Round Lake Beach:
Wetland Management Plan

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Table of Contents

Purpose:

This Management Plan outlines information which may be used to guide officials on how to identify, assess, enhance, and protect the wetlands in Round Lake Beach outlined in a year 5-, year 10-, and year 20- plan.

Overview:

A wetland, as defined by Lake County, is land that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydropathic vegetation typically adapted for life in saturated soil conditions.

Wetlands provide a variety of benefits that support a thriving community, including but not limited to: flood protection, improved water quality, wildlife diversity, habitat, and recreational areas. With the unique diversity of plants and animals, wetland ecosystems provide numerous educational opportunities.

When working with management plans, restoration is frequently utilized. The term restoration refers to a plan to return an area back to its former capacity through manipulating the land characteristics. This plan heavily stresses restoration and implements strategies to aid bringing these wetlands back to their unique state.

The Village of Round Lake Beach Comprehensive Land Use Plan 2009 references to a few of the wetland sites as part of the Village's key developmental areas. Wetlands noted as such will have additional information from the Comprehensive Land Use Plan in Appendix II.

The goal of this plan is to be proactive the first several years then reactive in order to aid in the restoration, maintenance, and enhancement of local wetlands to their natural capacity over the course of year 5-, yea 10-, and year 20- plans.

History of Restoration

Round Lake Beach has previously restored valuable wetland areas such as Round Lake, Mayfield Drain, and Hook Lake. The following is a compilation of projects that Round Lake Beach has conducted in past years:

- Round Lake Drain Ecosystem Restoration Project – In 2013, Round Lake Beach collaborated with Lake County and Round Lake Area Park District to restore Mayfield Natural Drain (B) and Central Park (A) & (B). The project incorporated restoration of the creek, wetland and prairies around the water way. A trail is now maintained by the Round Lake Area Park District constructed within the wetlands.
- Hook Lake – In 2000, Round Lake Beach installed a recirculation pumps at Hook Lake to regulate water level and oxygenate the water. In 2017 the recirculation pump was removed for repairs but has not been returned as of to date.
- Clarendon Dr. Channel Dredging Phase I - Dredging of the Round Lake channels by Lake County Storm Water Management Commission (LCSMC) and the US Army Corps of

Engineers began in 2007. Dredged material was transported north of Village Hall where the Round Lake Area Park District developed the land into sports fields.

- Cedar Lake Channel Dredging Phase II – Dredging of the Round Lake channels by Lake County Storm Water Management Commission (LCSMC) and US Army Corps of Engineers began in 2008. Dredged material was transported north of Village Hall where the Round Lake Area Park District developed the land into sports fields.

The Village of Round Lake Beach has an estimated 256.16± acres of wetland within its limits. An estimated 65.43± acres of those 256.16± acres of wetlands are owned by the Village. The remaining 190.73± acres of wetland are owned by the Round Lake Area Park District. These areas are categorized as: Natural Areas, Parks, Drainages, Retention, and Detention ponds.

Drainage/Retention/Detention Ponds:

Many of the wetlands in Round Lake Beach were constructed following land development into homes and commercial buildings. These wetlands fall into three categories of primary use: drainages, retention, and detention ponds. For the purpose of this plan when referring to the naturalizing and development of the sites for the betterment of the environment the terms wet basin (retention pond) and naturalized basin (dry detention basins) will be used.

Retention Ponds & Wet Basins

A retention pond is designed to hold a specific amount of water indefinitely. These are developed to slow runoff water from developed areas such as impervious surfaces and buildings. When a retention pond is to be used beyond storm water control it will be referred to as a wet basin. The United States Environmental Protection Agency (US EPA) defines a wet basin as a structure used to control and treat storm water runoff. The primary use of wet basins is to remove pollutants from the water by allowing solid particles to drop out of suspension. The use of native vegetation improves water filtration, as plant life actively recycles these nutrients. Additionally, Lake County has found that wet basins tend to be more effective in nutrient removal and quality control than dry basins. Of the 32 Round Lake Beach wetland sites, 48.39% are classified as retentions. Wet basins range in size from the smallest at 0.04± acres (Woodoak) to the largest at 6.32± acres (Carriage).

Dry Detention Basins/Naturalized Basin

Dry Detention Basin/Naturalized Basin is a low lying area that is designed to hold a specific amount of water temporarily. Similarly to retention ponds, dry detention basins are also designed to slow runoff water from developed areas, such as impervious surfaces and buildings. Detention basins can be found in two forms: a mowed low lying area with no native plant vegetation or a low lying area with vegetation growing within and around the perimeter. If native vegetation is planted in a detention basin, this is referred to as a naturalized detention basin or naturalized basin. For the purpose of this plan, when referring to the restoration of a detention pond the term naturalized basin will be used. The EPA and Lake County have found that naturalized dry detention basins provide many positive results for the area, including improvement of storm water quality and provide habitat to local wildlife. Additionally, the use of native vegetation in detention ponds aids

in filtering pollutants, improve aesthetic value and wildlife habitat, and is low maintenance and upkeep once established, as opposed to the average grass turf basins. Of the 32 wetland sites in RLB, Lindsay is the only area primarily used as a detention basin.

Drainage

Drainage is a low lying area designated to slowly re-direct excess water to another location. In the Village, drainage was denoted for parcels with streams. Most of the wetlands owned by the Village have a primary use as a drain. Drains range in size from the smallest being 0.12± acres (Meadowbrook D) upwards to 16.23± acres (North Channel).

Natural Area/Open Space

The term natural area and open space are synonymous in that they are in place to protect land with significant ecological, historical, geological, or aesthetic importance to a community or organization. A natural area is recognized as an undisturbed area preserved for its natural beauty or ecological significance. Lake County defines an open space as an area that promotes the conservation of natural plant growth, wetlands, soil, and hydrology. An open space is considered to enhance the value of public spaces located adjacent to these areas. In the Comprehensive Land Use Plan, all natural areas within Round Lake Beach are considered an open space.

For the purpose of this plan, natural areas will be recognized. Generally the natural areas in this plan are areas that serve an ecological significance and provide aesthetic value to the community. Many of the Village owned sites are identified as natural areas.

Park

The Village of Round Lake Beach identifies parks as active and passive recreational areas which usually serve children and adults in an urban area within a radius of approximately one-half mile. Neighborhood parks generally adjoin public elementary schools and may include such features as ball diamonds and play areas toward the interior of the site so the perimeter can be landscaped to buffer sound. Please refer to Ord. No. 01-04-01, 4-23-2001 Sec. 320.0 Designation of Recreational Space and Permanent Common Open Space for additional information.

Management Goal:

It is the aim of Round Lake Beach to restore and protect the native diversity of wetland ecosystems throughout the Village by following sound environmental practices and policies.

Below are listed objectives created to achieve the overall management goal of Round Lake Beach.

Short – Term Goals:

1. Eliminate Encroachment into Wetlands
   Encroachment is defined as the taking of possessions or rights. Encroachment of neighboring homes can create hazards for the homeowners and the integrity of the wetland. Excessive mowing suppresses natural vegetation growth, causing unstable shorelines and placement of structures too close to active waterways, putting them at risk of collapsing into the waterway.
   a. Mowing: when a site is mowed to the shoreline of a waterway, this leaves the area vulnerable to erosion. Shorelines need deep rooted native vegetation to stabilize the soil and reduce erosion.
   b. Structures: homeowners who have homes that border active waterways are in danger of structural damage due to erosion caused by the waterway.
      Reducing safety hazards: In order to mitigate erosion near homeowner's it is important to be proactive about bank stabilization and preventing undermining of banks. This can be achieved by methods such as creating buffer zones, placing rip – rap, grass strips, and planting of native vegetation.
   c. Dumping: Dumping of undesirable material (yard waste and garbage) onto natural areas such as wetlands creates hazards for the ecosystem.
2. Litter Control
   Litter is a growing problem in many wetlands where neighboring homes and passing individuals have been discarding trash into the site. This trash can become hazardous to the wildlife and finds its way into waterways. Ways to reduce the volume of trash disposed of in these areas includes:
   a. Community/residential involvement: Through community involvement such as scheduling community clean – up days, the public comes to together to remove trash from the wetland.
   b. Install trash bins: Installing trash receptacles in high traffic areas where there are large amounts of trash found on the site.
   c. Educate public on proper dumping sites: Notify the public places where to take unwanted tires, electronics, and old car parts.
3. Informative signs
   Installing signs that inform the public of restoration efforts or the designation of a site will peak public interest and support to maintain these areas.
4. Monitor Sites
   Staying informed of changes to the wetland allows proper action to be taken if a site drastically deteriorates due to natural or unnatural causes.

5. Erosion control
   Many sites are faced with erosion to different degrees and without erosion control will continue to degrade.

Long – Term Goals:

1. Invasive species control
   Many of the sites covered in this plan have established mature invasive species encroachment on site. Control of these species can take years of active treatment to reduce the established plants. A combination of the following treatment will be the best method of control of aggressive invasive species:
   a. Herbicide treatment (treating plants via chemicals)
   b. Mechanical treatment (removing invasive by using chainsaws, handsaws, etc.)
   c. Prescribed burning (burning set locations in a controlled manner)
2. Public outreach
   Outreach is an important component in maintaining the success of a restoration project.
   a. Public Education: Educating the public/community on the importance of wetlands and how wetlands benefit them is beneficial in active involvement from the community.
   b. River Clean Up: Implement River Clean Up days where the community can aid in the maintenance of the wetlands through the removal of trash from the streams. Additionally, involving Public Works employees on the clean-up days will keep debris from damning the waterways.
3. Re-establish native species
   Establishing native species is essential in filtering pollutions, controlling shoreline erosion, and attracting native wildlife to the area. Additionally, native vegetation is better suited to the climate and soil of the region, allowing for healthy development of the site.

Management Tools:

The following are tools important in building a plan and proper management techniques when eradicating invasive species.

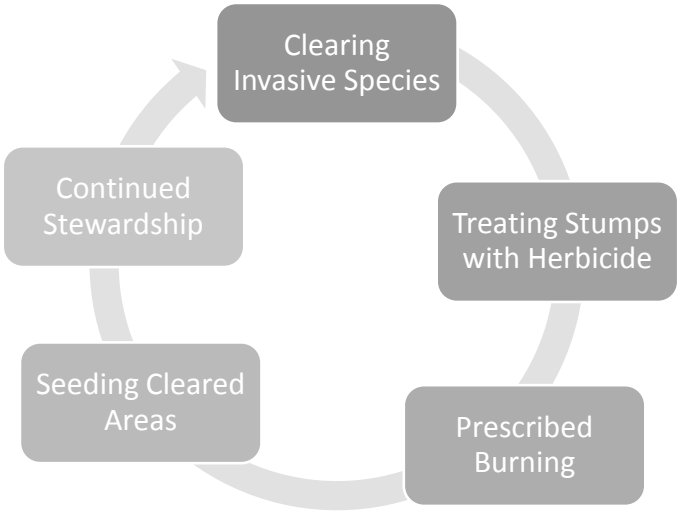
Ecological Inventories

An ecological inventory is the collection of data used to determine how to best manage a site. Generally, an ecological inventory is conducted by a professional naturalist and/or a restoration contractor. Information regarding the vegetation's life cycle, native and invasive status, and present location is recorded. This information allows officials to understand what is present at each site and which sites are of higher priority to restore. A basic inventory of invasive species present at each site has been conducted (See Site Evaluations).

Flora Management Techniques

Wetlands are capable of accommodating a diverse ecosystem due to its diversity in unique plant species, but invasive species threaten this diversity. All Village sites have invasive species present, with the degree of severity varying from site to site. Due to invasive species dominance there is **little to no established native plant populations** at any of the wetland sites. Native plants are essential in maintaining diversity and reaping the full benefits provided by wetlands.

The use of the following diagram illustrates ideal techniques in eradicating invasive/undesirable plants from wetland environments. Each technique should be used in conjunction with one another to ensure optimal results.



*The listed techniques are discussed in detail in the Restoration Overview (page 17).

Management Practices:

The following subjects identify steps and information that should be acknowledge before breaking ground. Each step is based on information gathered during site visits and research. The following subjects will be discussed in this section: current challenges, approach, funding, finance, implementation, and site development.

Current Challenges

There are numerous challenges associated with restoring wetlands. Each wetland comes with varying degrees of difficulties depending on a variety of factors such as size, location, hydrology, and vegetation to name a few. To add to the challenge, wetlands vary from heavily wooded bottomlands to open fields with no tree canopy, such that each area has its own unique problems. After evaluating all the wetland sites, **seven prominent challenges** were identified. The following challenges are described, in no particular order, below:

a) Established invasive species
Invasive species make eradication difficult to control. Mature plants spread aggressively throughout a site, outcompeting native plants for resources. Figure 1.1

b) High vegetation density
Very dense vegetation is difficult to treat. Many sites have a combination of high vegetation density and small sites with little room for movement making successful treatment a challenge. Sites are commonly located between homes and on active waterways. Figure 1.1

c) Water proximity
Working near waterways poses the challenge of highly erodible soil and possibility of chemical drift when treating invasive species. Figure 1.2

d) Hydrology
Hydrology is another challenge where too much water creates channels or causes extreme erosion and not enough water causes algae build up and hypoxia. Figure 1.3


Central Park (A) 1.1


North Channel 1.2


Hawthorne 1.3

e) Dumping
Neighboring homeowners dumping into the waterways or onto wetland sites is a recurring issue with a few sites. This makes keeping the waterway clear and clean difficult. Additionally, wetlands located next to high traffic roads accumulate trash tossed along the edges. Figure 1.4


Meadowbrook (A) 1.4

f) Site disturbance or/alteration
A few sites have been altered or disturbed. These disturbances include continuous mowing and development into a commercial building or parking lot. Figure 1.5


Chicory (A) 1.5

g) Ownership
Ownership is another challenge as a few sites have multiple owners such as the Park District, commercial, and private owners. Without all owners involved in restoration, the success of the site will be difficult.

Approach

In order to gain control of the high density of vegetation/invasive species, clearing, herbicide, burning and seeding will be utilized. It should be noted that a combination of treatments need to be used in order to successfully control undesirable species. For example, if an herbicide treatment is utilized, clearing of invasive species should be followed to reduce likelihood of re-sprouting or after clearing, a burn should be implemented in the area.

The following is a list of the best approach in the restoration process:

1) Clear invasive/undesirable plant and tree species using mechanical devices or through manual labor. This should be the first step towards restoring the area.

2) Herbicide treatment on all invasive species using spot sprayers for accuracy is ideal. Additionally, use stump treatment on woody species with a caliper diameter of at least 1.5”.

4) Planting seeds and native plant plugs in restored areas will add diversity and attract wildlife. Planting of native vegetation stabilizes soil reducing shoreline erosion.

5) Stewardship of restored sites is important in maintaining the vigor and health of the site. Active management such as monitoring sites each growing season and controlling of

Using water safe herbicides are crucial when working so close to waterways and storm drains. Herbicide labels will state if the chemical is safe for use near waterways. Follow up is important when utilizing chemicals to ensure mortality of targeted species.

3) Burning large wetland areas during the fall and early spring will control high density wetland areas. Burns will remove many unfavorable woody vegetation and invasive species. Prescribed burns revitalize the area, adding nutrients to the soil for native vegetation to grow.

weeds/invasive species will ensure the health of the wetland.

6) Public education on subjects such as invasive species, benefits of wetlands, and proper places to dispose of large trash will aid in the public's understanding of why wetland restoration is important. Implementing programs to collect common trash found in waterways such as tires can reduce the number of debris found in the waterways.

Funding

There are many grant programs available for funding wetland restoration projects. Illinois Department of Natural Resources (IDNR), Lake County Stormwater Commission (LCSMC), and National Fish and Wildlife Foundation (NFWF) have programs in place to fund projects that aim in the restoration of inland wetlands. These programs vary by project size and funding available. The IDNR funds coastal wetland projects with an award amount between $1,000 and $100,000 for government entities in economically challenged communities. Annually LCSMC puts aside $12,000 for applicants of the Watershed Management Assistance Grant (WMAG). The goal of this program is to bring the community together to identify and resolve problems of local watershed in Lake County. NFWF provides $20,000 to $50,000 grants nationwide with an average award size of $30,000. Grants between $30,000 and $50,000 are generally two-year programs. For a general list of grants available refer to Appendix II.

*This is not a comprehensive list and it is recommended to refer to agency website for a complete list and qualifications specified for each grant.

Finance

It is important to understand the time and resources expected of the Village in order to implement restoration. Time refers to the amount of man hours needed to complete a task such as clearing, treating, planting a site. Resources refers to tasks conducted in–house through the Public Works Department and those that need to be outsourced to a contractor to complete. The number of hours spent at each site differs based on the site's level of degradation and size. Contract work may be required depending on the equipment needed and scale of a project area. The Public Works Department and volunteers are capable of conducting debris and trash pickup. Projects that recommend prescribed burning and or/ herbicide use will require a licensed professional, such as a contractor, to perform. Table 1 provides a summary of estimated cost for Year 5-, 10-, and 20-Plans with an estimated total cost of this entire management plan. Please refer to Appendix B: Funding for a complete financial break down.

