic F True Aqu Hydroget X Oxidized Presence   | ained Lea Fauna (B1: latic Plants n Sulfide ( Rhizosph e of Reduce   | 3)<br>s (B14)<br>Odor (C1)<br>eres on Lived Iron (C                            | 4)               | Surfac<br>Drain:<br>Dry-S<br>Crayfic<br>(C3) Saturaction         | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1)   |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturatior _ Water Ma _ Sediment _ Drift Depo  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)  |   | X Water-St Aquatic F True Aqu Hydroget X Oxidized Presencet Recent In  | ained Lea<br>Fauna (B1:<br>latic Plants<br>n Sulfide C<br>Rhizosph<br>e of Reduc   | 3) s (B14) Odor (C1) eres on Lived Iron (C                                     | 4)               | Surfact Dry-S Crayfict (C3) Saturact Stunte 6) Geom              | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)                   |
| DROLOG etland Hydre imary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo   | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) c or Crust (B4) posits (B5)  | one is requ   | X Water-St Aquatic F True Aqu Hydroger X Oxidized Presencer Recent In  | ained Lea<br>Fauna (B1:<br>latic Plants<br>n Sulfide C<br>Rhizosph<br>e of Reduc<br>ron Reduc<br>ck Surface                                  | 3) s (B14) Odor (C1) eres on Lived Iron (C tion in Tille                       | 4)               | Surfact Dry-S Crayfict (C3) Saturact Stunte 6) Geom              | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1)   |
| DROLOG  etland Hydr imary Indica  Surface W  High Wate  Saturation  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundation   | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aerial  | one is requ   | X Water-St Aquatic F True Aqu Hydroger X Oxidized Presence Recent In Thin Muc  | ained Lea<br>Fauna (B1:<br>latic Plants<br>n Sulfide C<br>Rhizosph<br>e of Reduc<br>ron Reduc<br>ck Surface<br>r Well Data                   | 3) s (B14) Odor (C1) eres on Lived Iron (C tion in Tille (C7) a (D9)           | 4)               | Surfact Dry-S Crayfict (C3) Saturact Stunte 6) Geom              | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)                   |
| DROLOG etland Hydr imary Indica Surface W High Water Saturatior Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Sparsely   | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aerial Vegetated Concar   | one is requ   | X Water-St Aquatic F True Aqu Hydroger X Oxidized Presence Recent In Thin Muc  | ained Lea<br>Fauna (B1:<br>latic Plants<br>n Sulfide C<br>Rhizosph<br>e of Reduc<br>ron Reduc<br>ck Surface<br>r Well Data                   | 3) s (B14) Odor (C1) eres on Lived Iron (C tion in Tille (C7) a (D9)           | 4)               | Surfact Dry-S Crayfict (C3) Saturact Stunte 6) Geom              | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)                   |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturatior _ Water Ma _ Sediment _ Drift Depo _ Algal Mat _ Iron Depo _ Inundatior _ Sparsely V eld Observa                        | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aerial Vegetated Concav ations:   | one is requ<br>I Imagery (I<br>ve Surface   | X Water-St Aquatic F True Aqu Hydroget X Oxidized Presencet Recent In Thin Muc 37) Gauge of (B8) Other (Ex   | ained Lea<br>Fauna (B1:<br>latic Plants<br>in Sulfide C<br>Rhizosph<br>e of Reduction Reduction<br>ck Surface<br>ir Well Data<br>xplain in R | 3) s (B14) Odor (C1) eres on Liv red Iron (C tion in Tille (C7) a (D9) emarks) | 4)               | Surfact Dry-S Crayfict (C3) Saturact Stunte 6) Geom              | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)                   |
| DROLOG etland Hydre imary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely eld Observa  | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aerial Vegetated Concavations: r Present?                                 | one is required in the second of the second | X   Water-St   Aquatic F   True Aqu   Hydrogel   X   Oxidized   Presence   Recent Ir   Thin Muc   S7)   Gauge o (B8)   Other (Example 2)   Other (Example 2)   Other (Example 3)   Other | ained Lea Fauna (B1: latic Plants n Sulfide C Rhizosph e of Reduct ron Reduct ck Surface r Well Data xplain in R                             | 3) s (B14) Odor (C1) eres on Liv ed Iron (C tion in Tille (C7) a (D9) emarks)  | 4)               | Surfact Dry-S Crayfict (C3) Saturact Stunte 6) Geom              | age Patterns (B10) leason Water Table (C2) lish Burrows (C8) lation Visible on Aerial Imagery (C9 led or Stressed Plants (D1) loorphic Position (D2)                                  |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturation _ Water Ma _ Sediment _ Drift Depo _ Algal Mat _ Iron Depo _ Inundation _ Sparsely Water Water ater Table P             | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Vis ble on Aerial Vegetated Concav ations: r Present?                                | I Imagery (Ive Surface Yes X  | X   Water-St   | ained Lea Fauna (B1: atic Plants n Sulfide C Rhizosph e of Reduct on Reduct ck Surface r Well Data xplain in R nches): nches): nches): 3     | 3) s (B14) Ddor (C1) eres on Liv ed Iron (C tion in Tille (C7) a (D9) emarks)  | 4)<br>d Soils (C | Surface Z Drains Dry-S Crayfice (C3) Sature Stunte 6) Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5) |
| DROLOG etland Hydr imary Indica _ Surface W _ High Wate _ Saturation _ Water Ma _ Sediment _ Drift Depo _ Algal Mat _ Iron Depo _ Inundation _ Sparsely Water ater Table Paturation Pre      | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) a Deposits (B2) osits (B3) a or Crust (B4) osits (B5) n Vis ble on Aerial Vegetated Concavations: r Present? Present?                        | I Imagery (Ive Surface Yes X  | X   Water-St   Aquatic F   True Aqu   Hydrogel   X   Oxidized   Presence   Recent Ir   Thin Muc   S7)   Gauge o (B8)   Other (Example 2)   Other (Example 2)   Other (Example 3)   Other | ained Lea Fauna (B1: atic Plants n Sulfide C Rhizosph e of Reduct on Reduct ck Surface r Well Data xplain in R nches): nches): nches): 3     | 3) s (B14) Ddor (C1) eres on Liv ed Iron (C tion in Tille (C7) a (D9) emarks)  | 4)<br>d Soils (C | Surface Z Drains Dry-S Crayfice (C3) Sature Stunte 6) Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)                   |
| DROLOG etland Hydre imary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely eld Observation atter Table Peturation Precludes capil | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) a Deposits (B2) posits (B3) a or Crust (B4) posits (B5) n Vis ble on Aerial Vegetated Concavations: r Present? Present? esent? llary fringe) | I Imagery (Ive Surface Yes X Yes X  | X   Water-St   | ained Lea Fauna (B1: latic Plants in Sulfide C Rhizosph e of Reduct con Reduct ck Surface r Well Data xplain in R inches): nches): nches):   | 3) s (B14) Odor (C1) eres on Liv ed Iron (C tion in Tille (C7) a (D9) emarks)  | 4) d Soils (C    | Surface X Drains Dry-S Crayfice (C3) Sturte Stunte 6) Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5) |
| DROLOG etland Hydre imary Indica Surface W High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Sparsely eld Observation atter Table Peturation Precludes capil | rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) arks (B1) a Deposits (B2) posits (B3) a or Crust (B4) posits (B5) n Vis ble on Aerial Vegetated Concavations: r Present? Present? esent? llary fringe) | I Imagery (Ive Surface Yes X Yes X  | X   Water-St   | ained Lea Fauna (B1: latic Plants in Sulfide C Rhizosph e of Reduct con Reduct ck Surface r Well Data xplain in R inches): nches): nches):   | 3) s (B14) Odor (C1) eres on Liv ed Iron (C tion in Tille (C7) a (D9) emarks)  | 4) d Soils (C    | Surface X Drains Dry-S Crayfice (C3) Sturte Stunte 6) Geom FAC-I | ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2) Neutral Test (D5) |

| Project/Site: I-69 Bloomington to Martinsville                       | (            | City/Cou | unty: Monroe                   |                               | Sampling Date: 2/19/2013  |
|--|--------------|----------|--------------------------------|-------------------------------|---|
| Applicant/Owner: INDOT   |              |          |                                | State: IN                     | Sampling Point: S5W148UPL   |
|  |              |          |                                | ange: 3, 10N, 1W              |   |
| Landform (hillslope, terrace, etc.): Depression                      |              |          | Local relie                    | f (concave, convex, none):    | Concave   |
| Slope (%): <5% Lat: 39.33266092310                                   |              | Long:    | 86.513395617                   | 50                            | Datum: NAD 83   |
| Soil Map Unit Name: Berks-We kert Complex                            |              |          |                                | NWI classific                 | ation: UPL  |
| Are climatic / hydrologic conditions on the site typical for this    |              |          |                                |                               |   |
| Are Vegetation, Soil, or Hydrology signs and a signs are vegetation, | gnificantly  | disturbe | ed? Are                        | "Normal Circumstances" p      | present? Yes x No No  |