* Note: Plan timeline

Due to the vast quantity of actions required to restore the wetlands, this plan has been divided into three components: Year 5, Year 10, and Year 20. The Year 5 Plan will constitute Years 1 through 5. The Year 10 Plan will focus on Years 6 through 11 and the Year 20 Plan will cover Years 11 through 20. It is important to note the year the plan is implemented in the Village and restoration efforts begin will constitute as Year 1. These components were designated as a formal way to divide up the actions required by each wetland to ensure wetlands with a higher priority are handles in a timely manner, but over a span that will not financially overwhelm the Village.

Figure 1: Plan Timeline

Table 1: Finance Summary

Priority\Maint Type	Year-5	Year-10	Year-20
Priority A			
Preliminary Maintenance	$277,109	$188,119	$59,382
Restoration Maintenance	$26,018	$27,380	$1,472
Total Priority A	$303,127	$215,499	$60,853
Priority B			
Preliminary Maintenance	$13,409	$1,237,938	$197,762
Restoration Maintenance	$37,745	$92,306	$3,886
Total Priority B	$51,154	$1,330,245	$201,648
Priority C			
Preliminary Maintenance	$35,668	$111,317	$261,501
Restoration Maintenance	$88	$8,190	$7,377
Total Priority C	$35,757	$119,507	$268,878
Total	$390,038	$1,665,251	$531,379
Grand Total			$2,586,668

Implementation

The implementation of this plan will include creating a priority list, annual site visits, and ecological inventories. A contractor will need to be contacted for projects that require specialized equipment or trained professionals to conduct. Before implementation of any project and site visit, an ecological inventory should be conducted to see firsthand what challenges and problems are on site to give a better understanding of what needs to be done. A priority list that places all the sites in different categories based on level of degradation or hazards allows sites with higher priorities to have a greater urgency. The categories that will be used in this plan will be A, B, and C, with A classified as more urgent and C classified as less urgent.

As with any Village, additional sites may be acquired in the future that constitute as natural areas. These sites will be treated identically as the sites listed below as they will be visited firsthand to complete an ecological inventory of the new parcel. The site's future management path will then be determined based on the site's severity of degradation (i.e. is it an A, B, or C priority). Upon this determination, a site from this management plan should be chosen of the same priority standing as the new parcel's current condition, location, and function for the Village. Doing so will provide an outline of what the site's 5-, 10-, and 20-year plan will look like.

An additional note, homeowner complaints may shift wetland priorities in the future. Any changes in planning not discussed in this plan can be found in Appendix F, where a list of sites and specific homeowner complaints can be found.

Site Development

Site development can be viewed as the construction or placement of material that enhances a site through interactive activities or display of information. Site development is key in gaining attention and support from the community on restoration efforts. Accessibility through creative trail construction brings the community into the natural area, while informative signs educate individuals on what can be found in the natural area. Site development encompasses a variety of items; examples include informative signs, recreational trails, and wildlife viewing area.

Informative signs notify the public of plants, wildlife, and insects that can be found within a site. Other ideas include simple signs that state the location is a wetland or under restoration by the Village of Round Lake Beach. Placement of recreational trails in large sites can show case the entirety of the wetland.

Additionally, a trail placed in large sites makes management easier by providing access to the site and division of large areas. Creating bird viewing areas where the public can observe birds and other wildlife without disturbing them is a great way for the public to better appreciate the wetlands. One feasible way of achieving this would be through viewing blinds, which are partially enclosed wooded building with small openings that allow visitors to view birds. This should be installed after ensuring adequate room is available in the area to build such a structure.

Natural Area Management Site List:

The following pages consist of general site descriptions of all the Village owned wetlands in Round Lake Beach. Site descriptions outline the location, surroundings, and findings from site visits conducted in 2018. The listed wetlands are all part of the Lake County Wetland Inventory (LCWI) but only a few are identified as Advanced Identification Wetlands (ADID). Most sites have had minimal to zero upkeep to them, resulting in heavy growth of invasive species. In addition a few sites have multiple property owners.

The Lake County Wetland Inventory (LCWI) is kept up by the Lake County Geographic Information System staff who periodically review and update it. They map natural and artificial wetlands that meet the definitions established by the federal agencies.

Advanced Identification (ADID) Wetlands are boundaries of designated high quality wetlands established as a result of a formal process directed by the US EPA. Part 404(b)(1) of the Clean Water Act authorizes the USEPA and the US Army Corps of engineers to identify specific permit requests for aquatic sites which will be considered as areas generally unsuitable for disposal of dredged or fill material.

The Lake County Wetland inventory delineations were last updated in 2002 and the Advanced Identification (ADID) Wetlands were last updated in November 1992. The Lake County Wetland (LCWI) is updated on an irregular basis while there is no planned update for ADID wetlands.

Table 2: Round Lake Beach Wetlands

Map I.D. #	Site Name	General Location	Acreage	Land Owner	Group	Brief Description/ Comments	Primary use	Secondary/ Future use
Map 16	Carriage	North Carriage Court & East of the railroad tracks	6.32±	Village	C	Located out of public view (except a few homes). High density of invasive species.	Retention	
Map 23	Central Park (A)	North Central Park Dr. & south Ronald Terrace	1.99±	Village	A	Dense invasive species growth throughout. Trash lines the border and a trail is located at the eastern corner of the site.	Drainage	
Map 26	Central Park (B)	South Central Park Dr. & north Mayfield Dr.	2.12±	Village	A	Frequent flood zone. Invasive species are young but frequent through the site. There is a trail on the west that goes through the site.	Drainage	
Map 28	Channel	East public works building between Sunset Avenue, Long Lake Dr, & Lotus Dr	10.8±	Village, Com-Ed	B	Heavily invaded by invasive species. Large tree debris in the stream. Ownership is divided with com-ed.	Drainage	
Map 4	Chicory (A)	South Camden Lane & East Orchard Lane	1.41±	Village	C	Mowed pond surrounded by homes. Used recreationally by homeowners.	Retention	
Map 10	Chicory (B)	Between Hook Rd. &Chicory Lane	0.25±	Village	B	Actively mowed, moderate erosion along banks. Flooding common	Retention	
Map 8	Eagle Creek (A)	South Eagle Creek Dr. & north Yvonne Court	0.46±	Village	C	Actively mowed area no vegetation growth (except grass). Apparent erosion and soil instability	Drainage	
Map 9	Eagle Creek (B)	Between Willow Ridge Drive & Redwood Dr.	0.58±	Village	C	Actively mowed, vegetation growing from drain 5’ out from. Trash damning waterway.	Drainage	
Map 24	Hawthorne	Between Hawthorne Dr. & Clarendon Dr.	0.88±	Village	B	Dense invasive species throughout. Beaver damage to the north. Located next to Millennium Trail	Drainage	

Map 1	Hook Lake	North of Mallard Creek Shopping Center and west of Round Lake Beach Metra station	33.73±	Park, Village	A	High traffic area used recreationally. Invasive species growing densely along the shore.	Retention	Recreational
Map 7	Karen	North Karen Lane & south Lindsay Rd.	0.87±	Village	C	Access is difficult and invasive species are moderate.	Retention	
Map 5	Lindsay	Between Lindsay Dr. & Karen Lane	5.48±	Village	C	Large natural basin with high density of invasive species.	Detention	
Map 30	Lotus	Borders Long Lake Dr. & Lotus Dr.	1.65±	Village, Com-Ed	B	This site is heavily eroded and has invasive species throughout.	Drainage	
Map 12	Mallard Creek (A)	North Hook Road & east Round Lake Metra Station Driveway	0.12±	Village	A	Located in high traffic spot. Isolated by active mowing. Moderate invasive species density	Retention	
Map 14	Mallard Creek (B)	North Hook Rd. & west of Round Lake Metra Train Station Driveway	0.24±	Village	A	Located in high traffic spot. Isolated by active mowing. Heavy invasive species density on the banks.	Retention	
Map 15	Meadowbrook (A)	Between Pheasant court & Rollins Rd.	0.86±	Village, Private	A	Active storm drain. Heavy erosion along the banks pose problem to neighboring home.	Drainage	
Map 17	Meadowbrook (B)	Between Pheasant Court & Lagoon Terrace	0.15±	Village	C	Large amounts of trash present on site. Moderate erosion and invasive species encroachment.	Drainage	
Map 18	Meadowbrook (C)	South Sunset park & between Meadowbrook Dr., Golfview Dr., &Walnut Dr.	0.18±	Village	C	Active drain with heavy erosion along banks. Heavy trash presence throughout the site.	Drainage	
Map 19	Meadowbrook (D)	Between Lotus Dr. & Deerpath St.	0.12±	Village	C	Low lying area with little to no water flow. Heavy trash/debris in the water.	Drainage	
Map 20	Meadowbrook (E)	Between Meadowbrook Drive & Sunset Avenue	0.9±	Village	A	Heavy erosion and trash apparent on site. Wires lying in the waterway.	Drainage	

Map 11	Nicole	East Nicole Lane & west Orchard Lane	0.23±	Village	A	Located out of public view. Few invasive species present.	Retention	
Map 25	North Channel	Between North & South Channel Dr.	16.23±	Village	B	Trash present on the banks and within waterway. Site heavily wooded. Ducks present during the winter.	Drainage	
Map 6	Oaktree Savannah Natural Wetland Conservation Area (A)	Center of Oaktree Trail	4.37±	Village	A	Federally protected area with high density of invasive species and within public view. There is a quote for restoration.	Retention	
Map 13	Oaktree Savannah Natural Wetland Conservation Area (B)	Northwest Rollins Rd. & South Oak Tree Circle	0.25±	Village	C	Federally protected area. High vegetation density and moderate invasive density on site.	Retention	
Map 3	Orchard (A)	South Camden Lane & East Orchard Lane	0.72±	Village	C	Located out of public view. High invasive species density	Retention	
Map 22	Orchard (B)	Between Orchard Court & Highland Terrace	1.27±	Village	A	Extreme amounts of erosion on the southern part. Trash accumulating on the site.	Drainage	Retention
Map 29	Southmoor	Between Mayfield Dr. & Southmoor St.	1.23±	Village	B	Heavy amounts of trash accumulating on the stream. Mussels found on site. Light invasive species density.	Retention	
Map 21	Meadowbrook (F)	Between Meadowbrook Drive & Sunset Avenue	0.26±	Village	A	Heavy to moderate erosion present on site. Large trash present on site.	Drainage	
Map 27	Woodland	Between Woodland Dr.&Idlewild Dr.	3.69±	Village	B	Large area with moderate invasive species and trash. In the north are light Beaver damage.	Drainage	
Map 2	Woodoak	East Woodoak Dr. & South Fox chase Rd.	0.04±	Village	C	Small wetland located within a detention basin. Low density of invasive species.	Retention	Detention
Total			65.43±					

Carriage: 6.32± Acres [map 16]

This property is located north of Carriage Court and East of the railroad tracks. The Village owns 1/5th of this property while the remaining property is privately owned. The wetland consist of two ponds. Both ponds have floating vegetation on the surface and cattails on the border; with heavy density of cattails in between the ponds. Overall invasive density is moderate through this site. Vegetation lacking along the shoreline.

Central Park (A): 1.99± Acres [map 23]

This property is located north of Central Park Drive and south of Ronald Terrace. The site borders residential homes to the north and east. Exotic vegetation is extremely dense on the borders of the property but thins out toward the center of site. The center of site has aggressive growth of cattails. The southern end has vegetation on the surface of the waterway. This site is owned by the Village.

Central Park (B): 2.12± Acres [map 26]

Located south of Central Park Drive and north of Mayfield Drive. This property borders residential homes to the east and west. On the western border is a trail that goes north to south of the property. Water within the wetland is stagnant with vegetation growing on the surface. Heavy density of exotics growing along. This site is owned by the Village.

Channel: 10.80± Acres [map 28]

This property is located east of the public works building between Sunset Avenue, Long Lake Drive, and Lotus Drive. The site is heavily invaded by invasive species and dead tree debris in the stream. Ownership of site is divided between the Village of Round Lake Beach and Com-ed.

Chicory (A): 1.41± Acres [map 4]

This site is located between Chicory Lane and East Wheatfield Lane. Residential homes surrounded the property. Litter such as concrete and plastics found within the stream. Aquatic vegetation present in the pond. The pond is recreationally used by homeowners bordering the boundary. This site is owned by the Village.

Chicory (B): 0.25± Acres [map 10]

This property is located between Hook Road and Chicory Lane. Residential homes border the northwestern part of the property while East and South ends are surrounded by mature tree species. Moderate erosion along banks and pond surface is covered in floating vegetation. Few invasive species on site. This site is owned by the Village.

Eagle Creek (A): 0.46± Acres [map 8]

This location is south of Eagle Creek Drive and north of Yvonne Court. The wetland has been completely mowed over. The property borders a sidewalk to the north and a few residential homes to the south. Vegetation is sparse near the culverts and no exotics on site but stems present. Frogs found within the waterway. This site is owned by the Village.

Eagle Creek (B): 0.58± Acres [map 9]

This site is located between Willow Ridge Drive and Redwood Drive. The property is isolated by mowing done around the boundary. The site is surrounded by residential homes but only borders the property line of one home. There is dense vegetation growth within waterway and along the shoreline. Exotics are sparse throughout the site. Frogs found within the waterway. This site is owned by the Village.

Hawthorne: 0.88± Acres [map 24]

This site serves as a drainage from Round Lake located between Hawthorne Drive and Clarendon Drive. The southern area is residential homes while the north end opens into a field where Millennium Trail is located. The stream is stagnant with algae covering 80% of the stream surface. There is natural and man-made debris in the drain. Native and exotics vegetation is growing dense throughout the site. This site owned by the Village.

Hook Lake: 33.73± Acres [map 1]

This site serves as a recreational area for the residents of Round Lake Beach and a retention pond. Located north of Hook Road and west of the Railroad tracks. There are residential homes located to the west of the Lake, a park to the north, and business south of the lake. Invasive species border the lake and aquatic species are taking over areas of the lake making fishing difficult.

Karen: 0.87± Acres [map 7]

This area is located north of Karen Lane and south Lindsay Road. The southern border runs along residential homes and the north opens into forested area. Exotics are moderate throughout the site with some areas dense. Trash lines the border of where the homes and the wetland meet.

Lindsay: 5.48± Acres [map 5]

Located between Lindsay Drive and Karen Lane this wetland borders homes all around the property. The site is heavily invaded by exotic species, on the borders and center of the site. Trash lines the border of the wetland. This site is owned by the Village.

Lotus: 1.65 ±Acres [map 30]

The property borders Long Lake Drive and Lotus Drive in the Southwest part of Round Lake Beach. The site is partly owned by the Village of Round Lake Beach and Com-ed. This site is heavily eroded along stream banks and patches of invasive species growing throughout the area.

Mallard Creek (A): 0.12± Acres [map 12]

This property is located north of Hook Road and west of Round Lake Metra Station Driveway. Isolated by a mowed lawn the pond has invasive species growing along the border. A moderate amount of trash is gathering on the western end of the site.

Mallard Creek (B): 0.24± Acres [map 14]

This site is located north of Hook Road and west of Round Lake Metra Train Station Driveway. The wetland is isolated by a mowed lawn. The culvert is compromised by cattails growing within. The border is heavily invaded by invasive species. This site is owned by the Village.

Meadowbrook (A): 0.86± Acres [map 15]

This site located is between Pheasant court and Rollins Road. Neighboring the site are private homes to the south and commercial building to the north of the site. There is no continuous water flow due to the storm drain. The waterway is only active during heavy rain events and snow melts. The banks are heavily eroded with retaining wall collapsing on the southern end of the site. Invasive species are growing along bank edges. The Village only owns half of this site the other half is owned by a private entity.

Meadowbrook (B): 0.15± Acres [map 17]

Located between Pheasant Court and Lagoon Terrace this site is a very active storm drain; surrounded by private homes. Large amounts of trash coming from local landowners are spilling into the wetland. Moderate erosion on the northern end of the site and large amounts of woody debris are found at the southern end of the site. Moderate management being done on deadly nightshade. This site is owned by the Village.

Meadowbrook (C): 0.12± Acres [map 18]

This site is located between Lotus Drive and Deerpath Street; with residential homes to the north and a retirement building located to the south of the site. Dead trees have fallen into the waterway and there is moderate erosion along the banks. There is a large amount of trash in the stream and the bank throughout the site. The western side of the wetland is dense with exotic species. This site is owned by the Village.

Meadowbrook (D): 0.18± Acres [map 19]

This site is located south of Sunset park and between Meadowbrook Drive, Golfview Drive, and Walnut Drive. This property is surrounded by residential homes in exception to the northwestern part of the site. Dead trees are strewn on and over the banks. Erosion varies throughout the site from extreme to light. At the northern part of the site the water has discoloration from possible oil leaching into water. Heavy amount of trash is found throughout the site. This site is owned by the Village.