| Are Vegetation, Soil, or Hydrology na                                | aturally pro | blematio | c? (If n                       | eeded, explain any answe      | rs in Remarks.)   |
| SUMMARY OF FINDINGS – Attach site map s                              | howing       | samp     | ling point                     | locations, transects          | , important features, etc.  |
| Hydrophytic Vegetation Present? Yes No                               | , x          |          |                                |                               |   |
| Hydric Soil Present? Yes X No  |              |          | s the Sample<br>within a Wetla |                               | No X  |
| Wetland Hydrology Present? Yes No                                    |              | v        | WILLIIII a VVELIA              | iliu? Tes                     | NO <u>^</u>   |
| Remarks:   |              |          |                                |                               |   |
|  |              |          |                                |                               |   |
| <b>VEGETATION</b> – Use scientific names of plants.                  |              |          |                                |                               |   |
| OSC SCIENTING HARTIES OF Plants.                                     | Absolute     | Domin    | nant Indicator                 | Dominance Test work           | sheet:  |
| <u>Tree Stratum</u> (Plot size: <u>30</u> )                          |              |          | es? Status                     | Number of Dominant S          |   |
| 1  |              |          |                                | That Are OBL, FACW,           |   |
| 2  |              |          |                                | Total Number of Domin         |   |
| 3  |              |          |                                | Species Across All Stra       | ta: <u>1</u> (B)  |
| 4  |              |          |                                | Percent of Dominant Sp        |   |
| 5  |              |          |                                | That Are OBL, FACW,           | or FAC: $0$ (A/B)   |
| Sapling/Shrub Stratum (Plot size: 15 )                               |              | = TOtal  | Covei                          | Prevalence Index wor          | ksheet:   |
| 1  |              |          |                                | Total % Cover of:             | Multiply by:  |
| 2  |              |          |                                | OBL species                   | x 1 =   |
| 3  |              |          |                                |                               | x 2 =   |
| 4  |              |          |                                | ·                             | x 3 =   |
| 5  |              |          |                                |                               | x 4 = 180   |
| Herb Stratum (Plot size: 5   |              | = Total  | Cover                          | UPL species Column Totals: 45 | x = 5 = 180 (B)   |
| 1. Festuca sp.   | 30           | Υ        | FACU                           | Column Totals.                | (A) <u>180</u> (B)  |
| 2. Taraxacum officinale  | 5            | N        | FACU                           | Prevalence Index              | = B/A = <u>4</u>  |
| 3. Solidago canadensis   | 5            | N        | FACU                           | Hydrophytic Vegetation        | on Indicators:  |
| 4. Glechoma hederacea  | 5            | N        | FACU                           | Dominance Test is             |   |
| 5  |              |          |                                | Prevalence Index is           |   |
| 6  |              |          |                                | Morphological Ada             | ptations <sup>1</sup> (Provide supporting s or on a separate sheet) |
| 7  |              |          |                                |                               | phytic Vegetation <sup>1</sup> (Explain)                            |
| 8  |              |          |                                |                               | (   1 )   |
| 9  |              |          |                                |                               | il and wetland hydrology must                                       |
| 10   | 4 =          | = Total  | Cover                          | be present, unless distu      | urbed or problematic.   |
| Woody Vine Stratum (Plot size: 15 )                                  |              | = Total  | Cover                          |                               |   |
| 1  |              |          |                                | Hydrophytic                   |   |
| 2  |              |          |                                | Vegetation<br>Present? Ye     | s No X  |
|  |              | = Total  | Cover                          |                               |   |
| Remarks: (Include photo numbers here or on a separate si             | heet.)       |          |                                |                               |   |
|  | -            |          |                                |                               |   |
|  |              |          |                                |                               |   |

SOIL Sampling Point: S5W148UPL

| Profile Desc           | cription: (Describe                     | to the dep      | th needed to docu                     | ment the        | indicator         | or confirm       | n the absence of in          | ndicators.)                                   |                  |
|------------------------|---|-----------------|---------------------------------------|-----------------|-------------------|------------------|------------------------------|---|------------------|
| Depth                  | Matrix                                  |                 |                                       | ox Feature      | es                |                  |                              |   |                  |
| (inches)               | Color (moist)                           | %               | Color (moist)                         | %               | Type <sup>1</sup> | Loc <sup>2</sup> | <u>Texture</u>               | Remarks                                       |                  |
| 0-6                    | 10YR 4/2                                | 100             |                                       |                 |                   |                  | Silty clay                   |   |                  |
| 6-18                   | 2.5Y6/2                                 | 60              | 10YR3/6                               | 40              |                   | M                | Silty clay loam              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        | -                                       |                 |                                       |                 |                   | -                |                              |   |                  |
|                        |   |                 |                                       |                 | _                 |                  |                              |   |                  |
|                        |   |                 |                                       |                 | _                 |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
| <sup>1</sup> Type: C-C | oncentration, D=De                      | nletion PM-     | -Peduced Matrix C                     | S-Covere        | d or Coate        | ad Sand G        | raine <sup>2</sup> l ocation | n: PL=Pore Lining,                            | M-Matrix         |
| Hydric Soil            |   | pietion, itivi- | -rreduced Matrix, C                   | <u>5-00vere</u> | d or Coale        | o Sand O         |                              | Problematic Hydric                            |                  |
| Histosol               |   |                 | Sandy                                 | Gleyed M        | atrix (S4)        |                  |                              | ie Redox (A16)                                |                  |
|                        | pipedon (A2)                            |                 |                                       | Redox (S        |                   |                  |                              | inese Masses (F12)                            |                  |
|                        | istic (A3)                              |                 |                                       | d Matrix (      |                   |                  |                              | ain in Remarks)                               |                  |
|                        | en Sulfide (A4)                         |                 |                                       |                 | ineral (F1)       |                  |                              |   |                  |
|                        | d Layers (A5)                           |                 | Loamy                                 | Gleyed M        | latrix (F2)       |                  |                              |   |                  |
|                        | uck (A10)                               |                 | X Deplete                             |                 |                   |                  |                              |   |                  |
|                        | d Below Dark Surfa                      | ce (A11)        | · · · · · · · · · · · · · · · · · · · | Dark Surf       | , ,               |                  | 3                            |   |                  |
|                        | ark Surface (A12)                       |                 |                                       |                 | urface (F7        | )                |                              | ydrophytic vegetatio                          |                  |
|                        | Mucky Mineral (S1) ucky Peat or Peat (S | 22)             | Redox                                 | Depression      | ons (F8)          |                  |                              | drology must be pre-<br>urbed or problemation |                  |
|                        | Layer (if observed                      |                 |                                       |                 |                   |                  | uniess disti                 | ined of probleman                             |                  |
|                        | Layer (ii observed                      |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 | <del></del>                           |                 |                   |                  | Hydric Soil Pres             | sent? Yes X                                   | No               |
|                        | ches):                                  |                 |                                       |                 |                   |                  | Hydric Soil Pres             | sent? Yes                                     | NO               |
| Remarks:               |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
| HYDROLO                | GY                                      |                 |                                       |                 |                   |                  |                              |   |                  |
| Wetland Hy             | drology Indicators                      | :               |                                       |                 |                   |                  |                              |   |                  |
| Primary Indi           | cators (minimum of                      | one is requii   | ed; check all that a                  | pply)           |                   |                  | Secondary In                 | dicators (minimum                             | of two required) |
| Surface                | Water (A1)                              |                 | Water-Sta                             | ained Leav      | ves (B9)          |                  | Surface S                    | Soil Cracks (B6)                              |                  |
| High Wa                | ater Table (A2)                         |                 | Aquatic F                             | auna (B13       | 3)                |                  | Drainage                     | Patterns (B10)                                |                  |
| Saturati               | on (A3)                                 |                 | True Aqua                             | atic Plants     | s (B14)           |                  | Dry-Seas                     | son Water Table (C                            | 2)               |
| Water M                | larks (B1)                              |                 | Hydrogen                              | Sulfide C       | dor (C1)          |                  | Crayfish                     | Burrows (C8)                                  |                  |
| Sedime                 | nt Deposits (B2)                        |                 | Oxidized                              | Rhizosphe       | eres on Liv       | ing Roots        | (C3) Saturation              | on Visible on Aerial                          | Imagery (C9)     |
| Drift De               | posits (B3)                             |                 | Presence                              | of Reduc        | ed Iron (C        | 4)               | Stunted                      | or Stressed Plants (                          | D1)              |
| Algal Ma               | at or Crust (B4)                        |                 | Recent Iro                            | on Reduct       | ion in Tille      | d Soils (C       | 6) Geomorp                   | ohic Position (D2)                            |                  |
| Iron Dep               | , ,                                     |                 | Thin Mucl                             | k Surface       | (C7)              |                  | FAC-Neu                      | utral Test (D5)                               |                  |
| Inundati               | ion Vis ble on Aerial                   | Imagery (B7     | 7) Gauge or                           | Well Data       | a (D9)            |                  |                              |   |                  |
| Sparsel                | y Vegetated Concav                      | e Surface (F    | 38) Other (Ex                         | plain in R      | emarks)           |                  |                              |   |                  |
| Field Obser            |   |                 |                                       |                 |                   |                  |                              |   |                  |
| Surface Wat            | ter Present?                            | Yes I           | No X Depth (ir                        | nches):         |                   |                  |                              |   |                  |
| Water Table            | Present?                                | Yes I           | No X Depth (ir                        | nches):         |                   |                  |                              |   |                  |
| Saturation P           | resent?                                 | Yes I           | No X Depth (ir                        | nches):         |                   | Wetl             | and Hydrology Pre            | esent? Yes                                    | No X             |
| (includes ca           | pillary fringe)                         |                 | nitoring                              | nhete:          | reviews '         |                  |                              |   |                  |
| Describe Re            | corded Data (strear                     | n gauge, mo     | onitoring well, aerial                | pnotos, p       | revious ins       | spections),      | if available:                |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
| Remarks:               |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |
|                        |   |                 |                                       |                 |                   |                  |                              |   |                  |

| Project/Site: 1-69 Bloomington to Martinsvi    | ille               |          | City/County | : Monroe                   |   | Sampling Date: 10-13-11                   |
|--|--------------------|----------|-------------|----------------------------|---|---|
| Applicant/Owner: INDOT                         |                    |          |             |                            |   | Sampling Point: S5W149a                   |
| Investigator(s): K. Schroeder, D. White        |                    |          |             |                            |   |   |
| Landform (hillslope, terrace, etc.): Floodp    | lain               |          |             | Local relief               | (concave, convex, none):                  | Concave                                   |
| Slope (%): <2% Lat: 39.2403884                 |                    |          |             |                            |   |   |
| Soil Map Unit Name: Bonnie Silt Loam           |                    |          |             |                            | NWI classific                             | ation: PEMC                               |
| Are climatic / hydrologic conditions on the    |                    |          |             |                            |   |   |
| Are Vegetation, Soil, or Hy                    |                    |          |             |                            |   |   |
| Are Vegetation, Soil, or Hy                    |                    |          |             |                            |   |   |
| SUMMARY OF FINDINGS - Att                      | ach site map :     | showing  | samplin     | ng point le                | ocations, transects                       | , important features, etc                 |
| Hydrophytic Vegetation Present?                | Yes X No           | )        |             |                            |   |   |
| Hydric Soil Present?                           | Yes x No           |          |             | ne Sampled<br>nin a Wetlar |   | No  |
| Wetland Hydrology Present?                     | Yes x No           | ·        | Witi        | iiii a vvetiai             | iu? Tes <u>^</u>                          | NO  |
| Remarks:                                       |                    |          |             |                            |   |   |
|  |                    |          |             |                            |   |   |