Meadowbrook (E): 0.90± Acres [map 20]

Located between Meadowbrook Drive and Sunset Avenue. This property borders residential homes to the east and west. The north and southern ends border Golfview Drive and Morningside Drive. The waterway is heavily eroding into local landowner properties. Heavy amounts of trash along the banks, within the stream, and at the base of the culverts. Wires from overhead poles are lying within the stream. This site is owned by the Village.

Meadowbrook (F): 0.26± Acres [map 21]

This property is located between Meadowbrook Drive and Sunset Avenue. This site borders homes to the east and west. The north and southern ends border Morningside Drive and Highland Terrace. Heavy to mild erosion on the stream banks. Large pieces of trash present in the waterway. Areas with dense rose bush throughout the site.

Nicole: 0.23± Acres [map 11]

This property is located east of Nicole Lane and west of Orchard Lane; the area is surrounded by woodland. Cattails are aggressively growing throughout the site and Lilli pads covering the surface of the water. Very few invasive species in exception to phragmites and cattails. There is a future plan to expand the wetland east to create a conservation area.

North Channel: 16.23± Acres [map 25]

This site is located between North and South Channel Drive with residential homes to the north and south. To the west are commercial business. Trash is heavily present on the banks and within the stream itself. Possible dumping from neighboring homes. Invasive species are of moderate density throughout the site. This site is owned by the Village.

Oaktree Savannah Natural Wetland Conservation Area (A): 4.37± Acres [map 6]

This site is a federally protected wetland conservation area. The site is located within Oak Tree Trail and surrounded by residential homes. Ponds showing large amounts of algae growth. There is currently a plan regarding restoring the area. This site is owned by the Village.

Oaktree Savannah Natural Wetland Conservation Area (B): 0.25± Acres [map 13]

This site is a federally protected wetland conservation area located northwest of Rollins Road and South of Oak Tree Circle. The site has two residential homes bordering the East and the West. The southern end borders Rollins Road. This site has a moderate density of exotics around the border. Permitting must be reviewed before any work can be done on the site. This site is owned by the Village.

Orchard (A): 0.72± Acres [map 3]

This wetland is located south of Camden Lane and East of Orchard Lane. Ownership of the parcel is partly by private landowners and the Village. Few residential homes border the northern end of the wetland while the reaming parts of the wetland border Northshore Park. The area is heavily invaded by invasive species but is isolated.

Orchard (B): 1.27± Acres [map 22]

Located between Orchard Court and Highland Terrace this property borders residential homes to the southeast and west. Additionally owned by the Village of Round Lake Beach. Trash is accumulating on the southern end of the site. Extreme amounts of erosion present on the southern end of the stream with mild to light erosion to the north. Exotics are present but not dominating site.

Southmoor: 1.23± Acres [map 29]

This site is a wetland serving as a drainage from Round Lake; located between Mayfield Dr. and Southmoor Street. The property is surrounded by residential homes to the north and south. Some species of mussel have been found on site. Heavy amounts of trash is accumulating in the stream, on the banks, and land beyond. There are signs of light erosion along the banks but nothing serious. Invasive vegetation is not dense in this site but should be acknowledged. This site owned by the Village.

Woodland: 3.69± Acres [map 27]

This site is located between Woodland Drive and Idlewild Drive. This property is surrounded by residential homes; in exception of six points where the site meets with a road. The site has trash build up in the northern part. While random sections of the banks showing holes indicating erosion. Trees along the northern end of the site show possible damage from beavers. This site is owned by the Village.

Woodoak: 0.04± Acres [map 2]

This site is located west of Woodoak Drive and south of Fox Chase Drive; isolated by a mowed lawn. The wetland is located within a detention basin. There are very few exotics within the wetland and a few cattails but does not pose immediate threat do to overall size of wetland. This site owned by the Village.

The Round Lake Drain:

The Round Lake Drain is a man-made drain that runs through the southern boundary of Round Lake Beach, connecting Round Lake to Long Lake. The purpose of the drain is to direct water from large water bodies such as Hook Lake and Round Lake to Long Lake where it will travel to Chain O' Lakes to travel further throughout the Fox River Watershed.

This drain includes eleven of the wetlands discussed in this plan, four of which are maintained by the Park District (additional information may be found in Appendix A). Due to the size and area covered by Round Lake, a management plan specifically devoted to this drain and waterway will be created based on the availability of additional time and future funds. The following wetlands are a part of the Round Lake Drain in chronological order from Round Lake to Long Lake:

Table 3: Round Lake Drain Wetlands

Sites	Site Evaluation Page	Sites	Site Evaluation Page
North Channel [Map 25]	Pg. 45	Mayfield Natural Drain Area (B) [Map 68]*	Pg. 63
Hawthorne [Map 24]	Pg. 32	Central Park (A) [Map 25]	Pg. 25
Woodland [Map 27]	Pg. 52	Central Park (B) [Map 28]	Pg. 26
Channel [Map 30]	Pg. 24	Fairfield [Map 66]*	Pg. 57
Southmoor [Map 29]	Pg. 48	Long Lake Park and Natural Area (A) [Map 31]*	Pg. 61
Mayfield Natural Drain Area (A) [Map 67]*	Pg. 62		

(*) Denotes a site property owned by the Park District

Table 3. Highlights all of the wetlands which are a part of the Round Lake Drain. Maintaining the natural hydrology of this drain is important in reducing potential flooding of the neighborhoods adjacent to the waterway as well as any roads built above the Drain.

Connecting Round Lake to the Round Lake Drain is the channel found straight north of Round Lake. This channel has faced large amounts of degradation caused by massive silt deposits into the channel. In 2007, an extensive dredging project was started along the channel to remove excess organic material and help deepen the channel. The Dredging project was split into two phases: Phase I Clarendon Dr. Channel Dredging and Phase II Cedar Lake Channel Dredging. The organic material was then deposited into the field just north of Village Hall where it was converted into sports fields.

Due to homeowner encroachment onto the shoreline, maintaining restoration along the channels is difficult. Keeping the channel clear is a high priority for the health of the overall drain, but due to high nutrient, organic matter, and boating in the channel area, the channels are filling themselves. If left unmaintained, these channels will naturally fill themselves back up and alter the hydrology in the area, drastically affecting nearby homeowners. With the complications associated with handling multiple homeowners, severe shoreline erosion, and sedimentation due to various recreational activities on Round Lake, the management plan for this waterway will be included in the plan for the Drain.

Restoration Overview

Listed below are descriptions of each task and a general recommendation of techniques successfully used by other agencies in restoring wetlands. Important terms significant to the restoration process have been defined.

Invasive vs. Exotic

Terms such as invasive and exotic can easily be confused in the identifying of problematic species. According to the IDNR web page, invasive species are defined as "… one that is not native to a particular ecosystem and that does or is likely to cause harm to the environment and/or the economy." A common example of an invasive species is Autumn Olive, a vigorous shrub easily identified by its silver leaves. An exotic species is defined as "…one that was not present at the time when settlers from Europe began to arrive in the land that is now our state. They are also known as nonnative species or nonindigenous species." An example of a commonly seen exotic is Amur Honeysuckle, a woody shrub found in a variety of ecosystems. Many exotic species can be identified as an invasive and vice versa. This causes a lot of confusion as the terms can be easily misused. For the purpose of this plan the term invasive will be recognized when referring to all and any species that pose a threat to natural ecosystems.

Noxious Plant List

Noxious plant species have been identified in this plan and are identified by the federal government as high priority plants to eradicate. The sale, planting and, transport of plants identified as noxious plants is **illegal**. The United States Department of Agriculture's webpage defines noxious plants as "a plant that is particularly troublesome. Legal Context (Federal Plant Protection Act) - any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment." A few examples of plants that are on the noxious list in Illinois are: Kudzu, common ragweed, giant ragweed, and Johnson grass. Any noxious species named through this plan will be identified with an asterisk (*). See Table 4 for a complete list of noxious plants.

Nuisance Species

A nuisance species is an opportunistic plant that takes advantage of favorable resources to spread quickly through a site. Many times if this plant is not regulated or challenged will quickly dominate the site creating a monoculture. For the purpose of this plan the term nuisance will be used to identify native species that have the capabilities of becoming problematic to the ecosystem. Examples of nuisance species include: grapevine, sandbar willow, and deadly nightshade. See Table 4 for complete list of nuisance plants.

Table 4: Invasive Species & Nuisance Species

Tree/Shrubs		Herbaceous plants	
Common Name	Latin Name	Common Name	Latin Name
• Callery Pear/ Bradford Pear • Black Locust • Bush Honeysuckle • Burning Bush/ Winged Euonymus • White Poplar	• *Pyrus calleryana* • *Robinia pseudoacacia* • *Lonicera x muscaviensis* • *Euonymus alatus* • *Populus alba*	• Bull Thistle • Canada Thistle* • Chicory • Common Buckthorn • Common Burdock • Common Plantain • Common Ragweed* • Creeping Charlie/ Ground Ivy • Crown Vetch • Curly Dock • Eurasian Water Milfoil • European High Bush Cranberry • Garlic Mustard • Giant Ragweed* • Goutweed • Multiflora rose • Phragmites • Purple loosestrife • Queen Anne's Lace • Smooth Buckthorn/ Glossy Buckthorn • Sow Thistle • Sweet White Clover • Teasel • Thistle Sp. • Timothy	• *Cirsium vulgare* • *Cirsium arvense** • *Cichorium intybus* • *Rhamnus cathartica* • *Arctium minus* • *Plantago major* • *Ambrosia artemisiifolia** • *Glechoma hederacea* • *Securigera varia* • *Rumex crispus* • *Myriophyllum spicatum* • *Viburnum opulus* • *Alliaria petiolata* • *Ambrosia trifida** • *Aegopodium podagraria* • *Rosa multiflora* • *Phragmites australis* • *Lythrum salicaria* • *Daucus carota* • *Frangula alnus* • *Sonchus oleraceus* • *Melilotus albus* • *Dipsacus fullonum* • *Sonchus spp.* • *Phleum pratense*
Nuisance Species			
Common Name	Latin Name		
• Black raspberry • Canada Goldenrod • Cattail • Deadly Nightshade • Horsetail • Sandbar willow • Speckled alder • Grapevine • Virginia creeper	• *Rubus spp.* • *Solidago Canadensis* • *Typha spp.* • *Atropa belladonna* • *Equisetum spp.* • *Salix exigua* • *Alnus incana* • *Vitis spp.* • *Parthenocissus quinquefolia*		

Clearing

Clearing a site of all invasive and undesirable woody vegetation is an important part of the restoration process**. Clearing commonly refers to the removal of woody vegetation through mechanical or manual labor.** Many of the sites included in this plan have had no previous management leading to influx of invasive presence at almost all the sites. In many of these sites, invasive species have completely dominated the site out competing native vegetation and in some areas creating a monoculture – rather than the diversity seen in wetlands.

There are a variety of methods available to clear a site of invasive species. Many of the wetland sites are small and restrict the size/ amount of people who can work on the area. Due to this, it is practical to use small handheld tools such as chainsaws, brush saws, and/or hatchets to remove woody vegetation. With this said there is opportunity to use larger equipment in more spacious wetlands with a greater amount of access. However, due to average size of Village owned wetlands the use of small hand tools for clearing will be the most common method. Clearing with hand tools will take more time overall but is more effective in targeting problematic species and treating stumps. In comparison to large equipment such as forestry mowers that are great in clearing sites with high vegetation density very quickly but there is no way to conduct follow – up treatment of problematic vegetation following the use of this equipment.

There are always pros and cons when approaching methods for clearing. It is recommended to review all methods and chose the one that best fits the parameters of the job. Additionally, when conducting work in wetland environments it is important to use low impact methods to reduce the amount of compaction and overall disturbance to the site.

Following clearing and/or mortality of target vegetation debris should be removed from the site and burned or mulched. Removing woody debris from treated sites allows natural vegetation to regenerate from the seed bank.

Herbicide

The use of herbicide is an effective measure in controlling invasive species if used correctly, but working within wetlands **limits the kinds of herbicides used to treat many of the invasive species present**. Due to proximity to water it is important to use aquatic friendly herbicides. Generally, using herbicides with active ingredients such as *Glyphosate* and *Triclpyr* are ideal when treating aggressive invasive species. *Glyphosate* is a broad spectrum herbicide (targets both grass species and broad leaf) and *Triclopyr*, is a broad leaf specific herbicide. The NRCS mentions the use of chemicals in wetland environments are an effective method of control when used correctly, though caution should always be used when working in sensitive environments. Table 4 shows a list of invasive species present in many of the wetlands in Round Lake Beach. The following steps discuss important information that must be acknowledged before using herbicide:

- Method of Application
  Application include the use of spot sprayers, stump painting, and stem injection. The named methods of application target specific species as compared to other methods such as boom sprayers that treat large areas but do not target specific individuals. Generally,

broad spectrum herbicides are used with boom sprayers. This increases the likelihood that native vegetation will be affected by treatment as well as the invasive species.

- Use of Surfactants
  Surfactants aid in reducing chemical drift and the likelihood of the chemicals becoming volatile. Surfactants can be included in the chemical mix of the herbicide or it can be purchased individually and added to the herbicide before application. Surfactants are beneficial in use when there is high humidity, high wind speeds, and if light rain is expected.

- Weather Awareness
  Weather conditions such as: relative humidity, temperature, wind speed, and rain probability should be noted when treating with any chemical. The named factors can influence the possibility of drift and effectiveness of the application. Rain can quickly dilute water based herbicides and temperature can cause herbicides to become volatile.

Prescribed Burns

Prescribed burning is an effective tool in reducing vegetation density, diversifying vegetation, controlling woody vegetation growth, and control of invasive species. The IDNR defines prescribed burning "[as] the planned application of fire to naturally occurring vegetative fuels, under specified environmental conditions and following appropriate precautionary measures that causes the fire to be confined to a predetermined area and accomplishes the planned land management objectives". Before any prescribed burn can take place a burn prescription is needed. A burn prescription is a plan for conducting a burn; the plan highlights the purpose of a burn. A purpose of a burn can also be known as the goal that is trying to be reached through a burn, such as reduction of vegetation density, control of invasive species, and promoting regeneration of fire dependent vegetation. Generally a prescription is created by a certified prescribed burn manager who takes into account the goals of the landowner in order to build a prescription.

It should be known that not all areas are suited for a burn as there can be a variety of aspects that may restrict the use of a burn such as: distance from residential homes, high traffic roads, power lines, size of site, density/ type of vegetation present, ladder fuels, etc.… Speaking to a certified burn manager about the possibility of a burn is recommended due to the size and location of many of the wetlands within Round Lake Beach.

Planting

Planting is an important part of any restoration process. Planting includes a combination of native plant plugs and seeding of a site. Native plant plugs are developed plants that have had some root development as compared to seeds that need time to establish into the soil. Planting native plants will restore the site to its former glory. All sites have a seed bank where seeds are naturally stored overtime, but it is difficult to know what plants will emerge. This is especially true for sites that have been dominated by invasive species for years. In order to ensure the integrity of the site

spreading native seeds and planting native plant plugs will provide the diversity and density needed for a site to flourish.

When choosing a seed mix or native plant plug there will be a variety of options available. Factors to keep in mind when choosing seed mixes are light levels, hydrology, soil type, and habitat. There are many wetland seed mixes on the market such as wet mesic prairie, tall mesic prairie, emergent shoreline wet meadow and wet mesic prairie. Each contains a different variety of plants specialized to specific sites. Speaking to a naturalist about ideal plant species for each site is recommended when choosing seed mixes or native plant plugs. Depending on weather conditions, spring and summer are the best time to begin any planting so as to give plants time to build important root structure before winter.

Stewardship

Stewardship is the active management of a natural area over time. The IDNR states that stewardship programs are created to help in restoration and the maintenance of natural resources. Active management and maintenance of a natural area includes the treating of invasive species, planting of native vegetation, burning, mowing, etc.… of a site. Active stewardship keeps undesirable vegetation from dominating a site and allows native vegetation to flourish. The first few years of a new restoration project will require a large amount of time to maintain the area. Over time this will decrease as the native vegetation is established and invasive species are under control. Although the amount of time needed on a site may decrease, there will never be a time where stewardship is no longer needed. Natural areas need active stewardship to continue thriving in a time where invasive species are becoming more prominent in natural ecosystems.

Collaboration with local volunteer groups is an important resource to explore when planning future stewardship. Volunteer groups are generally made up individuals from the local community who want to make a difference in their local natural areas. Collaborating with local volunteers can ensure that stewardship is continued.

Benefits of Improving & Restoring Wetlands

Wetlands are known for their rich diversity and dynamic relationships. Wetlands play an important role for the landscape that are beneficial for all living organisms, including the plants to the humans who utilize the resources provided by the wetlands. A few benefits include: water quality, flood mitigation, shoreline erosion control, recreation, and aesthetic beauty.