| VEGETATION – Use scientific na                 | mes of plants      |          |             |                            |   |   |
|  |                    | Absolute | Dominant    | t Indicator                | Dominance Test work                       | sheet:                                    |
| Tree Stratum (Plot size: 30                    | )                  | % Cover  |             |                            | Number of Dominant Sp                     | pecies                                    |
| 1  |                    | . ———    |             |                            | That Are OBL, FACW, o                     | or FAC: $\frac{2}{}$ (A)                  |
| 2  |                    |          |             |                            | Total Number of Domina                    | ant                                       |
| 3  |                    |          |             |                            | Species Across All Stra                   | ta: <u>2</u> (B)                          |
| 4  |                    |          |             |                            | Percent of Dominant Sp                    | pecies 100                                |
| 5  |                    |          | = Total Co  | ver                        | That Are OBL, FACW, o                     | or FAC: 100 (A/B)                         |
| Sapling/Shrub Stratum (Plot size: 15           | )                  | -        | - 10101 00  | VOI                        | Prevalence Index world                    | ksheet:                                   |
| 1  |                    |          |             |                            | Total % Cover of:                         |   |
| 2  |                    |          |             | ·                          |   | x 1 = 40                                  |
| 3  |                    |          |             |                            |   | x 2 = 60                                  |
| 4  |                    |          |             |                            |   | x 3 =<br>x 4 =                            |
| 5  |                    |          | = Total Co  |                            | ·   | x 4 =<br>x 5 =                            |
| Herb Stratum (Plot size: 5                     | )                  | -        | = 10(a) 00  | VEI                        | Column Totals: 80                         |   |
| 1. Polygonum hyrdopiper                        |                    | 40       | Υ           | OBL                        |   |   |
| 2. Carex sp.                                   |                    | 20       | Y           | FACW                       | Prevalence Index                          |   |
| 3. Dichanthelium clandestinum                  |                    | 10       | N           | FACW                       | Hydrophytic Vegetatio                     |   |
| 4. Solidago canadensis 5. Eupatorium altisimum |                    | 5 5      | N<br>N      | FACU<br>FACU               | X Dominance Test is X Prevalence Index is |   |
| · -  |                    |          |             | FACU                       | <del></del>                               | otations <sup>1</sup> (Provide supporting |
| 6  |                    |          |             | ·                          | data in Remarks                           | s or on a separate sheet)                 |
| 7  |                    |          |             |                            | Problematic Hydrop                        | ohytic Vegetation <sup>1</sup> (Explain)  |
| 8<br>9   |                    |          |             | ·                          |   |   |
| 10.  |                    | -        |             |                            |   | and wetland hydrology must                |
|  |                    | 115      | = Total Co  | ver                        | be present, unless distu                  | nbed of problematic.                      |
| Woody Vine Stratum (Plot size: 15              | )                  |          |             |                            |   |   |
| 1  |                    |          |             |                            | Hydrophytic<br>Vegetation                 |   |
| 2  |                    |          |             |                            | Present? Yes                              | s <u>X</u> No                             |
|  |                    |          | = Total Co  | ver                        |   |   |
| Remarks: (Include photo numbers here           | or on a separate s | sheet.)  |             |                            |   |   |
|  |                    |          |             |                            |   |   |
|  |                    |          |             |                            |   |   |

SOIL Sampling Point: S5W149a

|                             |   | to the dep    |   |             |                         | or confi         | rm the absence of inc          | dicators.)                             |
|-----------------------------|---|---------------|---|-------------|-------------------------|------------------|--------------------------------|--|
| Depth                       | Matrix                                    | 0/            |   | ox Feature  |                         | Loc <sup>2</sup> |                                | Describe                               |
| (inches)                    | Color (moist)                             | <u>%</u>      | Color (moist)                               | %           | <u>Type'</u><br>C       | M                | Texture Silty clay loam        | Remarks                                |
| 0-9                         | 2.5Y7/1                                   | 85            | 10YR 5/8                                    | _ 15        |                         | -                | - <del> </del>                 |  |
| 9-20                        | 2.5Y 8/1                                  | 75            | 10YR 5/8                                    | _ 25        | _ <u>C</u>              | M                | Silty clay loam                |  |
|                             |   |               |   |             |                         |                  |                                |  |
|                             | -   |               |   |             |                         |                  |                                |  |
|                             |   |               |   | _           | _                       |                  |                                | _                                      |
|                             | <del>-</del>                              |               |   | _           | _                       |                  |                                | _                                      |
|                             |   |               |   |             |                         |                  |                                |  |
|                             |   |               |   |             |                         |                  |                                |  |
| <sup>1</sup> Type: C=C      | Concentration, D=De                       | pletion, RM=  | Reduced Matrix, C                           | S=Covere    | ed or Coate             | ed Sand          | Grains. <sup>2</sup> Location: | PL=Pore Lining, M=Matrix.              |
|                             | Indicators:                               |               |   |             |                         |                  |                                | roblematic Hydric Soils <sup>3</sup> : |
| Histoso                     | ol (A1)                                   |               | Sandy                                       | Gleyed M    | latrix (S4)             |                  | Coast Prairie                  | e Redox (A16)                          |
| Histic E                    | pipedon (A2)                              |               |   | Redox (S    |                         |                  | Iron-Mangan                    | nese Masses (F12)                      |
|                             | listic (A3)                               |               |   | ed Matrix ( |                         |                  | Other (Expla                   | iin in Remarks)                        |
|                             | en Sulfide (A4)                           |               |   |             | ineral (F1)             |                  |                                |  |
|                             | ed Layers (A5)                            |               |   |             | fatrix (F2)             |                  |                                |  |
| 2 cm M                      | , ,                                       | (Δ44)         | _X Deplete                                  |             | . ,                     |                  |                                |  |
|                             | ed Below Dark Surfa<br>Park Surface (A12) | ce (A11)      |   | Dark Surf   | race (F6)<br>urface (F7 | ١                | 3Indicators of by              | drophytic vegetation and               |
|                             | Mucky Mineral (S1)                        |               |   | Depression  |                         | )                |                                | ology must be present,                 |
|                             | lucky Peat or Peat (\$                    | 33)           | \\(\begin{align*} \text{Teddx} \end{align*} | Depressi    | 5115 (1 0)              |                  |                                | bed or problematic.                    |
|                             | Layer (if observed                        |               |   |             |                         |                  |                                |  |
| Type:                       | •   |               |   |             |                         |                  |                                |  |
|                             | nches):                                   |               |   |             |                         |                  | Hydric Soil Prese              | ent? Yes X No                          |
| Remarks:                    |   |               |   |             |                         |                  | Tryuno com r rest              | res no                                 |
|                             |   |               |   |             |                         |                  |                                |  |
| HYDROLO                     | OGY                                       |               |   |             |                         |                  |                                |  |
| Wetland Hy                  | drology Indicators                        | :             |   |             |                         |                  |                                |  |
| Primary Ind                 | icators (minimum of                       | one is requi  | ed; check all that a                        | pply)       |                         |                  | Secondary Ind                  | licators (minimum of two required)     |
| Surface                     | e Water (A1)                              |               | Water-Sta                                   | ained Lea   | ves (B9)                |                  | Surface S                      | oil Cracks (B6)                        |
| High W                      | ater Table (A2)                           |               | Aquatic F                                   | auna (B1    | 3)                      |                  | Drainage                       | Patterns (B10)                         |
| X Saturat                   | ion (A3)                                  |               | True Aqu                                    | atic Plants | s (B14)                 |                  | Dry-Seaso                      | on Water Table (C2)                    |
| Water I                     | Marks (B1)                                |               | Hydrogen                                    | Sulfide C   | Odor (C1)               |                  | Crayfish E                     | Burrows (C8)                           |
| Sedime                      | ent Deposits (B2)                         |               | X Oxidized                                  | Rhizosph    | eres on Liv             | ing Root         | ts (C3) Saturation             | Visible on Aerial Imagery (C9)         |
| Drift De                    | eposits (B3)                              |               | Presence                                    | of Reduc    | ed Iron (C              | 4)               | Stunted or                     | r Stressed Plants (D1)                 |
| Algal M                     | lat or Crust (B4)                         |               | Recent Ire                                  | on Reduc    | tion in Tille           | d Soils (        | C6) Geomorph                   | nic Position (D2)                      |
| Iron De                     | posits (B5)                               |               | Thin Muc                                    | k Surface   | (C7)                    |                  | FAC-Neut                       | ral Test (D5)                          |
| Inunda                      | tion Vis ble on Aerial                    | Imagery (B    | 7) Gauge or                                 | Well Data   | a (D9)                  |                  |                                |  |
| Sparse                      | ly Vegetated Concav                       | /e Surface (I | 38) Other (Ex                               | cplain in R | emarks)                 |                  |                                |  |
| Field Obse                  |   |               |   |             |                         |                  |                                |  |
| Surface Wa                  | ter Present?                              | Yes           | No X Depth (ir                              | nches):     |                         |                  |                                |  |
| Water Table                 | e Present?                                | Yes           | No X Depth (ir                              | nches):     |                         |                  |                                |  |
| Saturation F                |   | Yes X         | No Depth (ir                                | nches): 10  | 6"                      | We               | etland Hydrology Pres          | sent? Yes X No                         |
| (includes ca<br>Describe Re | apillary fringe)<br>ecorded Data (strear  | n gauge, mo   | onitoring well, aerial                      | photos, p   | revious ins             | spections        | s), if available:              |  |
|                             | ,   |               | •   |             |                         |                  | ,                              |  |
| Remarks:                    |   |               |   |             |                         |                  |                                |  |
|                             |   |               |   |             |                         |                  |                                |  |
|                             |   |               |   |             |                         |                  |                                |  |
|                             |   |               |   |             |                         |                  |                                |  |
|                             |   |               |   |             |                         |                  |                                |  |

| Project/Site: I-69 Bloomington to Marti            | nsville              |          | City/Coun | nty: Monroe   |   | Sampling Date: 10-13-11                            |
|--|----------------------|----------|-----------|---------------|---|--|
| Applicant/Owner: INDOT                             |                      |          |           |               |   | Sampling Point: S5W149b                            |
| Investigator(s): K. Schroeder, D. White            | е                    |          |           |               |   |  |
| Landform (hillslope, terrace, etc.): Flo           | odplain              |          |           | Local relief  | (concave, convex, none):                          | Concave  |
| Slope (%): <2% Lat: 39.2403                        |                      |          |           |               |   |  |
| Soil Map Unit Name: Bonnie Silt Loam               | 1                    |          | _         |               | NWI classific                                     | ation: PEMC  |
| Are climatic / hydrologic conditions on            |                      |          |           |               |   |  |
| Are Vegetation, Soil, c                            |                      |          |           |               |   |  |
| Are Vegetation, Soil, c                            |                      |          |           |               |   |  |
| SUMMARY OF FINDINGS -                              |                      |          |           |               |   |  |
| Hydrophytic Vegetation Present?                    | Yes X N              | lo       |           |               |   |  |
| Hydric Soil Present?                               | Yes x N              |          |           | the Sampled   |   | No   |
| Wetland Hydrology Present?                         | Yes x N              |          | l wi      | thin a Wetlan | id? fes <u>^</u>                                  | No   |
| Remarks:   |                      |          |           |               |   |  |
|  |                      |          |           |               |   |  |
| VEGETATION – Use scientific                        | names of plants      |          |           |               |   |  |
|  |                      | Absolute | Domina    | nt Indicator  | Dominance Test work                               | sheet:   |
| Tree Stratum (Plot size: 30                        |                      |          |           | Status        | Number of Dominant Sp<br>That Are OBL, FACW, of   | pecies   |
| 2  |                      |          |           |               | Total Number of Domini<br>Species Across All Stra | •  |
| 4.   |                      |          |           |               |   |  |
| 5  |                      |          |           |               | Percent of Dominant Sp<br>That Are OBL, FACW, of  |  |