Improving an already established wetland provides the following benefits:

Education Component

Wetlands provide education opportunity for communities, schools, non-profit organization, and governments. Aspects such as wildlife, plants, hydrology, and water quality can be learned from wetlands. Additionally interactive class work can be conducted within wetlands to allow individuals to better understand the functions and values of a wetland. Walking the community through local wetlands personalizes the wetlands. In other words, individuals are able to see the

wetland as an important part of their community rather than a mosquito incubator or just another natural area. Through education and active involvement in local wetlands common stigmas can be reduced, including increase in mosquito's populations, West Nile carried by mosquitoes, and flooding to name a few negative ones. It is important to remember the importance of public outreach before beginning a restoration project, as recalled with the uproar from the neighboring community when the Mayfield Natural Drain was restored. Please see Appendix E for a list of natural area programs conducted at other municipalities.

Significant Flood Hazard Reduction

Wetlands naturally recycle water from rain/snowmelt events in order to reduce flooding downstream by slowing water movement and storage. First, wetland adapted vegetation, such as trees and plants, disrupt water movement forcing the water to disperse. This action allows the water to disperse throughout the wetland and slowly continue downstream. The second way wetlands reduce flood hazards is through their holding capacity. Holding capacity of a wetland is based on the ability of vegetation and soil in the wetland to absorb excess water and is dependent on the size of the wetland. The combination of reducing water speed and wetland holding capacity leads to lower flood heights and erosion downstream.

Structural Damage Reduction (if located near a home)

Restoration of wetlands will reduce future structural damage of homes located near waterways. Structural damage occurs when active waterways degrade the soil on banks causing the soil to become unstable and collapse. Overtime erosion will increase in severity and in some instances cause structural damage to local land owners. A common hazard seen in many of the sites discussed in this plan are fences that are in danger of collapsing into waterways due to severe erosion. Restoration of wetlands will reduce the water speeds in highly active waterways, thereby reducing erosion. Additionally, naturalizing areas with heavy erosion will stabilize the soil, decreasing the chances of structural damage.

Nonpoint Source pollution (NPS) Reduction

Wetlands intercept materials such as sediment, nutrients, chemicals, and other pollutants. The Center for Watershed Protection (CWP) has found that stormwater wetlands can remove as much as: 80% of total suspended solids, 50% Total Phosphorus, 30% total Nitrogen, 50% Metals, and 70% Pathogens from stormwater. The given percent's are based on information gathered from newly constructed stormwater wetlands. Suspended sediment and other material are also able to drop out of collected water, resulting in cleaner water downstream. The IDNR has found that pollutants not immediately absorbed by the wetland can get trapped in the sediment where it is broken down by microorganisms in the soil.

Shoreline Stabilization

Wetlands play an important role in shoreline stabilization such as reducing water velocity and binding soil. Wetlands disperse large amounts of water throughout the ecosystem where native plants slow high velocity water and aid in dispersing the water throughout a large area. The

vegetation found in wetlands have roots that descend deep into the soil stabilizing the soil. This reduces water velocity as the water leaves the wetland, reducing the likelihood of severe shoreline erosion beyond the wetland. Additionally, planting of natural vegetation along the banks of active waterways aids in stabilizing the soil and reducing water velocity beyond wetlands.

Site Evaluations:

The following list gives a site description of each wetland with a list of plant species found (native & invasive) and recommendations for restoration of the site. All site recommendations are general and **have not been confirmed by a professional**. It is recommended to speak to a specialist for specific native plant variations that best suit a site for planting. Nuisance plant species are noted within the plant lists under Nuisance category.

Additionally, all herbicides used must be approved for use near waterways. To reduce drift, spot sprays should be used in the application of all herbicides. The application of herbicides should always be handled by individuals with an Illinois applicator or operator herbicide license. Additionally, stump treatment is to be used following the cutting of an undesirable species and foliar sprays should be used on herbaceous plants or individuals too small to cut. It is also crucial to determine wetland boundaries beforehand as some boundaries encroach on residential property. These properties are noted in the site description.

Included in the site evaluations are priority classification for each site. Sites range from high priority A to low priority C. In Group A, sites are chosen based on density of invasive encroachment, hazards to the public, and/or location. With Group B, sites are dictated by severity of erosion and invasive encroachment on site. Generally sites placed in this group have a lower level of degradation. In Group C, sites are low priority due to low density of hazards such as erosion, invasive presences, and/or distance from public view, such as sites that are located within wooded lots or are isolated by residential homes. Priority groups are based on observation made in 2018 and can change based on hazards or funding implication that may arise in the coming years.

Site Evaluation

CARRIAGE
1.23± Acres
Map 16

Site Description: This site has two ponds one small pond to the east and a larger pond to the west. During the spring and fall the ponds are covered with floating vegetation. Heavy density of cattails are growing between the ponds and along the border of the ponds. The high density of invasive species in the area makes the area difficult to travel through. There is no apparent erosion at the water edge but the area is lacking vegetation growth.

Note: this Village only owns 1/3rd of this property while the reaming parts of the wetland are owned by private entities.

Predominate Invasive:

Herbaceous: Purple Loosestrife, Sow Thistle, Common Burdock, Phragmites, Canary Grass, and Creeping Charlie

Tree/Shrubs: Common Buckthorn & Smooth Buckthorn

Nuisance: Grapevine, Cattails, Deadly Nightshade, Sandbar Willow

Priority Group: Group C

Recommended steps for restoration:

Year 5 Plan:

Remove trash from site.

Year 10 Plan:

Speak to other land owners about the restoration of the area. Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitored to avoid any future outbreaks.

Year 20 Plan:

Monitor area for invasive species outbreaks and treat outbreaks using the same methods used before. Plant native species along the banks of the waterway. Speak to a professional about ideal plants species to use on site.

Note: Due to multiple ownership of this wetland all owners need to come together to create an agreement for the restoration of the wetland otherwise invasive species will continue to be a problem on this site.

Site Evaluation

Central Park (A)
1.99± Acres
Map 23

Site Description: This site serves as a drain and is heavily overrun by invasive species throughout the site. Many of the trees are dead or dying at the center of the site but there are a few maple saplings around the outskirts of the property there is new plant growth (shrub/tree) along the border of the wetland but no obvious growth within the site. The southern border has a heavy amount of trash from the adjacent road. A trail maintained by the Park District runs from the southwest part of the area north to Beverly drive. Mature buckthorn is isolated to a few areas throughout the site. Restoration work has been done on the site in the past but since then has become overgrown.

Note: An estimated 0.6± acres at the northwest part of the property is privately owned.

Predominate Invasive:

Herbaceous: Reed Canary Grass, Purple Loosestrife, Giant Ragweed*, Common Ragweed*, Sow Thistle, Phragmites

Tree/Shrubs: Common Buckthorn

Nuisance: Cattails, Sandbar Willow, Deadly Nightshade, Canada Goldenrod

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. A burn may be desirable in thinning the vegetation and better control invasive species on site. It is recommended to speak with a fire expert or local fire agency on the possibility of conducting a prescribed burn on this site. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks. Remove trash from the waterway and banks of the property. Following the treatment and removal of the invasive species plant native species to restore this site into a naturalized basin.

Year 10 Plan:

The site should be closely monitor to avoid any future invasive outbreaks. Plan a way to slow water flow in the drain or disperse the water from the drain to the rest of the site. Create a detention pond off the drain for access water during heavy rain or melt events.

Year 20 Plan:

Continue monitoring site. Established vegetation needs to be thinned every few years. Through prescribed burning or any other methods that can thin the vegetation to maintain diversity.

Note: This is an important open space part of the key development Area #5b of the Comprehensive plan (Refer to Appendix II for more information). [Update: Trail running through site village responsibility for mowing]

Site Evaluation

Central Park (B)
2.12± Acres
Map 26

Site Description: This is a low lying area that frequent floods. Western homes are located on a hill while eastern homes are vulnerable are to flooding due to run off and heavy rain. Snow melt events. The drain has a large density of vegetation growing in the stream at the northern point of the property and the southern end is a clear stream moving south toward the Mayfield Natural Drain. There is a light beaver damage along the western banks of the stream. The damage is isolated to the southern part of the property. Young maple and buckthorn are taking over the area between the stream bank and the trail. This site has had restoration work done in the past but has not been active in recent years (Appendix II).

Note: 0.21± acres of the eastern wetland boundary cuts into 11 residential properties.

Predominate Invasive:

Herbaceous: Purple Loosestrife, Giant Ragweed*, Curly Dock, Phragmites, Reed Canary Grass, Canada thistle*, Common Ragweed*, Queen Anne's lace, Sow Thistle, Creeping Charlie

Tree/Shrubs: Common Buckthorn

Nuisance: Grapevine, Cattails, Canada goldenrod, Sandbar Willow

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Treat invasive species every growing season to gain control of the site. Following the mortality of the invasive species remove dead plant matter from the site. Plant native vegetation along the bank to replace removed invasive species. Speak to a professional on proper vegetation to plant on site to ensure plant viability.

Year 10 Plan:

Repeat treatment to ensure control and avoid a relapse of invasive dominance on the site. Monitor native vegetation establishment.

Year 20 Plan:

Monitor site for invasive species out breaks and vigor of native vegetation. Treat any invasive species that appear on site.

Note: This is an important open space part of the Key Development Area #5b of the Comprehensive plan (Refer to Appendix II for more information).

[Update: Trail running through site village responsibility for mowing]

Site Evaluation

Channel
18.02± Acres
Map 28

Site Description: This site serves as both a drain and a natural detention basin. The drain is located in northeast corner of the property. South of the drain is 18± acres a dumping site for material; this area is cleared for use. The area is a bottomland forest with species such as maple, elm, and ashe. The northwester part of the property is clear with the exception to a riparian buffer an estimated 5 to 10 feet from the water's edge out. The riparian buffer follows the stream through the clearing in the north until the woodland appears at the east part of the property.

Note: The northwest part of the property is owned by com-ed. While the south – southeast part is owned by the Village.

Predominate Invasive:

Herbaceous: Canada golden rod, Reed canary grass, Bull thistle, Queen anne's lace, Common burdock, Phragmites, Chicory, Purple loosestrife, Crown vetch, Creeping Charlie

Tree/Shrubs: Common Buckthorn, Multiflora Rose, Smooth Buckthorn, Cranberry European High Bush

Nuisance: Cattails & Grapevine

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

Contact all owners on working together on restoration of the wetland. Remove trash from the wetland edges and waterway.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks.

Year 20 Plan:

Monitor site for invasive species out breaks and vigor of native vegetation. Treat any invasive species that appear on site.

Site Evaluation

Chicory (A)
1.41± Acres
Map 4

Site Description: This retention pond is regularly mowed deterring the growth of any vegetation with the exception to a few areas directly next to the pond where a few plants are growing. Regular mowing of the site to the water's edge is causing severe erosion along the shoreline. Large rocks have been placed at the base of the shoreline to slow erosion. Along the banks young buckthorn is emerging. The site is an active goose and duck area leading to a heavy amount of bird fecal matter around the area to leach into the pond water.

Predominate Invasive:

Herbaceous: Common Ragweed*, Garlic Mustard, Bull Thistle, Queen Anne's Lace, Purple Loosestrife, Sow Thistle

Tree/Shrubs: Common Buckthorn

Nuisance: N/A

Priority Group: This site is placed in Group C.

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Place a no mowing buffer around the pond.

Year 10 Plan:

Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. Plant native vegetation along the banks of the pond in order to create a buffer for water runoff and to re-stabilize the banks.

Year 20 Plan:

The site should be closely monitor to avoid any future invasive outbreaks. Any invasive species found should be treated immediately.

Site Evaluation

CHICORY (B)
0.25± Acres
Map 10

Site Description: This site only incorporates the pond itself but, for the purpose of this plan important findings that are in correlation to this wetland will be highlighted. North of the pond is a natural spring that has created channeling over time. There is evidence of ponding around the boundary and erosion along the banks of the pond. There are three culverts around this pond one to the east, west, and south. Young buckthorn is appearing along the banks of the pond.

Predominate Invasive:

Herbaceous: Common Ragweed*, Purple Loosestrife, Queen Anne's lace, Sweet White Clover, Giant Ragweed*

Tree/Shrubs: Common Buckthorn

Nuisance: Virginia creeper, Grapevine, Sandbar Willow

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

Remove trash from the waterway and banks of the wetland.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks. Plant native vegetation on the banks. Speak to a professional about ideal plants to place on the site to improve plant success.

Year 20 Plan:

Monitor plants for establishment and continue treatment on any present invasive species.

Site Evaluation

Eagle Creek (A)
0.46± Acres
Map 8

Site Description: This drain is regularly mowed deterring the growth of vegetation other than grass. Along the banks are signs of erosion and unstable soil. Holes are forming around the culvert and following the drain. Trash and natural debris is cumulating in the culverts. During heavy rain events/ snow melt events this waterway has a steady flow of water through the site. There are also signs of channeling (not serious) from homes located uphill (south of wetland), from the drain.

Note: The wetland boundary intersects a residential property to the southwest.

Predominate Invasive:

Herbaceous: N/A

Tree/Shrubs: N/A

Priority Group: Group C

Recommended steps for restoration:

Year 5 Plan:

Remove trash and natural debris from obstructing the drain.

Year 10 Plan:

This is a low priority site thus restoration of this site will be included on the year 20 plan.

Year 20 Plan:

Plant native vegetation along the drain. Due to the unstable soil along the uphill areas of the drain it is recommended to plant vegetation on the slopes to re-stabilize the soil. It is recommended to speak to a specialist on correct plant species to plant on the site to improve success of plant establishment. Place a no mowing sign to allow native vegetation to establish.

Site Evaluation

Eagle Creek (B)
0.58± Acres
Map 9

Site Description: This drain is regularly mowed with the exception of the drain itself which has been allowed to maintain a variety of plant species. There are signs of channeling from water runoff from neighboring homes and there is trash and natural debris cumulating on the southern culvert.

Predominate Invasive:

Herbaceous: Reed canary grass, Giant ragweed*, Queen Anne's lace, Purple loosestrife, Curly dock, Sow thistle, Goutweed

Tree/Shrubs: N/A

Nuisance: Cattails & Deadly nightshade

Priority Group: Group C

Recommended steps for restoration:

Year 5 Plan:

Clear debris from culverts. Remove trash from the waterway and banks of the wetland.

Year 10 Plan:

Year 20 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks. Expand the native vegetation growth to beyond just the drain area. It is recommended to speak to a specialist on correct plant species to plant on the site to improve success of plant establishment.

Site Evaluation

HAWTHORNE
0.88± Acres
Map 24

Site Description: The stream is stagnant unless there is a heavy rain or melt event. The center of the property serves as a retention pond. During the fall there is an increase of algae on the water's surface. Water us damned on the western part of the waterway. There is heavy erosion around the western culvert where water from the road is flowing into the stream. On the northern part of the banks holes are forming in the soil due to eroding soil. Retaining wall on the southern part of the property is collapsing. There is light beaver damage on the trees and mall shrubs but nothing serious. It should be noted that there are mature bush honeysuckle growing along the northern property.

Predominate Invasive:

Herbaceous: N/A

Tree/Shrubs: Common Buckthorn & Bush Honeysuckle

Nuisance: Grapevine

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

Place rip-rap on the sides of the culvert to slow run-off from the road into the stream. Remove trash from stream.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks. Plant native wetland species along the banks specifically around the retention pond. Re-build retaining wall on southern bank. All retaining walls should be monitored every few years.

Year 20 Plan:

Monitor native vegetation establishment and invasive species outbreak. Treat any invasive species present on the site.

Site Evaluation

Hook Lake
33.73± Acres
Map 1

Site Description: Hook Lake is a large retention pond used recreationally by the community of Round Lake Beach. A trail follows the border of the Lake from the South to the north ending at Sutton on the Lake Park. Culverts are damaged to the southwest and west of the lake. There are signs of erosion along the banks of the lake. Aquatic plants growing along the border of the lake; while the center of the lake is clear. Sandbar willow dominate the banks of the lake along with other invasive species. There is a recirculation pump on the south of Hook Lake directing water to the north of the Lake and regulating water height in the Lake. The pump was recently removed due to a malfunction and has yet to be returned.

Note: The Village owns the southern 2/3rd of the lake and the northern 1/3rd is owned by the Round Lake Area Park District.

Predominate Invasive:

Herbaceous: Purple Loosestrife, Queen Anne's Lace, Common Ragweed, White Sweet Clover, Phragmites, Sow Thistle, Reed Canary Grass, Eurasian Water Milfoil

Tree/Shrubs: Common Buckthorn & Smooth Buckthorn

Nuisance: Sandbar Willow, Canada Goldenrod, Grapevine

Priority Group: A

Recommended steps for restoration:

Year 5 Plan:

Put pump back in service and clear trash from site.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks. Following treatment/ clearing of the invasive species planting of diverse native vegetation should be conducted. It is recommended to speak to a specialist on correct plant species to plant on the site to improve success of plant establishment.

Year 20 Plan:

Pump maintenance
Monitor site for invasive species presence and treat any areas with invasive species still present. Monitor native vegetation establishment.

Site Evaluation

Karen
0.87± Acres
Map 7

Site Description: This retention pond is surrounded by cattails, phragmites, and reed canary grass. The reed canary grass is mostly found in the Southwest corner of the site and young buckthorn is growing around the borders of the cattails. The invasive species are not dense in this location but are notable. Additionally the pond is dry with no water present.