|  | 15                   |          | = Total C | over          | Prevalence Index worl                             |  |
| Sapling/Shrub Stratum (Plot size: 1                |                      |          |           |               |   | Multiply by:                                       |
| 2.   |                      |          |           |               |   | $x 1 = \frac{45}{}$                                |
| 3  |                      |          |           |               |   | x 2 = 60   |
| 4.   |                      |          |           |               |   | x 3 =  |
| 5  |                      |          |           |               |   | x 4 = <u>20</u>                                    |
|  |                      |          |           |               | UPL species                                       | x 5 =  |
| Herb Stratum (Plot size: 5  1 Polygonum hyrdopiper | )                    | 30       | Υ         | OBL           | Column Totals: 80                                 | (A) <u>125</u> (B)                                 |
| 1. Carex sp.                                       |                      | 30       | <u>Y</u>  | FACW          | Prevalence Index                                  | – R/Δ – 1.56                                       |
| 3. Typha latifolia                                 |                      | 10       | N         | OBL           | Hydrophytic Vegetation                            |  |
| Solidago canadensis                                |                      | 5        | N         | FACU          | X Dominance Test is                               |  |
| 5. Scirpus cyperinus                               |                      | 5        | N         | OBL           | X Prevalence Index is                             |  |
| 6.   |                      |          |           |               | Morphological Adap                                | ptations <sup>1</sup> (Provide supporting          |
| 7.   |                      |          |           |               |   | s or on a separate sheet)                          |
| 8  |                      |          |           |               | Problematic Hydror                                | ohytic Vegetation <sup>1</sup> (Explain)           |
| 9  |                      |          |           |               | 11  | Landonatha ad bookala oo sacat                     |
| 10   |                      |          | -         |               | be present, unless distu                          | I and wetland hydrology must urbed or problematic. |
| Wasda Visas Chrotinas (Diet siese 15               | ,                    | 80       | = Total C | over          |   | <u> </u>   |
| Woody Vine Stratum (Plot size: 15                  |                      |          |           |               | Hydrophytic                                       |  |
| 1.<br>2.   |                      |          |           |               | Vegetation  | V  |
| <u>-</u> .   |                      |          | = Total C | over          | Present? Yes                                      | s <u>X</u> No                                      |
| Domarka: (Include shets sumbare la                 | oro or on a concrete |          |           | -             |   |  |
| Remarks: (Include photo numbers h                  | ere or on a separate | ərieet.) |           |               |   |  |
|  |                      |          |           |               |   |  |
| İ  |                      |          |           |               |   |  |

SOIL Sampling Point: S5W149b

|                        |   | to the dep    |                       |                  |                         | or confi         | rm the absence of ind          | icators.)                                     |
|------------------------|---|---------------|-----------------------|------------------|-------------------------|------------------|--------------------------------|---|
| Depth<br>(inches)      | Matrix Color (moist)                        | %             | Color (moist)         | ox Feature<br>%  | es<br>Type <sup>1</sup> | Loc <sup>2</sup> | _<br>Texture                   | Remarks                                       |
| 0-8                    | 2.5Y7/1                                     | 85            | 10YR 5/8              | <br>15           | C C                     | M                | Silty clay loam                | Remarks                                       |
|                        | <del> </del>                                |               |                       |                  |                         | -                |                                | _   |
| 8-20                   | 2.5Y 8/1                                    | 75            | 10YR 5/8              | 25               | <u>C</u>                | <u>M</u>         | Silty clay loam                |   |
|                        |   |               |                       |                  | _                       |                  |                                |   |
|                        |   |               |                       |                  | ,                       |                  |                                |   |
| -                      |   |               | -                     |                  |                         |                  |                                |   |
|                        | · -   |               |                       | <del>-</del>     |                         |                  |                                | •   |
|                        |   |               |                       |                  |                         |                  |                                |   |
|                        |   |               |                       |                  | _                       |                  |                                |   |
| <sup>1</sup> Type: C=C | Concentration, D=De                         | pletion, RM:  | =Reduced Matrix, C    | S=Covere         | ed or Coate             | ed Sand          | Grains. <sup>2</sup> Location: | PL=Pore Lining, M=Matrix.                     |
|                        | Indicators:                                 |               |                       |                  |                         |                  |                                | oblematic Hydric Soils <sup>3</sup> :         |
| Histoso                | ol (A1)                                     |               | Sandy                 | Gleyed M         | latrix (S4)             |                  | Coast Prairie                  | Redox (A16)                                   |
| Histic E               | pipedon (A2)                                |               |                       | Redox (S         |                         |                  | Iron-Mangan                    | ese Masses (F12)                              |
| Black H                | listic (A3)                                 |               | Strippe               | ed Matrix (      | S6)                     |                  | Other (Explai                  | n in Remarks)                                 |
|                        | en Sulfide (A4)                             |               |                       |                  | ineral (F1)             |                  |                                |   |
|                        | ed Layers (A5)                              |               |                       |                  | 1atrix (F2)             |                  |                                |   |
| 2 cm M                 | , ,   |               | X Deplete             |                  | . ,                     |                  |                                |   |
| -                      | ed Below Dark Surfa                         | ce (A11)      |                       | Dark Surf        | ` '                     |                  | 31 11 6                        |   |
|                        | Dark Surface (A12)                          |               |                       |                  | urface (F7              | )                |                                | drophytic vegetation and                      |
|                        | Mucky Mineral (S1)<br>lucky Peat or Peat (S | 33)           | Redox                 | Depressi         | ons (F8)                |                  |                                | ology must be present,<br>bed or problematic. |
|                        | Layer (if observed                          |               |                       |                  |                         |                  | uniess distan                  | bed of problematic.                           |
| Type:                  | Layer (ii observed                          |               |                       |                  |                         |                  |                                |   |
|                        |   |               |                       |                  |                         |                  | Hydric Soil Prese              | nt? Yes X No                                  |