Note: The southern boundary of this wetland intersects 7 residential properties. An estimated 0.06± acres of the wetland is residential property.

Predominate Invasive:

Herbaceous: Phragmites & Reed Canary Grass

Tree/Shrubs: Common Buckthorn

Nuisance: Cattails & Deadly Nightshade

Priority Group: This site in Group C

Recommended steps for restoration:

Year 5 Plan:

Clear trash from site.

Year 10 Plan:

Include this site in the management of Lindsay. Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks. Following treatment/ clearing of the invasive species planting of diverse native vegetation should be conducted. It is recommended to speak to a specialist on correct plant species to plant on the site to improve success of plant establishment.

Year 20 Plan:

Monitor site for invasive species presence and treat any areas with invasive species still present. Monitor native vegetation establishment.

Site Evaluation

Lindsay
5.48± Acres
Map 5

Site Description: This is a natural detention basin where storm water is dispersed throughout the site before draining out the western drain. This area is dominated by cattails and other tall vegetation. The vegetation is very thick and most mature trees are dead. There are patches of woody vegetation such as shrubs and young tree species but for the most part the site is dominated by thick herbaceous vegetation throughout.

Predominate Invasive:

Herbaceous: Purple Loosestrife, Phragmities, Sow Thistle, Common Burdock, Queen Anne's Lace, Reed Canary Grass

Tree/Shrubs: Common Buckthorn & Callery Pear

Nuisance: Grapevine, Canada Goldenrod, Sandbar Willow

Priority Group: This site is located in Group C.

Recommended steps for restoration:

Year 5 Plan:

Remove trash from border of the basin.

Year 10 Plan:

Review plans to reduce invasive species and plant density in the area. Look at possible use of a prescribed burn. A burn could reduce the density of the vegetation and allow more of a variety of vegetation to grow into the area. It is recommended to speak with a fire expert or local fire agency on the possibility of conducting a prescribed burn on this site. Divided area into 3 parts that will be treated for invasive species in different growing years.

Year 20 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitored to avoid any future outbreaks.

Site Evaluation

Lotus
1.65± Acres
Map 30

Site Description: Invasive species are dominating the drain and surrounding area. The southern part of the wetland is mature woodland. There is a large drain moving from the southeast corner to the north east corner of the site. There are many small channels that connect to the main stream to the north. Vegetation is dense through the site.

Note: This site is located north of Long Lake Drive with a 50/50 ownership with com-ed and the Village of Round Lake Beach.

Predominate Invasive:

Herbaceous: Reed Canary Grass, Teasel, and Chicory

Tree/shrubs: Common Buckthorn & Multiflora Rose

Nuisance: Grapevine, Canada Goldenrod, Cattails

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

Remove trash from the waterway and edges of the wetland.

Year 10 Plan:

Remove trash from the waterway and edges of the wetland. Notify other land owner of restoration of the site and create a plan to restore the area.

Year 20 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks.

Note: Both parties need to work together in order to successfully restore the area.

Site Evaluation

Mallard Creek (A)
0.12± Acres
Map 12

Site Description: This is a retention pond is located in a high traffic area. This wetland is isolated by continuous mowing on the perimeter leaving vegetation growth isolated to the borders of the pond. Invasive species encroachment is not serious but there are a few sandbar willow growing along the edges of the pond.

Predominate Invasive:

Herbaceous: Canada thistle*, Sow Thistle, Purple Loosestrife

Tree/Shrubs: Common Buckthorn & Callery Pear

Nuisance: Grapevine, Cattails, Sandbar Willow

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. Plant native vegetation around the pond using the direction of a professional that can dictate the correct seed mix to use.

Year 10 Plan:

Continue invasive species treatment to avoid a relapse of invasive species take over. Monitor Native vegetation.

Year 20 Plan:

Cut back density of the vegetation through mowing or burning the site to maintain diversity. The site should be closely monitor to avoid any future outbreaks.

Site Evaluation

Mallard Creek (B)
0.24± Acres
Map 14

Site Description: This retention pond is isolated by recurrent mowing of the ground around the pond. There is a retaining wall on the north outside of the wetland boundary. On the south outside the boundary is a paved sidewalk and Hook Road. The wetland is overrun with sandbar willow around the edges of the pond. There is a high density of invasive species growing below and between the sandbar willows.

Predominate Invasive:

Herbaceous: Bull Thistle, Canada Thistle*, Purple Loosestrife, Teasel

Tree/Shrubs: Common Buckthorn & Callery Pear

Nuisance: Grapevine, Cattails, Sandbar Willow, Deadly Nightshade

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar treatments on herbaceous plants and individuals too small to use a stump treatment. Use stump treatment on all woody vegetation that is equal to or greater than 1.5" caliper diameter. Following the successful treatment and removal of the invasive species native vegetation should be planted. Closely monitor planted vegetation to insure success of vegetation additionally every few years depending on vegetation planted should be cut back to control invasive species encroachment.

Year 10 Plan:

Continue treatment of invasive species to ensure control and establishment of native vegetation.

Year 20 Plan:

Reduce plant density through methods such as: burning or mowing.

Site Evaluation

Meadowbrook (A)
0.86± Acres
Map 15

Site Description: This drain is only active when Indian Hill Pond floods and excess water drains into south through the drain. Otherwise the drain is dry while the Meadowbrook (B) has a constant flow of high intensity water. This is a large active drain there is severe erosion on the western banks and moderate erosion on the eastern banks due to grass growth slowing the erosion. There is a large amount of trash on the western bank where a retaining wall has collapsed into the stream.

Note: Only half of the wetland is owned by the Village the other half is owned privately.

Predominate Invasive:

Herbaceous: Common Plantain, Giant Ragweed*, Purple Loosestrife, Chicory, Creeping Charlie

Tree/Shrubs: Common Buckthorn

Nuisance: Grapevine & Deadly Nightshade

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

On the eastern bank plant native wetland species. Remove all trash and debris from water and the banks of the waterway.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species.

Year 20 Plan:

The site should be closely monitor to avoid any future outbreaks. Treat any invasive species present on the site.

Site Evaluation

Meadowbrook (B)
0.15± Acres
Map 17

Site Description: This is a very active storm drain with water from Round Lake Heights and Round Lake Beach feeding into the drain. The northern part of the drain has moderate erosion while the southern area of the drain has heavy erosion around the culvert. A vegetation blanket was placed on the east of the culvert to control erosion caused by the drain.

Note: The southern border of the wetland enters 4 residential properties at about 0.04 ± acres total.

Predominate Invasive:

Herbaceous: Giant Ragweed* & Creeping Charlie

Tree/Shrubs: Common Buckthorn & Multiflora Rose

Nuisance: Virginia creeper, Grapevine, Deadly Night Shade

Priority Group: Group C

Recommended steps for restoration:

Year 5 Plan:

Remove trash from the water way and surrounding area in the wetland.

Year 10 Plan:

Erosion control needed for the southern end of the property through planting of native wetland plants and placing large rocks around the southern culvert to reduce erosion.

Year 20 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks.

Site Evaluation

Meadowbrook (C)
0.18± Acers
Map 18

Site Description: This is an active drain showing heavy erosion along the banks especially the southern part of the drain where holes are appearing. Large amounts of trash on the northwest part of the property along the shores and within the stream.

Note: The southwest boundary enters an estimated 0.01± acres of one residential property.

Predominate Invasive:

Herbaceous: Common Ragweed*, Purple Loosestrife, Creeping Charlie

Tree/Shrubs: Common Buckthorn, Multiflora Rose, Burning Bush

Nuisance: Virginia creeper, Deadly Nightshade, Black Raspberry

Priority Group: Group C

Recommended steps for restoration:

Year 5 Plan:

Remove trash from the waterway and banks of the waterway.

Year 10 Plan:

Install erosion control along the banks to slow both erosion and water flow in the stream. Use rip – rap or native vegetation.

Year 20 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitored to avoid any future outbreaks. Remove tree debris and trash out of the stream.

Site Evaluation

Meadowbrook (D)
0.12± Acers
Map 19

Site Description: This drain is located in a very tight location with large amounts of trees debris and manmade litter within the stream. Water damned by all the trash within the stream. Vines are growing into the canopies of neighboring trees.

Note: An estimated 0.03± acres of the boundary enters into 2 residential properties.

Predominate Invasive:

Herbaceous: Reed Canary Grass & Creeping Charlie

Tree/Shrubs: Common Buckthorn, Multiflora Rose, Bush Honeysuckle

Nuisance: N/A

Priority Group: Group C

Recommended steps for restoration:

Year 5 Plan:

Clear out trash and tree debris from water way. Cut vines at source or just cut the vines climbing into the tree canopy.

Year 10 Plan:

Invasive treatment is light and can be held off for the year 20 plan. Remove trash and any natural debris from the waterway.

Year 20 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks

Site Evaluation

Meadowbrook (E)
0.90± Acres
Map 20

Site Description: This drain has two heavily cut channels running into the stream from drains to the east and west of the northern part of the property. Erosion on the banks is severe with neighboring fences at risk of falling into the stream. Dense invasive species along the banks of the waterway.

Note: The wetland boundary enters 24 residential properties. An estimated 0.52± acres are within residential properties.

Predominate Invasive:

Herbaceous: Common Burdock & Creeping Charlie

Tree/shrubs: Common Buckthorn & Multiflora Rose

Nuisance: Grapevine, Deadly Nightshade, Black Raspberry

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

Remove trash from waterway and the banks. Erosion control along the banks of the waterway are recommended. Ideally use rip rap next to the culverts to reduce erosion from the road surface and the drains. Place medium sized rocks in the drains to the right and left of the culvert to reduce channeling. Plant vegetation along the banks of the waterway to stabilize the soil. Additionally target the drains to the right and left of the culvert with placement of vegetation on the banks. Speak to a professional about correct plant species to plant on the site to ensure viability of plants.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks

Year 20 Plan:

Monitor site for invasive outbreaks and native plant establishment. Treat any invasive species present on site.

Site Evaluation

Nicole
0.23± Acres
Map 11

Site Description: This retention pond is located far from public view and access. Cattails and other tall grass species grow very thick to the east of the property there is a wooded lot to the west of the property. The retention pond is turbid with lili pads covering the surface.

Note: There is a plan in place to expand site east creating a conservation area. Refer to the Appendix II for more information.

Predominate Invasive:

Herbaceous: Phragmites

Tree/Shrubs: N/A

Nuisance: Cattails

Priority Group: Group A, although this site is located far from public view the Village plans on developing the area east into a conservation area that will allow recreational trails to go through the site. Because of this the site is considered a high priority for the future plan of the area.

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species.

Year 10 Plan:

Continued control of the invasive species. Following the control/ eradication of the invasive species native vegetation should be planted to diversify the wetland. It is recommended to speak to a specialist on correct plant species to plant on the site to improve success of plant establishment.

Year 20 Plan:

The site should be closely monitor to avoid any future outbreaks. Plant native species on the site. Speak to a professional about ideal plant species for this location.

Site Evaluation

North Channel
16.23± Acres
Map 25

Site Description: This is site is a drainage from Round Lake. The site is moderately overrun by invasive species. The waterway has a few fallen trees in the stream and trash is strewn within the stream and the banks. There are slight signs of erosion on western end where the asphalt is collapsing into stream. The Eastern part of the property around the culvert to the tree line has been mowed while the remaining areas are heavily wooded. During the winter ducks are present on the waterway.

Note: There are four points in which the wetland boundary enters into residential properties. In total 0.18± acres of land enter into 8 residential properties and 1 commercial property.

Predominate Invasive:

Herbaceous: Chicory, Queen Anne's lace, Sow Thistle, Creeping Charlie

Tree/Shrubs: Common Buckthorn, Multiflora Rose, European High Bush Cranberry

Nuisance: Grapevine, Deadly Nightshade, Black Raspberry

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

Remove trash from the waterway and the banks of the wetland. Clear down trees from the water way.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following treatment/ removal of the invasive species plant native species on the stream banks. Target the eastern bank of the property for erosion control using native vegetation and/ or rip rap.

Year 20 Plan:

Monitor site for invasive species outbreaks and vigor of the established native vegetation. Treat any invasive species present on the site.

Site Evaluation

Oaktree Savannah Natural Wetland Conservation Area (A)
4.37± Acres
Map 6

Site Description: This site is federally protected natural wetland conservation area; there are a variety of invasive species throughout the site. This site contains three large ponds. During the fall the two western ponds are covered in algae. All three ponds are turbid. There is no visible erosion along the banks of the water. It should also be noted that there is little vegetation growth at the shoreline. Cattails are very dense throughout the site but have not invaded the ponds. The cattails have been staying at the water's edge.

Note: This site currently has a quote for restoration.

Predominate Invasive:

Herbaceous: Queen Anne's Lace, Sow Thistle, Giant Ragweed, Reed Canary Grass, Curly Dock, Sweet White Clover, Canada Thistle*, Common Burdock, Purple Loosestrife, Bull Thistle, Crown Vetch

Tree/Shrubs: Multiflora Rose, Smooth Buckthorn, Common Buckthorn, Callery Pear

Nuisance: Virginia creeper, Grapevine, Cattails, Canada Goldenrod, Deadly Nightshade, Sandbar Willow

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species.

Year 10 Plan:

Continued control of the invasive species. Following the control/ eradication of the invasive species native vegetation should be planted to diversify the wetland. It is recommended to speak to a specialist on correct plant species to plant on the site to improve success of plant establishment.

Year 20 Plan:

The site should be closely monitor to avoid any future outbreaks.

Site Evaluation

Oaktree Savannah Natural Wetland Conservation Area (B)
0.25± Acres
Map 13

Site Description: This retention pond is a federally protected wetland conservation area. There is heavy vegetation growing throughout the site. The area surrounding the wetland has mature Bur oak and there heavy buckthorn encroachment in the understory.

Predominate Invasive:

Herbaceous: Reed Canary Grass

Tree/Shrubs: Common Buckthorn & Bush Honeysuckle

Nuisance: Grapevine & Cattails

Priority Group: Group C

Recommended steps for restoration:

Year 5 Plan:

Remove trash from site.

Year 10 Plan:

Begin plans for invasive species removal

Year 20 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks.

Site Evaluation

Orchard (A)
0.72± Acres
Map 3

Site Description: This is a retention pond located far from public view, with the exception of a few homes that border the boundary. This bottomland is heavily overtaken by invasive species making it difficult to enter the site. Species such as common buckthorn and phragmitets dominate the site. There are a few dead trees on site.

Note: An estimated 0.14± acres of the wetland boundary enters into 5 residential properties to the north.

Predominate Invasive:

Herbaceous: Chicory, Common Ragweed*, Reed Canary Grass, Phragmites, Purple Loosestrife

Tree/Shrubs: Common Buckthorn

Nuisance: Grapevine, Canada Goldenrod, Deadly Nightshade

Priority Group: This site is placed in Group C.

Recommended steps for restoration:

Year 5 Plan:

Remove trash from waterway and the rest of the site.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species.

Year 20 Plan:

The site should be closely monitor to avoid any future invasive outbreaks.

Site Evaluation

Orchard (B)
1.27± Acres
Map 22

Site Description: This wetland serves as both a drain and retention pond – on the northern part of the property. A small spillway is located at the center of the property regulating flow. The wetland has vegetation growing all around except for the northeast part of the retention pond. The area beyond the pond has been mowed. There are signs of heavy to moderate erosion along the stream bank. On the southeastern part of the waterway the retaining wall is collapsing. Due to the close proximity of the waterway and the severity of soil erosion along the banks there will be future problems with homeowners. Invasive species are present on the site but not currently dominating. The western part of the wetland is very shrubby with buckthorn and multiflora rose.

Note: Parts of the wetland boundary intersects with residential homes. About 0.21± acres of the wetland boundary enters residential properties a total of 11 homes.

Predominate Invasive:

Herbaceous: Common Burdock & Garlic Mustard

Tree/Shrubs: Common Buckthorn, Bush Honeysuckle, Multiflora Rose

Nuisance: N/A

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

The southeast retaining wall should be repaired and rip rap in the form of rocks should be placed at the base of the retaining wall to stabilize the soil. Another option would be to plant native vegetation at the base of the retaining wall. Retaining walls need to be monitored every few years to ensure the soil does not become unstable. Trash and tree debris should be removed from the waterway. Plant native species along the banks of the stream to re-stabilize the soil. The retention pond located on the northeast part of the property is ideal for a wet basin. Planting of native vegetation at least 10’ into the mowed area.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5” caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species.

Year 20 Plan:

Continue invasive treatment and closely monitor site to avoid any future invasive outbreaks. Additionally the retaining wall should be inspected for defects or damage.

Site Evaluation

Southmoor
1.23± Acres
Map 29

Site Description: This site is an active drainage that has sever erosion on the northern banks. The retaining wall from local home is collapsing. The southern bank has moderate to light erosion due to grass growth on the banks. Very shrubby on the northern banks. There are several mature buckthorn along the banks. Mussels have been found on site.