| Remarks:               | nches):                                     |               |                       |                  |                         |                  | nyaric Soil Prese              | nt? Yes ^ No                                  |
|                        |   |               |                       |                  |                         |                  |                                |   |
| HYDROLO                | OGY   |               |                       |                  |                         |                  |                                |   |
| Wetland Hy             | drology Indicators                          | :             |                       |                  |                         |                  |                                |   |
| Primary Ind            | icators (minimum of                         | one is requi  | red; check all that a | pply)            |                         |                  | Secondary Indi                 | cators (minimum of two required)              |
| Surface                | e Water (A1)                                |               | Water-Sta             | ained Lea        | ves (B9)                |                  | Surface So                     | oil Cracks (B6)                               |
| High W                 | ater Table (A2)                             |               | Aquatic F             | auna (B1         | 3)                      |                  | Drainage F                     | Patterns (B10)                                |
| X Saturat              | ion (A3)                                    |               | True Aqu              | atic Plants      | s (B14)                 |                  | Dry-Seaso                      | n Water Table (C2)                            |
| Water N                | Marks (B1)                                  |               | Hydroger              | Sulfide C        | Odor (C1)               |                  | Crayfish B                     | urrows (C8)                                   |
| Sedime                 | ent Deposits (B2)                           |               | X Oxidized            | Rhizosph         | eres on Liv             | ing Root         | s (C3) Saturation              | Visible on Aerial Imagery (C9)                |
| Drift De               | eposits (B3)                                |               | Presence              | of Reduc         | ed Iron (C              | 4)               | Stunted or                     | Stressed Plants (D1)                          |
| Algal M                | lat or Crust (B4)                           |               | Recent Ire            | on Reduc         | tion in Tille           | d Soils (        | C6) Geomorph                   | ic Position (D2)                              |
| Iron De                | posits (B5)                                 |               | Thin Muc              | k Surface        | (C7)                    |                  | FAC-Neuti                      | al Test (D5)                                  |
| Inundat                | tion Vis ble on Aerial                      | Imagery (B    | 7) Gauge or           | Well Data        | a (D9)                  |                  |                                |   |
| Sparse                 | ly Vegetated Concar                         | e Surface (   | B8) Other (Ex         | plain in R       | emarks)                 |                  |                                |   |
| Field Obse             |   |               |                       |                  |                         |                  |                                |   |
| Surface Wa             | ter Present?                                | Yes           | No X Depth (ir        | nches):          |                         |                  |                                |   |
| Water Table            | e Present?                                  | Yes           | No X Depth (ir        | nches):          |                         |                  |                                |   |
| Saturation F           | Present?                                    | Yes X         | No Depth (ir          | nches): <u>1</u> | 4"                      | We               | etland Hydrology Pres          | ent? Yes X No                                 |
| (includes ca           | apillary fringe)<br>ecorded Data (streai    | n dalide mo   | onitoring well serial | nhotos n         | revious ins             | enections        | s) if available:               |   |
| Describe IX            | corded Data (Streat                         | ii gauge, iii | miloning wen, acriai  | priotos, p       | nevious in              | spections        | s), ii avallabic.              |   |
| Remarks:               |   |               |                       |                  |                         |                  |                                |   |
|                        |   |               |                       |                  |                         |                  |                                |   |
|                        |   |               |                       |                  |                         |                  |                                |   |
|                        |   |               |                       |                  |                         |                  |                                |   |
|                        |   |               |                       |                  |                         |                  |                                |   |

| Project/Site: I-69 Bloomington to Martinsville   |                                 | City/Co  | ounty: Monroe   |                                       | Sampling Date: 2/19/2013   |
|--|---------------------------------|----------|-----------------|---------------------------------------|--|
| Applicant/Owner: INDOT                           |                                 |          |                 |                                       | Sampling Point: S5W149UPL  |
| Investigator(s): D. White, T. Keefe              |                                 |          |                 |                                       |  |
| Landform (hillslope, terrace, etc.): Floodplain  |                                 |          |                 | (concave, convex, none):              | Concave  |
| Slope (%): <2% Lat: 39.2407527058                |                                 |          |                 |                                       |  |
|  |                                 | _        |                 | NWI classific                         |  |
| Are climatic / hydrologic conditions on the site |                                 |          |                 |                                       |  |
| Are Vegetation, Soil, or Hydro                   |                                 |          |                 |                                       |  |
| Are Vegetation, Soil, or Hydro                   |                                 |          |                 |                                       |  |
| SUMMARY OF FINDINGS – Attach                     |                                 |          |                 |                                       |  |
| SOMMANT OF THE BINGS - Attack                    | i site map snowing              | j Saiii  | pinig point it  | ocations, transects                   | , important reatures, etc.   |
|  | es No X                         |          | Is the Sampled  | Area                                  |  |
|  | es No X                         |          | within a Wetlar | nd? Yes                               | No X   |
|  | es No X                         |          |                 |                                       |  |
| Remarks:   |                                 |          |                 |                                       |  |
|  |                                 |          |                 |                                       |  |
| VEGETATION – Use scientific name                 | es of plants                    |          |                 |                                       |  |
|  | Absolute                        | Domi     | inant Indicator | Dominance Test work                   | sheet:   |
| Tree Stratum (Plot size: 30                      |                                 |          | cies? Status    | Number of Dominant Sp                 |  |
| 1  |                                 |          |                 | That Are OBL, FACW,                   |  |
| 2  |                                 |          |                 | Total Number of Domin                 | ant  |
| 3  |                                 |          |                 | Species Across All Stra               | ta: <u>2</u> (B)   |
| 4  |                                 |          |                 | Percent of Dominant Sp                | pecies   |
| 5  |                                 |          |                 | That Are OBL, FACW, o                 | or FAC: 50 (A/B)   |
| Sapling/Shrub Stratum (Plot size: 15             | )                               | _= Tota  | al Cover        | Prevalence Index wor                  | ksheet:  |