Note: 0.09± acres of the southern wetland boundary enters 6 residential properties.

Predominate Invasive

Herbaceous: Purple Loosestrife, Common Burdock, Giant Ragweed*, Common Ragweed*, Creeping Charlie

Tree/Shrubs: Multiflora Rose & Common Buckthorn

Nuisance: Grapevine, Deadly Nightshade

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

Rebuild collapsing retaining wall (monitor all retaining walls every few years). Clear trash from site.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. The site should be closely monitor to avoid any future outbreaks.

Year 20 Plan:

Monitor site for invasive species presence. Treat any invasive sprouts.

Site Evaluation

Meadowbrook (F)
0.26± Acres
Map 21

Site Description: This drain is heavily eroded; additionally road edge is crumbling on the southern culvert. There is debris trapped in the culvert and fallen trees/ branches in the stream. Large rocks were placed on the eastern bank to slow erosion.

Predominate Invasive:

Herbaceous: Common Burdock, Garlic Mustard, and Creeping Charlie

Tree/Shrubs: Common Buckthorn, Multiflora Rose, Bush Honeysuckle

Nuisance: Grapevine, Deadly Nightshade, Black Raspberry

Priority Group: Group A

Recommended steps for restoration:

Year 5 Plan:

Clear debris from culvert, and remove trash from the waterway. Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Plant native vegetation along the banks of the waterway. Reduce erosion through placement of large rocks on the left and right of the culvert or plant tall native aquatic species that can slow water flow and erosion from the road.

Year 10 Plan:

Continue treatment of invasive species to ensure the eradication of the invasive species. The site should be closely monitored to avoid any future outbreaks.

Year 20 Plan:

Monitor site for invasive species outbreaks and treat any areas.

Site Evaluation

Woodland
3.69± Acres
Map 27

Site Description: This site serves as both a drain and retention area. The entire area is wooded in exception of a few points to the south where the area was mowed to the water bank. Erosion varies from light to moderate. In a few spots holes are forming next to the waterway due to soil instability. There are signs of beaver damage on the northern area of the property. The damage is very light instability. There are signs of beaver damage on the northern area of the property. The damage is very light and isolated to a few trees and small shrubs. There is trash build up on the north.

Predominate Invasive:

Herbaceous: Garlic Mustard & Eurasian Water Milfoil

Tree/Shrubs: Common Buckthorn, Multiflora Rose, Bush Honeysuckle

Nuisance: Grapevine **&** Black Raspberry

Priority Group: Group B

Recommended steps for restoration:

Year 5 Plan:

Clear trash/ debris from the waterway and the banks of the site.

Year 10 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species. Plant native vegetation to replace the invasive species. It is recommended to speak to a specialist on correct plant species to plant on the site to improve success of plant establishment.

Year 20 Plan:

The site should be closely monitor to avoid any future invasive outbreaks. Treat any invasive species present on the site.

Site Evaluation

Woodoak
0.04± Acres
Map 2

Site Description: This is an isolated wetland with cattails and other tall grass species dominating the area. This wetland is located within a dry detention basin. On the eastern part of the wetland there is an emergency spillway (for the wet basin located east of this property) leading to the site. The surrounding area is continuously mowed leaving only the wetland remains undisturbed. There is some trash in the wetland.

Predominate Invasive:

Herbaceous: Canada thistle*, Sow thistle, Purple loosestrife

Tree/Shrubs: N/A

Nuisance: Cattails

Priority Group:
Group C

Recommended steps for restoration:

Year 5 Plan:

Clear invasive species through the use of foliar sprays that are approved by the U.S. EPA as being safe for use near waterways. Additionally undesirable woody vegetation greater than or equal to 1.5" caliper diameter should be cut and treated with a stump treatment. Following the mortality of the invasive species remove all dead plant matter manually. Direct treatment of these invasive species should be conducted every growing season to ensure the eradication of the invasive species.

Year 10 Plan:
The site should be closely monitor to avoid any future outbreaks. Remove any and all trash from within the waterway. Plat native vegetation following the treatment and removal of the invasive species.

Year 20 Plan:
Develop the surrounding detention basin with native vegetation to expand the capabilities of the basin. Refer to an expert on proper plant species for the area. Additionally re – locate the drains to allow water to utilize the entire basin.

Resources

Center for Watershed Protection (CWP). 2007. National Pollutant Removal Performance Database. Version 3. Center for Watershed Protection. Ellicott City, MD.

Center for Watershed Protection (CWP). 2009. Coastal Stormwater Supplement to the Georgia Stormwater Management Manual. First Edition. Chatham County-Savannah Metropolitan Planning Commission. Savannah, GA.

Illinois Department of Natural Resources 2018.
(https://www.dnr.illinois.gov/education/Pages/ExoticsHome.aspx)

Illinois Department of Natural Resources, Illinois Prescribed Burning Act, 2018.

Lake County 2018. (https://www.lakecountyil.gov)

National Fish and Wildlife Foundation 2018. (https://www.nfwf.org/Pages/default.aspx)

United States Department of Agriculture 2018.
(https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ct/technical/ecoscience/invasive/?cid=nrcs142p2_011124)

United States Environmental Protection Agency 2018.
(https://www.epa.gov/wetlands)

Appendix A:
Park District's Land Parcels Evaluation

The following listed sites are owned by the Round Lake Area Park district. Reference the Natural Area Management Plan published by the Round lake Area Park District for more information on recommendations.

The Round Lake Park District has a total of 37 wetlands in Round Lake Beach. Each have multiple uses from retention and drainage to recreational. Nearly 84% of the park district wetlands have a primary use as retention. Many of these wetlands have had moderate management conducted in past years but in recent years management has been conducted on a few. This has led to an increase in invasive and undesirable plant growth in many of the wetlands. There is currently a collaboration between the Park District and the Village to restore many of the wetlands located within Round Lake Beach. Information on the *Intergovernmental Agreement* can be found in Appendix C.

A few wetlands owned by the Round Lake Area Park District were not included in this plan including all the wetlands located at the Renwood Golf Range. The reason being that the wetlands in this location are on a separate and different maintenance schedule than the other wetlands.

Table 2: Round Lake Area Park District Wetlands

Map I.D. #	Site Name	General Location	Acreage	Land Owner	Group	Brief Description/ Comments	Primary use	Secondary/ Future use
Map 49	Country Walk Natural Area (A)	East of Cedar Lake Road and West of Aster Plaza	21.01±	James D. Rock, Village	A	Isolated by large subdivisions. Cattails dominate the site with invasive species present in patches.	Retention	
Map 50	Country Walk Natural Area (B)	Between Aster Plaza. & Honeysuckle Court	0.22±	Park	C	Isolated pond with few homes bordering the edges. Vegetation growing on the water surface and invasive species along borders of pond.	Retention	
Map 66	Fairfield	East of Village Drive and west of Fairfield Road	0.22±	Park	A	Dense amounts of trash present and heavy buckthorn dominance.	Drainage	
Map 59	Fairfield Sports Complex (A)	South of West Lake Shore Drive and west of Beverly Drive	1.4±	Park	A	Most of site cleared and mowed. Wetland area wooded with trash and invasive species present on wooded area.	Retention	
Map 61	Fairfield Sports Complex (B)	East of Fairfield Drive and south of Hillside Drive	1.02±	Park	A	Parts of area cleared into a field. Invasive species present but not dominating site.	Retention	
Map 63	Fairfield Sports Complex (C)	East of North Fairfield Road and south of Hillside Drive	1.28±	Park	A	Wooded area with parts of west mowed into a field. The wooded area severely dominated by invasive species.	Retention	
Map 64	Fairfield Sports Complex (D)	Between Fairfield Road and Beverly Drive	2.42±	Park	A	Open field with a wooded area in southwest corner. Large spoil pile located on site. Area heavily dominated by invasive species.	Retention	
Map 46	Fox Chase Park	Northwest of Masters Lane and south of Fox Chase Drive	1.7±	Park	B	High traffic area with trail on boundary. Cattails and other invasive species dominate the site.	Retention	
Map 58	Gateway Park (A)	South of the junction of Rollins Road and Hainesville Road	1.4±	Park	A	Isolated pond with a trail running along boundary. Heavily eroded banks and dense invasive species on the border of the pond.	Retention	
Map 60	Gateway Park (B)	North Clarendon Drive and south of Rollins Road	0.27±	Park	A	High traffic area with trail on boundary. Heavy erosion and young invasive species present on banks of pond.	Retention	

Map 31	Long Lake Park and Natural Area (A)	West of Village Drive and North of Long Lake Drive	33.6±	Park	A	Large area within a high public view area but, large work area. There is a severe density of cattails present throughout.	Drainage	Retention
Map 65	Long Lake Park and Natural Area (B)	West of North Village Drive and South of Long Lake	1.51±	Park	A	Cattails dominate the site. Pond is covered in green vegetation. Moderate erosion present on southeast.	Retention	
Map 67	Mayfield Natural Drain Area (A)	South of Mayfield Drive and north of Bonnie Brook Lane	2.12±	Park	A	Heavy invasive species and erosion throughout site.	Drainage	
Map 68	Mayfield Natural Drain Area (B)	Between Long Lake Drive and Fairfield	6.58±	Park	A	Nature trail on the border of western site. Beaver damage on site. Invasive species present throughout site.	Drainage	
Map 33	Monaville Road Natural Area	South of Monaville Road and north of Wildflower Lane	3.89±	Park	B	Located in high traffic area. Large pond with invasive species dominating border.	Retention	
Map 52	Northshore Park (A)	East Orchard Lane and south of Cobbler Court	2.07±	Park	A	Wooded area heavily infested by invasive species. A few dead trees on site.	Retention	
Map 53	Northshore Park (B)	East of Orchard Lane and south of the Child Development Center	5.18±	Park	A	Buckthorn dominates the understory. Dense vegetation surround the pond.	Retention	
Map 54	Northshore Park (C)	East of Orchard Lane and south of the Child Development Center driveway	0.1±	Park	A	Mowed area little to natural vegetation growth.	Retention	
Map 55	Northshore Park (D)	North of Hook Road and northwest of the Round Lake Beach Post Office	2.57±	Park	A	Moderately sized wetland with buckthorn dominating the understory. Some management being done on buckthorn.	Retention	
Map 56	Northshore Park (E)	East of Orchard Lane and south of the Child Development Center building	0.12±	Park	A	This is a micro wetland that has been mowed. Little to no natural vegetation present on the site.	Retention	
Map 57	Northshore Park (F)	North of Hook Road and east of the Park District Skate/BMX Park	0.25±	Park	A	Small wetland with young invasive species established on the site.	Retention	

Map 36	Quaker Hollow Natural Area (A)	North of Quaker Hollow Lane and south of Cherry Cove Lane	0.41±	Park	B	Small shallow pond with invasive species growing on banks. Vegetation growing on water surface.	Retention	
Map 38	Quaker Hollow Natural Area (B)	South of the intersection of Palm Court and Quaker Hollow Lane	1.69±	Park	B	Two ponds with vegetation on surface and heavy amount of invasive species on the border.	Retention	
Map 40	Quaker Hollow Natural Area (C)	West of Quaker Hollow Lane and east of Rosewood Lane	4.27±	James D. rock, Park	C	Large area located in a subdivision. Southern area wooded northern half field. Southern half heavily dominated by buckthorn. Northern area only invasive present on the border.	Retention	Detention
Map 44	Quaker Hollow Natural Area (D)	West Silver Oaks Drive and East Quaker Hollow Lane	0.21±	Park	C	Small area located in a wooded area. Dominated by buckthorn.	Retention	
Map 45	Quaker Hollow Natural Area (E)	East of Persimmon Court and west of Springwood Court	0.36±	Park	C	Isolated area located within a wooded lot. Invasive species dominate the wetland.	Retention	
Map 47	Quaker Hollow Natural Area (F)	West of Stanton Court and east of Plymouth Court	0.76±	Park	C	Isolated area with little public view. Largely a field of cattails and wooded area to the east. Wooded area dominated by buckthorn.	Retention	
Map 58	Quaker Hollow Natural Area (G)	East Plymouth Court and west of Stanton Court	0.1±	Park	C	Isolated with little to no public view. Invasive species moderate	Retention	
Map 39	Silver Oaks Natural Area (A)	South of Peachtree Lane and west of IL-83	0.53±	Park	B	Wooded area dominated by invasive species in the understory.	Retention	
Map 43	Silver Oaks Natural Area (B)	East of Lancaster Lane and southeast of Princeton Court	0.19±	Park	C	Small area located out of site and surrounded by woodland. Invasive species are sparse.	Retention	
Map 37	Silver Oaks Natural Area (C)	South of Peachtree Lane and west of IL – 83	0.25±	Park	B	Small area located in wooded lot. Site is dominated by invasive species.	Retention	
Map 34	Silver Oaks Park	South of Monaville and west of Lancaster Lane	4.88±	Park	C	Large area isolated by subdivision on east and railroad on the west. Heavily dominated by invasive species.	Retention	

Map 62	Sunset Park	North of Golfview Drive and south of Lagoon terrace	0.79±	Park	A	High traffic area that is heavily degraded. Severe erosion throughout the site and invasive species growth in patches around the pond.	Retention	Drainage
Map 32	Orchard Park	North of Dahlia Lane and south Mallard Lane	42.26±	James D. Rock	A	Large area within a high public view area. Heavy cattail growth on site. Water surface dominated by aquatic vegetation.	Retention	
Map 35	Sutton on the Lake (A)	South of Shaker Court and west of the rail road tracks	2.17±	Park	C	This site is located in a wooded lot with buckthorn dominating the understory.	Retention	
Map 41	Sutton on the Lake (B)	East of Silver Oaks Drive and west of the railroad tracks	0.14±	Park	C	Small wetland located out of public view. Vegetation covers surface of pond.	Retention	
Map 42	Sutton on the Lake (C)	North of Hook Lake	4.75±	Park	B	Large pond located north of Hook Lake. Heavily degraded site overtaken by invasive species and aquatic plants on the water surface.	Retention	
Map 51	Sutton on the Lake (D)	East of Camden Lane and north of village hall	2.03±	Park	B	Trails border the wetland. Site is dominated by cattails with invasive species on the edge of the wetland.	Retention	

Site Evaluation

Country Walk Natural Area (A)
21.01± Acres
Map 49

Site Description: This is a large area with residential homes along the borders of site. Three retention ponds are located on the western part of site. Cattails dominate the entirety of this wetland with invasive species growing along the boundary of the wetland.

Note: A small fraction of the southern part of the wetland is owned by the Village.

Predominate Invasive:

Herbaceous: Sow Thistle, Queen Anne's Lace, Sweet Yellow Clover, Chicory, Curly Dock, Red Clover, Purple Loosestrife, Sweet White Clover, Reed Canary Grass, Teasel, Common Plantain, Creeping Charlie

Tree/Shrubs: Smooth Buckthorn & Common Buckthorn

Nuisance: Canada Golden Rod, Sandbar Willow, Cattails, Grapevine, Deadly Nightshade

Priority Group: A

Site Evaluation

Country Walk Natural Area (B)
0.22± Acres
Map 50

Site Description: This is a small retention pond located far from public view. There is some evidence of light erosion along the banks of the pond. A few holes have appeared along the banks of the pond. The southwest culvert has soil clogging the entrance. Green vegetation is covering the surface of the pond and some cattails are growing into the pond. There is a contraption that within the pond.

Predominate Invasive:

Herbaceous: Purple Loosestrife, Queen Anne's lace, Common Ragweed*, Sow Thistle, Chicory

Tree/Shrubs: Common Buckthorn & Smooth Buckthorn

Nuisance: Cattails, Canada Goldenrod, Horsetail, Sandbar Willow

Priority Group: C

Site Evaluation

Fairfield
0.22± Acres
Map 66

Site Description: This site is located east of Village Drive and west of Fairfield Road. The site is mostly a wooded area with an open field in the center where cattails and other tall grasses grow. An active drain runs through the center of the site.

Note: This site is owned by the park district, Village, and private.

Predominate Invasive:

Herbaceous: Queen Anne's Lace, Bull Thistle, Garlic Mustard, Creeping Charlie, Reed Canary Grass

Tree/Shrubs: Common Buckthorn, Smooth Buckthorn, Multiflora Rose

Nuisance: Canada Goldenrod, Deadly Nightshade, Grapevine

Priority Group: A

Site Evaluation

Fairfield Sports Complex (A)
1.40± Acres
Map 59

Site Description: This wetland is located south of Lakeshore Drive and west of Hillside Drive. More than half of the southern part of the wetland is mowed into a grass field. The reaming wetland is wooded with stagnant water present within the area. Dense shrubs are growing along the boundary of the wetland. Trash was found around the boundary of the wetland with a few found within but is actively collected and removed by the park district.