| 1  |                                 |          |                 | Total % Cover of:                     | Multiply by:   |
| 2  |                                 |          |                 |                                       | x 1 =  |
| 3  |                                 |          |                 | FACW species 15                       | x 2 = <u>30</u>  |
| 4  |                                 |          |                 |                                       | x 3 =  |
| 5  |                                 |          |                 | · ·                                   | x 4 = 220  |
| Herb Stratum (Plot size: 5                       |                                 | = Tota   | al Cover        |                                       | x = 5 = 6  |
| 1 Festuca sp.                                    | .)<br>35                        | Υ        | FACU            | Column Totals: 70                     | (A) <u>250</u> (B)   |
| 2. Carex sp.                                     | 15                              | Υ        | FACW            | Prevalence Index                      | = B/A = 3.57   |
| 3. Cirsium arvense                               | 10                              | N        | FACU            | Hydrophytic Vegetation                | on Indicators:   |
| 4. Solidago canadensis                           | 5                               | N        | FACU            | Dominance Test is                     | >50%   |
| 5. Eupatorium altisimum                          | 5                               | N        | FACU            | Prevalence Index is                   |  |
| 6  |                                 |          |                 | Morphological Ada                     | ptations <sup>1</sup> (Provide supporting                          |
| 7  |                                 |          |                 |                                       | s or on a separate sheet) phytic Vegetation <sup>1</sup> (Explain) |
| 8  |                                 |          |                 | Problematic Hydrop                    | onytic vegetation (Explain)  |
| 9  | ·                               |          |                 | <sup>1</sup> Indicators of hydric soi | I and wetland hydrology must                                       |
| 10   |                                 | -        |                 | be present, unless distu              |  |
| Woody Vine Stratum (Plot size: 15                | )                               | _ = Tota | al Cover        |                                       |  |
| 1  |                                 |          |                 | Hydrophytic                           |  |
| 2.   |                                 |          |                 | Vegetation                            | a X  |
|  |                                 |          | al Cover        | Present? Yes                          | s No X   |
| Remarks: (Include photo numbers here or o        | nn a senarate sheet \           |          |                 |                                       |  |
| Terraine. (moidde photo numbers nele of C        | a σοραίαιο σπ <del>οσ</del> ι.) |          |                 |                                       |  |
|  |                                 |          |                 |                                       |  |
|  |                                 |          |                 |                                       |  |

SOIL Sampling Point: S5W149UPL

| (inches)<br>0-9   | 0 1 ( 1 1)  | <u> </u>  |  | edox Features  | - 1 . 2   |   | <b>5</b> .   |
|---|---|---|--|--|---|---|--|
|   | Color (moist)   |   | Color (moist)  |  | Type <sup>1</sup> Loc <sup>2</sup>                                |   | Remarks  |
|   | 10YR 4/4  |   | 10YR 5/8   | 5  | <u>M</u>  | Silty clay  |  |
| 9-20  | 10YR4/6   | 95  | 10YR 6/8   | 5  | M   | Silty clay  |  |
|   |   |   |  |  |   |   |  |
|   |   |   |  |  |   |   |  |
|   | -   |   |  |  |   |   |  |
|   |   |   |  |  |   |   |  |
|   | -   |   |  |  |   |   |  |
|   |   |   |  |  |   |   |  |
|   | oncentration, D=D   | epletion, RM=F  | Reduced Matrix,  | CS=Covered or  | r Coated Sand   |   | on: PL=Pore Lining, M=Matrix.  |
| Hydric Soil   |   |   | _  |  |   |   | Problematic Hydric Soils <sup>3</sup> :  |
| Histosol  |   |   |  | dy Gleyed Matrix   | (S4)  |   | irie Redox (A16)   |
|   | pipedon (A2)  |   |  | dy Redox (S5)<br>ped Matrix (S6)   |   |   | anese Masses (F12)<br>plain in Remarks)  |
|   | istic (A3)<br>en Sulfide (A4)   |   |  | ny Mucky Minera  | al (F1)   | Other (Ex   | Diain in Remarks)  |
|   | d Layers (A5)   |   |  | ny Gleyed Matrix   |   |   |  |
| 2 cm Mu   | • , ,   |   |  | eted Matrix (F3)   |   |   |  |
|   | d Below Dark Surl   | face (A11)  |  | ox Dark Surface  |   |   |  |
|   | ark Surface (A12)   |   |  | eted Dark Surfa  |   | <sup>3</sup> Indicators of  | hydrophytic vegetation and   |
| Sandy M   | Mucky Mineral (S1   | )   | Red  | ox Depressions (   | (F8)  | wetland hy  | drology must be present,   |
|   | ucky Peat or Peat   |   |  |  |   | unless dis  | turbed or problematic.   |
| Restrictive I   | Layer (if observe   | ed):  |  |  |   |   |  |
| Type:   |   |   |  |  |   |   | V  |
| Depth (in   | ches):  |   |  |  |   | Hydric Soil Pre   | esent? Yes No X  |
|   |   |   |  |  |   |   |  |
| HYDROLO   | GY  |   |  |  |   |   |  |
|   | GY<br>drology Indicato  | rs:   |  |  |   |   |  |
| Wetland Hy  |   |   | ed; check all tha  | t apply)   |   | Secondary I   | ndicators (minimum of two required)  |
| Wetland Hyd<br>Primary Indic  | drology Indicato  |   |  | t apply)<br>Stained Leaves   | (B9)  |   | ndicators (minimum of two required) Soil Cracks (B6)   |
| Wetland Hyd<br>Primary Indic<br>Surface   | drology Indicato  |   | Water-   |  | (B9)  | Surface   |  |
| Wetland Hyd<br>Primary Indic<br>Surface   | drology Indicato<br>cators (minimum o<br>Water (A1)<br>ater Table (A2)  |   | Water-<br>Aquatio<br>True A  | Stained Leaves<br>Fauna (B13)<br>quatic Plants (B1   | 14)   | Surface<br>Drainag<br>Dry-Sea   | e Soil Cracks (B6)<br>ge Patterns (B10)<br>gson Water Table (C2)   |
| Wetland Hyd Primary Indic Surface High Wa Saturatio   | drology Indicato<br>cators (minimum o<br>Water (A1)<br>ater Table (A2)  |   | Water-<br>Aquatio<br>True A<br>Hydrog  | Stained Leaves<br>c Fauna (B13)<br>quatic Plants (B1<br>len Sulfide Odor   | 14)<br>(C1)   | Surface<br>Drainag<br>Dry-Sea<br>Crayfisl                             | e Soil Cracks (B6)<br>ge Patterns (B10)<br>ason Water Table (C2)<br>n Burrows (C8)   |
| Wetland Hyd Primary Indic Surface High Wa Saturatic Water M   | drology Indicato<br>cators (minimum o<br>Water (A1)<br>ater Table (A2)<br>on (A3)   |   | Water- Aquatic True Ac Hydrog Oxidize  | Stained Leaves<br>Fauna (B13)<br>quatic Plants (B1<br>len Sulfide Odor<br>ed Rhizospheres  | 14)<br>(C1)<br>on Living Roc                                      | Surface Drainag Dry-See Crayfisl Sts (C3) Saturat                     | e Soil Cracks (B6)<br>ge Patterns (B10)<br>ason Water Table (C2)<br>in Burrows (C8)<br>ion Visible on Aerial Imagery (C9)  |
| Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep   | drology Indicato<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)<br>darks (B1)<br>nt Deposits (B2)<br>posits (B3)   |   | Water- Aquation True A Hydrog Oxidize Presen   | Stained Leaves of Fauna (B13) quatic Plants (B1) len Sulfide Odor ed Rhizospheres ce of Reduced II   | 14)<br>(C1)<br>on Living Roc<br>ron (C4)                          | Surface Drainag Dry-See Crayfisl Sts (C3) Saturat Stunted             | e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) n Burrows (C8) ion Visible on Aerial Imagery (C9) I or Stressed Plants (D1)   |
| Wetland Hyd Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma  | drology Indicator<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)<br>darks (B1)<br>int Deposits (B2)<br>posits (B3)<br>at or Crust (B4)   |   | Water- Aquatic True A Hydrog Oxidize Presen Recent   | Stained Leaves of Fauna (B13) quatic Plants (B1) en Sulfide Odor ed Rhizospheres oce of Reduced Internal Reduction   | (C1)<br>on Living Roc<br>ron (C4)<br>in Tilled Soils              | Surface Drainage Dry-Sea Crayfisl ots (C3) Saturat Stunted (C6) Geomo | e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) n Burrows (C8) ion Visible on Aerial Imagery (C9) I or Stressed Plants (D1) rphic Position (D2)   |
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| Wetland Hyden Primary Indice Surface High Water Mater | drology Indicator<br>cators (minimum of<br>Water (A1)<br>ater Table (A2)<br>on (A3)<br>flarks (B1)<br>nt Deposits (B2)<br>posits (B3)<br>at or Crust (B4)<br>posits (B5)<br>on Vis ble on Aeri<br>y Vegetated Concestations:<br>er Present? | al Imagery (B7) ave Surface (B                          | Water Aquatic True Accepted  | Stained Leaves of Fauna (B13) quatic Plants (B1) quatic Plants (B1) en Sulfide Odor ed Rhizospheres oce of Reduced In Iron Reduction ouck Surface (C7) or Well Data (D8) Explain in Rema   | (C1) on Living Roc ron (C4) in Tilled Soils ) 9)                  | Surface Drainage Dry-Sea Crayfisl ots (C3) Saturat Stunted (C6) Geomo | e Soil Cracks (B6) ge Patterns (B10) ason Water Table (C2) n Burrows (C8) ion Visible on Aerial Imagery (C9) I or Stressed Plants (D1) rphic Position (D2)   |
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