Note: This is a Key Development area found in the Village Comprehensive Plan. Refer to the Appendix II for more information

Predominate Invasive:

Herbaceous: European High Bush Cranberry, Reed Canary Grass, Purple Loosestrife, Queen Anne's Lace, Chicory, Common Burdock, Giant Ragweed*, Common Ragweed*, Sow Thistle

Tree/Shrubs: Common Buckthorn

Nuisance: Canada Goldenrod, Virginia creeper, Cattails, Deadly Nightshade

Priority Group: A

Site Evaluation

Fairfield Sports Complex (B)
1.02± Acres
Map 61

Site Description: This site is located south of Hillside Drive and east of Fairfield Road. The western side of the property is regularly mowed. There is a trench that divides the site; the lower half of the trench is dominated by cattails while the other half is shrubs.

Note: The northern boundary intersects three privately owned property.

Note: This is a Key Development area found in the Village Comprehensive Plan. Refer to the Appendix II for more information.

Predominate Invasive:

Herbaceous: Queen Anne's lace, Chicory, Creeping Charlie, Common burdock, Giant Ragweed

Tree/Shrubs: Common Buckthorn

Nuisance: Virginia creeper, Canada goldenrod, Grapevine, Cattails

Priority Group: A

Site Evaluation

Fairfield Sports Complex (C)
1.28± Acres
Map 63

Site Description: This is a wooded area with a few mature/ dying trees. Much of the understory is new sapling growth with dead hanging snags throughout the site. Many of the invasive plants on site have an estimated caliper dimeter of 1 and 2. There is heavy erosion on the eastern part of the property leading all the trees to lean drastically west.

Note: This is a Key Development area found in the Village Comprehensive Plan. Refer to the Appendix II for more information.

Predominate Invasive:

Herbaceous: Reed canary grass, Purple loosestrife, Queen Anne's lace, Chicory, Giant ragweed*, Canada thistle, sow thistle

Tree/Shrubs: Common buckthorn & Black locust tree

Nuisance: Sandbar willow, Canada goldenrod, Cattails

Priority Group: A

Site Evaluation

Fairfield Sports Complex (D)
2.42± Acres
Map 64

Site Description: Northeast portion of the site is a large hill with young maple and ashe growth. Herbaceous exotics are growing throughout while an acre of the southern area is cattails and reed canary grass. Between the cattail field and the hill there is a drain from the Beverly Road and from the south that leads to a retention pond. The drain has moderate erosion on banks and the remains of a collapsed silt fence along the border of the drain.

Note: This is a Key Development area found in the Village Comprehensive Plan. Refer to the Appendix II for more information.

Predominate Invasive:

Herbaceous: Reed canary grass, Purple loosestrife, Queen Anne's lace, Chicory, Giant ragweed*, Common ragweed*, Red clover, Phramites, Teasel, Canada thistle*

Tree/Shrubs: Common Buckthorn

Nuisance: Sandbar willow, Canada goldenrod, Cattails

Priority Group: A

Site Evaluation

Fox Chase Park
1.70± Acres
Map 46

Site Description: This wetland is located within a high traffic area with a paved trail circling the perimeter of the wetland. The pond is dominated by cattails throughout; Sandbar willow and reed canary grass dominate the areas where cattails are not dense. The pond has been overtaken by cattails growing within the pond.

Predominate Invasive:

Herbaceous: Curly dock, Purple loosestrife, Reed canary grass, Canada thistle*, Timothy grass, Queen Anne's lace, Common ragweed*

Tree/Shrubs: Common Buckthorn

Nuisance: Cattails, Sandbar willow, Canada goldenrod

Priority Group: B

Site Evaluation

Gateway Park (A)
1.40± Acres
Map 58

Site Description: This area is located south of the intersection of Rollins Road and Hainseville Road. This are is isolated by mowing all around the pond. Invasive species are growing heavily on the borders of the pond. There is signs pf erosion on the banks and cattails are growing into the pond on the eastern part. The eastern part of the pond is heavily invaded by invasive species.

Note: Northern part of the site is owned by Com-Ed.

Predominate Invasive:

Herbaceous: Creeping Charlie, Common ragweed*, Canada thistle*, Sweet yellow lover, Thistle, Sweet white clover, Queen Anne's lace, Sow thistle, Bull thistle, Common burdock, Curly dock, Purple loosestrife

Tree/Shrubs: N/A

Nuisance: Cattails & Canada goldenrod

Priority Group: A

Site Evaluation

Gateway Park (B)
0.27± Acres
Map 60

Site Description: This is an active part located north of Clarendon Drive and south of the intersection of Rollins Road and Hainesville Road. The site is isolated by mowing all around there is a tail on the southern part of the pond. There is a signs of severe erosion along the banks of the pond; additionally invasive species are growing in high density along the shoreline. The wetland is an active goose gathering place during migration.

Predominate Invasive:

Herbaceous: Canada thistle, Yellow sweet clover, Curly dock, Reed canary grass, Creeping Charlie Common ragweed*, Sweet white clover

Tree/Shrubs: N/A

Nuisance: Canada goldenrod, Cattails

Priority Group: A

Site Evaluation

Long Lake Park and Natural Area (A)
33.6± Acres
Map 31

Site Description: This is a large site located south of Long Lake. The site is heavily dominated by cattails and sandbar willow along the stream. There are 3 trail heads leading into this natural area. Two trails enter from the south, south east, the third enters from the northern most part of the natural area. An upland hardwood forest is located in the center of the natural area. Buckthorn dominates the trail edge in the bottomland portion of the natural area. Some work has been conducted along the northern shoreline.

Note: This site is part of the Intergovernmental Agreement refer to Appendix II for more information.

Predominate Invasive:

Herbaceous: Phragmites, Purple loosestrife, Queen Anne's lace, Canada thistle, Creeping Charlie, Teasel, Reed canary grass

Tree/Shrubs: Common Buckthorn, Smooth Buckthorn, Multiflora rose

Nuisance: Sandbar willow, Cattails, Virginia creeper, Grapevine, Black raspberry, Canada goldenrod

Priority Group: A

Site Evaluation

Long Lake Park and Natural Area (B)
1.51± Acres
Map 65

Site Description: This site is located northwest Split Oak Circle. The majority of this site is cattails with a few spots of buckthorn and sandbar willow. There is a pond located on the southern end of the site. A few holes have formed around the pond at 4' to 10' away from the shore. The pond surface is covered in green vegetation. The area surrounding the southern part of the pond is wooded with mature trees.

Note: This site is part of the Intergovernmental Agreement refer to Appendix II for more information.

Predominate Invasive:

Herbaceous: Purple loosestrife, Phragmites, Teasel, Thistle sp.

Tree/Shrubs: Common buckthorn & Black Locust

Nuisance: Sandbar willow, Grapevine, Cattails

Priority Group: A

Site Evaluation

Mayfield Natural Drain Area (A)
2.12± Acres
Map 67

Site Description: This drain is located west of Brentwood Drive and south of Mayfield Drive. The wetland shows signs of heavy erosion on the northern part of the drain with moderate erosion on the Southern banks. Large man-made debris located within the waterway. Invasive species are sparse throughout the site and vegetation growth is sparse.

Predominate Invasive:

Herbaceous: Giant ragweed, European high bush cranberry, Creeping Charlie

Tree/Shrubs: Multiflora rose & Common Buckthorn

Nuisance: Grapevine

Priority Group: A

Site Evaluation

Mayfield Natural Drain Area (B)
6.58± Acres
Map 68

Site Description: This natural drain is heavily overrun by invasive species. Cattails dominate the site in high density. There is beaver damage along the banks of the waterway with large trees showing heavy damage on the northern banks. Large amounts of water drain into this area from the north and east. The U.S Army Corps of engineers constructed a bladder drain on site to regulate water flow from the north.

Predominate Invasive:

Herbaceous: Phragmites, Reed canary grass, Creeping Charlie, Purple loosestrife, Giant ragweed, Common burdock, Queen Anne's lace, Teasel, Chicory, Sow thistle

Tree/shrubs: Common Buckthorn

Nuisance: Sandbar Willow, Cattails, Grapevine, Deadly nightshade, Black raspberry

Priority Group: A

Site Evaluation

Monaville Road Natural Area
3.89± Acres
Map 33

Site Description: Located south of Monaville Road and north of Wildflower Court. This site is heavily dominated by cattails and other invasive species with an estimated 4' of cattails surrounding the pond. The pond water is turbid but fish are thriving. There is light erosion along the pond bank.

Predominate Invasive:

Herbaceous: Thistle, Queen Anne's lace, Sow thistle, Yellow sweet clover, Chicory, Red Clover, Common ragweed*, Curly dock, Canada thistle, Reed canary grass, Purple loosestrife, Common burdock

Tree/Shrubs: Common Buckthorn & Glossy Buckthorn

Nuisance: Canada goldenrod, Cattails, Sandbar willow

Priority Group: B

Site Evaluation

Northshore Park (A)
2.07± Acres
Map 52

Site Description: This wetland is located east of Orchard lane and north of the Teen Center. This wetland has been active managed by the park district. Buckthorn was cleared from the site years ago but many of the cut individuals re – sprouted. There is a retention pond located on the eastern part of the site. Cattails surrounded the pond with a few dead trees present on site.

Note: This site is part of the Intergovernmental Agreement refer to Appendix I for more information.

Predominate Invasive:

Herbaceous: Queen Anne's Lace, Sweet white clover, Bull thistle, Giant ragweed*, Reed canary grass, Purple loosestrife, Common ragweed*

Tree/Shrubs: Multiflora rose & Common Buckthorn

Nuisance: Canada goldenrod, Grapevine, Cattails, Virginia creeper

Priority Group: A

Site Evaluation

Northshore Park (B)
5.18± Acres
Map 53

Site Description: This natural area is located east of Orchard Lake and south of the Teen Center. This wetland has been actively managed by the park district. Buckthorn was cleared from the site years ago but many of the cut individuals have re – sprouted. A retention pond is located at the center of the wetland. Buckthorn and other invasive species are dominating the area around the pond. Aquatic vegetation is growing from the bottom of the pond (the vegetation has not reached the surface of the water). There are dead trees in and along the outside of the pond.

Note: This site is part of the Intergovernmental Agreement refer to Appendix I for more information.

Predominate Invasive:

Herbaceous: Giant ragweed*, Speckled alder, Sow thistle, Queen Anne's lace, Creeping Charlie, Purple loosestrife, Common ragweed*, Red clover

Tree/Shrubs: Common Buckthorn & Multiflora rose

Nuisance: Virginia creeper, Grapevine, Black raspberry, Deadly nightshade, Canada goldenrod

Priority Group: A

Site Evaluation

Northshore Park (C)
0.10± Acres
Map 54

Site Description: This is a small site located in Northshore Park adjacent the driveway to the Teen Center. The area has been mowed and a few dirt trails are present on site. There are three culverts present on site that are eroding the soil.

Note: This site is part of the Intergovernmental Agreement refer to Appendix I for more information.

Predominate Invasive:

Herbaceous: Garlic mustard & Common plantain

Tree/Shrubs: N/A

Nuisance: N/A

Priority Group: A

Site Evaluation

Northshore Park (D)
2.57± Acres
Map 55

Site Description: This wetland is maintained and actively managed by the Park District. The surrounding area is a mixed hardwood forest of young trees. Prescribed burns have been conducted on the site in the past but new invasive species growth is apparent on the site. There is active foliar treatment of the buckthorn. This is under active management for treatment and removal of invasive species through burning.

Note: This site is part of the Intergovernmental Agreement refer to appendix I for more information.

Predominate Invasive:

Herbaceous: Garlic mustard & Reed Canary grass

Tree/Shrubs: Common buckthorn, Smooth Buckthorn, Multiflora rose

Nuisance: Canada goldenrod & Grapevine

Priority Group: A

Site Evaluation

Northshore Park (E)
0.12± Acres
Map 56

Site Description: This wetland has been turned into a park. The site is well maintained with little to no invasive species present on the site. The area is regularly mowed leaving little to native vegetation growth. The area has had treatment in the past for invasive species.

Note: This Site is part of the Intergovernmental Agreement refer to Appendix I for more information.

Predominate Invasive:

Herbaceous: Creeping Charlie, Red clover, Common plantain

Tree/Shrubs: N/A

Nuisance: N/A

Priority Group: A

Site Evaluation

Northshore Park (F)
0.25± Acres
Map 57

Site Description: This site is located north of Hook Road and east of Orchard Lane. This wetland is surrounded by mature woodland. Prescribed burns and treatment has been conducted throughout the park in past years. New buckthorn growth is apparent throughout the understory of the wetland. There are a few fallen tree limbs in the pond.

Note: This site is part of the Intergovernmental Agreement refer to Appendix I for more information.

Predominate Invasive:

Herbaceous: N/A

Tree/Shrubs: Common Buckthorn, Smooth Buckthorn, Multiflora rose

Nuisance: Grapevine, Canada goldenrod

Priority Group: A

Site Evaluation

Orchard Park
42.26± Acres
Map 32

Site Description: This is a large site owned by James D. Rock, residential homes surround the property. The waterway is bordered by cattails with a few groups appearing within the natural area. The water's surface is covered in green vegetation. Vegetation is growing in high density along the borders of the water ways.

Predominate Invasive:

Herbaceous: Sow thistle, Purple loosestrife, Reed canary grass, Common ragweed*, Teasel, Bull thistle, Sweet white clover, Common burdock, Curly dock, Giant ragweed*, Sweet yellow clover

Tree/Shrubs: N/A

Nuisance: Grapevine, Cattails, Canada goldenrod

Priority Group: A

Site Evaluation

Quaker Hollow Natural Area (A)
0.41± Acres
Map 36

Site Description: This is a retention pond with a "natural prairie buffer" surrounding the pond. This natural area is isolated by mowing around the southern part of the pond. The north of the pond has vegetation growing naturally. Buckthorn is establishing along the shorelines of the pond competing with the sandbar willow.

Predominate Invasive:

Herbaceous: Purple loosestrife, Sow thistle, Giant ragweed* Queen Anne's lace, Sweet white clover

Tree/Shrubs: Common Buckthorn

Nuisance: Cattails, Sandbar willow, Grapevine,

Priority Group: B

Site Evaluation

Quaker Hollow Natural Area (B)
1.69± Acres
Map 38

Site Description: This site has two ponds both used as wet basin. There is a large pond to the north and a smaller pond located directly south. West of the ponds is a field of reeds and other tall grasses with a few mature trees growing throughout. The southern part of the area enters into a wooded area; where buckthorn dominated the understory. On the southeast corner of the site has high density of grapevine and black raspberry. The ponds have algae and scum, accumulating on the surface. Sandbar willow dominates the borders of both dominating the site.

Predominate Invasive:

Herbaceous: Reed Canary grass, Common ragweed*, Thistle sp., Queen Anne's lace, Sow thistle, Giant ragweed*

Tree/Shrubs: Common Buckthorn

Nuisance: Sandbar willow, Grapevine, Deadly nightshade, Black raspberry, Canada goldenrod

Priority Group: B

Site Evaluation

Quaker Hollow Natural Area (C)
4.27± Acres
Map 40

Site Description: This has two parts the northeast part is dominated by cattails and other herbaceous invasive species. The southwest part of the site is a bottomland forest with buckthorn dominating the understory. There are two retention ponds located in the northwest section of the natural area. Both are surrounded by cattails.

Note: Part the southwest part of the natural area is owned by James D. Rock while the northeast part of the natural area is owned by the Round Lake Area Park District.

Predominate Invasive:

Herbaceous: Queen Anne's lace, Reed clover, Purple loosestrife, Sweet white clover, Sow thistle, Chicory

Tree/Shrubs: Smooth Buckthorn & Common Buckthorn

Nuisance: Cattails, Sandbar willow, Horsetail, Canada goldenrod, Grapevine

Priority Group: C

Site Evaluation

Quaker Hollow Natural Area (D)
0.21± Acres
Map 44

Site Description: This wetland is located in an open canopy field with bottomland woods surrounding the perimeter of the wetland. Buckthorn is dominating the understory within and beyond the wetland boundary. The wetland resembles a wet meadow with wetland specific plants present on site.

Predominate Invasive:

Herbaceous: Reed canary grass

Tree/Shrubs: Common Buckthorn

Nuisance: Virginia creeper

Priority Group: C

Site Evaluation

Quaker Hollow Natural Area (E)
0.36± Acres
Map 45

Site Description: This natural area is located in an opening within a wooded bottomland forest. The site is far from public view. The opening is dominated by canary grass with buckthorn growing dense beyond the wetland and in spots within the wetland boundary.

Predominate Invasive:

Herbaceous: Reed canary grass

Tree/Shrubs: Common Buckthorn & Smooth Buckthorn

Nuisance: Grapevine

Priority Group: C

Site Evaluation

Quaker Hollow Natural Area (F)
0.76± Acres
Map 47

Site Description: This natural area is located in an oak savannah. The eastern part of the wetland is heavily wooded while the western part is dominated by cattails. Buckthorn is dominating the understory of the wooded part of the wetland.

Note: A small part of the eastern boundary intersects two residential homes.

Predominate Invasive:

Herbaceous: Reed canary grass & Purple loosestrife

Tree/Shrubs: Common Buckthorn

Nuisance: Canada goldenrod & Grapevine

Priority Group: C

Site Evaluation

Quaker Hollow Natural Area (G)
0.10± Acres
Map 48

Site Description: This is a small wetland located on the southwest corner of the natural area. This is a detention pond with cattails dominating pond. The northern bank has a high density of invasive species present. Buckthorn is encroaching the area from the north.

Predominate Invasive:

Herbaceous: Queen Anne's lace, Purple loosestrife, Sow thistle

Tree/Shrubs: Smooth Buckthorn & Common Buckthorn

Nuisance: Canada goldenrod, Sandbar willow, Cattails, Virginia creeper, Grapevine

Priority Group: C

Site Evaluation

Silver Oak Natural Area (A)
0.53± Acres
Map 39

Site Description: This site was cleared of buckthorn years ago but has returned in recent years leading the buckthorn to dominate the entire site. This natural area is heavily wooded with invasive species growing dense in the understory.

Predominate Invasive:

Herbaceous: Curly dock, Purple loosestrife, Reed canary grass, Canada thistle*, Timothy grass, Queen anne's lace, Common ragweed*

Tree/Shrubs: Common Buckthorn

Nuisance: Cattails, Sandbar willow, Canada goldenrod

Priority Group: B

Site Evaluation

Silver Oaks Natural Area (B)
0.19± Acres
Map 43

Site Description: This site is located within a wooded bottomland on the southwest corner of Silver Oaks Natural Area. Buckthorn is established on the site and the area outside of the wetland. Invasive species are present on the site but not as dense as other areas.

Note: The boundary of the wetland intersects two residential homes. One to the northwest the other the southeast.

Predominate Invasive:

Herbaceous: Thistle sp. & Creeping Charlie

Tree/Shrubs: Common Buckthorn

Nuisance: Deadly nightshade, Black raspberry, Canada goldenrod

Priority Group: C

Site Evaluation

Silver Oaks Natural Area (C)
0.25± Acres
Map 37

Site Description: This is a small area located south of Peachtree lane and has a primary use as retention. A small part of the northern property is open canopy field while the reaming area is wooded with openings in the canopy. Buckthorn and other invasive species dominating the site. On the northwest border there is a large amount of trash present along with a broken safe. A trail leads to a "hang out" area where there is trash all over.

Note: Boundary intersects one residential home. A possible squatter present on site.

Predominate Invasive:

Herbaceous: Creeping Charlie, Thistle, Reed canary grass, Common burdock, Canada thistle*

Tree/Shrubs: Common Buckthorn

Nuisance: Deadly nightshade

Priority Group: B

Site Evaluation

Silver Oaks Park
4.88± Acres
Map 34

Site Description: This park is located south of Wal-Mart and Monaville Road. Due to the proximity to a high traffic zone there is trash accumulation along the borders of the site. Invasive species grow densely along the border of the park. The southern part of the park is a monoculture of reed canary grass and areas with dense buckthorn growing in throughout.

Predominate Invasive:

Herbaceous: Purple loosestrife, Curly dock, Reed canary grass, Canada thistle*, Red clover, Queen anne's lace, Sow thistle, Sweet white clover, Common ragweed*, Yellow mustard, Chicory

Tree/Shrubs: Common Buckthorn & Smooth Buckthorn

Nuisance: Cattails & Canada goldenrod

Priority Group: C

Site Evaluation

Sunset Park
0.79± Acres
Map 62

Site Description: This is an active park located between Golfview Drive and Meadowbrook Drive. A retirement home is located to the southwest of the park and residential surrounded the reaming area of the park. The park is mowed on a regular basis reducing native vegetation growth around the pond. Severe erosion is present along the banks causing holes to form around the pond. The soil is heavily unstable 10ft around the pond. There are a few spots of vegetation growth around the pond no more than 5ft from the bank. The culvert on the southwest corner has moderate damage with a few pieces that have broken off. The fence on the west part of the park is in danger of collapsing into the pond.

Note: This site is part of the Intergovernmental Agreement refer to Appendix I for more information.

Predominate Invasive:

Herbaceous: Common plantain, Garlic mustard, Creeping Charlie, Purple loosestrife, Common ragweed*

Tree/Shrubs: N/A

Nuisance: N/A

Priority Group: A

Site Evaluation

Sutton on the Lake (A)
2.17± Acres
Map 35

Site Description: This natural area is a bottomland forest with buckthorn dominating the understory. Buckthorn is dense throughout the natural area out competing any other vegetation. Trash is accumulating along the border of residential homes to the north.

Note: Part of the north intersect into two residential properties and the east boundary intersects the Wisconsin Central Ltd.

Predominate Invasive:

Herbaceous: Creeping Charlie & Garlic mustard

Tre/Shrubs: Common Buckthorn & Multiflora rose

Nuisance: Virginia creeper & Grapevine

Priority Group: A

Site Evaluation

Sutton on the Lake (B)
0.14± Acres
Map 41

Site Description: This natural area is located within heavily wooded area north of Sutton on the Park pond. A small pond is located at the center of the site with invasive species dominating the area around the pond. The surface of the pond is covered in green vegetation.

Predominate Invasive:

Herbaceous: Purple loosestrife & Garlic mustard

Tree/Shrubs: Common Buckthorn

Nuisance: Sandbar willow, Canada goldenrod, Virginia creeper, Grapevine

Priority Group: C

Site Evaluation

Sutton on the Lake (C)
4.75± Acres
Map 42

Site Description: The boundary for this wetland only includes the pond and shoreline of the pond. There is a bike trail to the west outside the boundary of this wetland. The pond itself has green vegetation covering the entire surface of the pond. Invasive species are growing in high density along the shoreline of the pond.

Predominate Invasive:

Herbaceous: Purple loosestrife, Red clover, Teasel, Bull thistle, queen Anne's lace, Common ragweed*, Sweet white clover, Phragmites, Canada thistle*, Giant ragweed*

Tree/Shrubs: Common Buckthorn

Nuisance: Sandbar willow, Canada goldenrod, Grapevine, Cattails, Virginia creeper

Priority Group: B

Site Evaluation

Sutton on the Lake (D)
2.03± Acres
Map 51

Site Description: This wetland is located north of the rec center and there is a trail that travels outside the eastern and southern boundary. Cattails dominate the area around the pond while the southern boundary is dense with sandbar willow. The pond is hidden by the tall dense vegetation along the perimeter.

Note: The southern half of this wetland is owned by the Village While the northern half is owned by the park district.

Predominate Invasive:

Herbaceous: Sow thistle, Purple loosestrife, Reed canary grass, Sweet white clover, Queen Anne's lace

Tree/Shrubs: N/A

Nuisance: Canada goldenrod, Sandbar willow, Cattails

Priority Group: B

Appendix B:

Funding

Funding

The following list is not complete and does not include all available grants. Please refer to each organizations website for information on available grants.

Illinois Department of Natural Resources:

- Illinois Coastal Management Program Grants – Communities and non – profits along Lake Michigan shoreline with the intention of protecting, restoring, and actively managing the site.
    - Grant range: $1,000 - $100,000
- Open Space Land Acquisition and Development (OSLAND) – Acquisition and/or development of land into an open space and public park.
    - Up to 50% project cost
- Land & Water Conservation Programs – Acquisition and/or development of land into an open space and public park.

Lake County Stormwater Commission:

- Watershed Management Assistance Grant - The goal of this program is to bring the community together to identify and resolve problems of local watershed in Lake County.
    - Grant range: $1,000 - $12,000

National Fish and Wildlife Foundation:

- Five Star and Urban Waters Restoration Grant Program - This program provides funding to any non – federal, state, public or private entity. The target of this program is to focus on restoration and stewardship of coastal, wetland and riparian ecosystems across the country. Water quality issues such as erosion, pollution from storm water runoff, and degraded shorelines are addressed through this program.
    - Grant range: $20,000 - $50,000
- Sustain Our Great Lakes – This program works to improve and enhance stream & riparian habitat, coastal wetland habitat, and water quality in the Great lakes and its tributaries.
    - Grant Range: $100,000 - $1,000,000

Illinois American Water

- Environmental Grant Program - This program supports community based environmental projects that restore, protect and maintain watersheds through partnership.
    - Max amount $10,000

Com-ed

- Com-ed Green Region Program – This program works to support municipalities, townships, counties, park districts, conservation districts and forest preserve districts in Northern Illinois with ongoing efforts to protect public spaces.
    - Up to $10,000

Table 1: Year 5 Plan Breakdown

Priority\Maint Type	Year-5	FY2020	FY2021	FY2022	FY2023	FY2024
Priority A			AVERAGE PER YEAR EXPENSE			
Preliminary Maintenance	$277,109	$55,422	$55,422	$55,422	$55,422	$55,422
Restoration Maintenance	$26,018	$5,204	$5,204	$5,204	$5,204	$5,204
Total Priority A	**$303,127**	**$60,625**	**$60,625**	**$60,625**	**$60,625**	**$60,625**
Priority B						
Preliminary Maintenance	$13,409	$2,682	$2,682	$2,682	$2,682	$2,682
Restoration Maintenance	$37,745	$7,549	$7,549	$7,549	$7,549	$7,549
Total Priority B	**$51,154**	**$10,231**	**$10,231**	**$10,231**	**$10,231**	**$10,231**
Priority C						
Preliminary Maintenance	$35,668	$7,134	$7,134	$7,134	$7,134	$7,134
Restoration Maintenance	$88	$18	$18	$18	$18	$18
Total Priority C	**$35,757**	**$7,151**	**$7,151**	**$7,151**	**$7,151**	**$7,151**
Grand Total	**$390,038**	**$78,008**	**$78,008**	**$78,008**	**$78,008**	**$78,008**

Table 2: Year 10 Breakdown

Priority\Maint Type	Year-10	Per Year Average
Priority A		FY2025-2029
Preliminary Maintenance	$ 188,119	$ 37,624
Restoration Maintenance	$ 27,380	$ 5,476
Total Priority A	**$ 215,499**	**$ 43,100**
Priority B		
Preliminary Maintenance	$ 1,237,938	$ 247,588
Restoration Maintenance	$ 92,306	$ 18,461
Total Priority B	**$ 1,330,245**	**$ 266,049**
Priority C		
Preliminary Maintenance	$ 111,317	$ 22,263
Restoration Maintenance	$ 8,190	$ 1,638
Total Priority C	**$ 119,507**	**$ 23,901**
Grand Total	**$ 1,665,251**	**$ 333,050**

Table 3: Year 20 Breakdown

Priority\Maint Type	Year-20	Per Year Average
Priority A		FY2030-2039
Preliminary Maintenance	$ 59,382	$ 5,938
Restoration Maintenance	$ 1,472	$ 147
Total Priority A	**$ 60,853**	**$ 6,085**
Priority B		
Preliminary Maintenance	$ 197,762	$ 19,776
Restoration Maintenance	$ 3,886	$ 389
Total Priority B	**$ 201,648**	**$ 20,165**
Priority C		
Preliminary Maintenance	$ 261,501	$ 26,150
Restoration Maintenance	$ 7,377	$ 738
Total Priority C	**$ 268,878**	**$ 26,888**
Grand Total	**$ 531,379**	**$ 53,138**

Appendix C:
Intergovernmental Agreement

Intergovernmental Agreement

The Round Lake Area Park District and the Village of Round Lake Beach have a proposed plan for 2018 through 2021 for an intergovernmental agreement as of January 2016. The District and the Village agreed to contribute $4,000.00 that is to be used solely for wetland, management, restoration, and lakeshore improvement. The Following areas have been targeted for restoration by the District and the Village.

1) Long Lake Natural Area and Park: Clearing of woody vegetation in order to better treat invasive species present on site.
2) North Shore Park: Prescribed burning of the unit to control woody vegetation growth in the understory.
3) Sunset Park: Complete restoration of the park.

Refer to An Intergovernmental Agreement between the Village of Round Lake Beach and the Round Lake Area Park District to Transfer Certain Property to the Village, for more information on the legal agreement.

Appendix D:
Comprehensive Land Use Plan

Comprehensive Land Use Plan

There is a future plan in place to create a conservation area beyond the parameters of the Nicole wetland. Work between private land owners, park district, and the Village are in play to create a natural area and enhance as an open space. This site has been found to be highly valuable natural area and will provide an important buffer area for residential homes north of the site.

Central Park A & B are, mentioned in the *Village of Round Lake Beach*: Comprehensive Land Use plan 2009, as key development areas. The Village guided Lake County on restoration of the wetland and creek at Central Park A & D in 2009. The goal of this open space is to diversify the land use in the Key Development area #5b. Additionally, with collaboration of the Village, the Park District has acquired land between Fairfield Road and Beverly Drive in order to create a sports complex. This acquired land includes Fairfield Sports Complex A – D. The idea of this park is to repurpose the area for Softball, baseball, football, and soccer fields. A storm water detention area is to be constructed in the Fairfield Sports Complex (B) wetland.

Greater detail on these subjects can be found in the *Village of Round Lake Beach*: Comprehensive Land Use plan.

APPENDIX E:

Education

Educational programs have proven beneficial in starting, maintaining, and enhancing natural areas as they teach local residents the value of these areas via interactive programs available at little to no cost. The following is a list of natural area programs provided by other communities that have been successful in connecting the community to natural areas. By no means is this a complete comprehensive list of programs, but it does provide a good starting point for Round Lake Beach. The next plan will discuss in greater depth educational programs in Round Lake Beach.

Park Forest, Illinois: Annual Programs

January 2019
First Day In Nature - A naturalist guide walks the public through a local wetland discussing interesting wetland facts with the event ending around a fire pit with hot chocolate and marshmallows.
February 2019
Wild Animal Tracks – A naturalist walks with community to find animal tracks on local trails and bring home a replica of an animal track.
Spring & Summer 2019
Friends of Thorn Creek Woods – A group of volunteers gather to maintain and build local trails. Additionally volunteers help lead programs and raise funds for the continued maintenance of an area.
March 2019
Woodcock Watch – The Community gathers to observe courtship displays of the woodcock with local bird expert Sue Zelek.
October 2019
Autumn Night Hike – A naturalist guides the community through a local nature preserve in the dark observing wildlife activities before winter.
October 2019
Know Your Oaks Hike - A naturalist guides the community on a hike discussing tips and tricks to identify different oak species in a local nature preserve.
December 2019
Story of the Landscape Hike – A naturalist discusses forest characteristics and what they tell "us" about a forest ecosystem.

Evanston, Illinois: Programs are part of an Adult Learning Community that change topics every month.

March 2018
Watershed Learning – This watershed learning workshop discusses the importance of watershed in the community with a short talk, discussion, and hands on activity.
Monthly Basis 2019
Stewardship and Citizen Science
April 2018
Watershed spirituality and Environmental Justice
May 2018
Biking tour of Evanston Green Infrastructure

Waukegan, Illinois: Program is conducted in different municipalities every month.

April – October, 2017
Rx for Health: Walking in Nature – Naturalist from The Lake County Forest Preserve and health care providers lead tours of forest preserves in Lake Villa, Nippersink, Round Lake, Ryerson Woods, Riverwoods, North Chicago, Mettewa, Wadsworth, Ingleside, and Waukegan. During tours physicians talk about the benefits of walking and naturalists discuss outdoor topics.

Lake Zurich, Illinois: Programs are led by local non-profit agency Ancient Oaks Foundation (AOF)
February 2019
Winter Bird Watch – Guides discuss local birds and how they thrive the Midwest

winters; while walking the community through local woods.

Compilation of Programs sponsored by AOF in past years: Owl Walk/Buckthorn Busters/ Raingarden Basics/ Winter Tree Identification.

Appendix F:
Homeowner Complaints'

The village has received numerous complaints from residents about the current state of neighboring wetlands. Based on resident complaints wetlands that have one or more resident complaints will be pushed to the top of the list for restoration. In order to control wetland encroachment into homeowner's properties the village is discussing creating a 3' to 4' buffer zone from homeowner properties and the wetlands. This buffer zone will allow easy access to the wetland while keeping wetlands from encroaching onto homeowner properties.
The buffer will be placed in areas where homeowners are contacting the village about wetland encroachment into properties.

Below is a compiled list of residents who have contacted the village thus far (08/15/19):

Oaktree Savannah Natural Wetland Conservation Area (A); Map 6
This wetland has been identified as a high priority site in group A and is scheduled to be restored within the next 5 years.

262 Woodoak Circle [05/20/19] –
Resident removed buckthorn from wetland

1922 Oaktree Trail [06/11/19] –
Resident would like something done with the wetland.

2036 Oaktree Trail [08/01/19] –
Resident has invasive species encroaching into lawn. Resident stated that the wetland used to be taken care of but now is an eyesore.

Lindsay; Map 5
This wetland was identified as a group C site due to the density of invasive species growing throughout the site. The site will be reviewed for restoration to begin sooner than originally scheduled.

2048 Nicole Lane [08/12/19] -
Resident worried about storm drain located next home and encroachment from the wetland into property.

Meadowbrook (F); Map 21
This wetland has been identified as a high priority area based on information gathered. Restoration is set to begin within the next 5 years.

1428 Meadowbrook Drive [06/25/19] –
Resident concerned about severe erosion behind property and wants the village to take care of the problems that the wetland is causing to the property. An email addressed to the mayor and public works director was sent to the village.