REGIONAL SPECIES OF GREATEST CONSERVATION NEED IN THE MIDWESTERN UNITED STATES - APPENDICES

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Midwest Landscape Initiative
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TABLE OF CONTENTS

APPENDIX A. MAFWA RSGCN SELECTION CRITERIA AND METHOD

BACKGROUND

In the Northeast and Southeast, a Regional Species of Greatest Conservation Need (RSGCN) list has served as a foundation for multi-state priority collaborations for research, survey and monitoring, planning, and conservation implementation. Since its inception in the 1990s, and especially over the last decade, a regional RSGCN list has proven to be a useful tool for revealing shared priorities, enhancing cross-state collaboration, and securing additional conservation funding to support those priorities.

States in the Midwest Association of Fish and Wildlife Agencies (MAFWA) region collectively identified 2740 SGCN in their 2015 wildlife action plans and subsequent revisions. Developing a smaller and more targeted list of RSGCNs would serve well to reflect and highlight shared conservation values and stewardship responsibilities, encourage collaborative cross-state work on those priority species, and substantively contribute to realization of the Midwest Landscape Initiative (MLI) vision for collaborative and future-oriented conservation. Criteria for developing such a list needs to reflect the specific context and needs in the Midwest. The approach described below includes two general criteria categories: regional stewardship responsibility and conservation concern and status.

As part of the MLI, the USFWS (Science Applications; SA) worked with its partners the MAFWA Wildlife Diversity Committee (WDC; committee) to support a process for collaboratively developing a Regional SGCN list. Terwilliger Consulting, Inc. (TCI), which provided primary support to the Northeast and Southeast Associations of Fish and Wildlife Agencies (NEAFWA and SEAFWA, respectively) in development of their regional lists, and has extensive experience supporting states in development of State Wildlife Action Plans, was contracted to assist the Midwest process by the MLI.

In general, the work was accomplished by TCI through a subcontract from USFWS SA and was overseen by the MLI At-Risk Species Working Group, comprised of MLI members from SA and the MAFWA states. TCI facilitated the efforts of the Working Group and 12 Taxa Teams; provided the underlying research needed for their review and deliberation; and developed and delivered reports documenting consensus for Working Group approval on progress and completion.

USING THE LIST

The Midwest Landscape Initiative's At-Risk Species Working Group guided the creation of a list of Regional Species of Greatest Conservation Need. This list can facilitate effective and efficient conservation of fish and wildlife by highlighting shared conservation needs and helping diverse partners work together. Specifically, the RSGCN list is designed to:

- Facilitate cross-state analysis and collaboration on the most at-risk species in the Midwest to reduce the need for regulatory protection,
- Identify emerging or overlapping threats across landscapes affecting priority species,
- Communicate regional conservation priorities with partner organizations and funding programs to increase and focus resources,
- Reveal conservation action priorities by identifying species groups that share similar habitats or threats that would benefit from regionally-coordinated efforts in the Midwest,
- Enhance communication about the Midwest's imperiled species and conservation opportunities across all audiences including the general public, partner organizations, and regulatory agencies,
- Identify regional stronghold species that are more secure in the Midwest than in other parts of their range, and
- Identify species of potential conservation concerns that are data deficient.

SELECTION FACTORS

The following selection factors acted as screening filters which established required characteristics of RSGCN. In this section the factors and their thresholds were defined. The next section, "Selection Process," explains how the factors were used to develop the RSGCN list. These key factors were consistent with the approaches used in the Northeast and Southeast.

SGCN ELIGIBLE FOR REGIONAL SGCN SELECTION

All SGCN native in at least a portion of their range to the MAFWA region were eligible for potential RSGCN selection. If additional species warranted consideration, taxa teams brought those to the MLI's attention. While the USFWS and state wildlife diversity programs agreed all taxa are important for biodiversity conservation and will continue to work toward the conservation of all taxa, the MLI recognized that the availability of data and expertise constrain the assessment of conservation needs at the regional scale across all taxonomic groups. In recognition of these limitations, the MLI reviewed and included 1,817 native species in the following groups:

a. Mammals (105 SGCN)
b. Birds (251 SGCN)

c. Reptiles (124 SGCN)
d. Amphibians (82 SGCN)
e. Fish (251 SGCN)
f. Crayfish (67 SGCN)
g. Freshwater Mussels (102 SGCN)
h. Odonates – Dragonflies and Damselflies (151 SGCN)
i. Bumble Bees (16 SGCN)
j. Solitary Bees (34 SGCN)
k. Lepidoptera – Butterflies, Skippers, and Moths (464 SGCN)
l. Ephemeroptera – Mayflies (67 SGCN)
m. Plecoptera – Stoneflies (41 SGCN)
n. Trichoptea – Caddisflies (62 SGCN)

The invertebrate taxa were limited to those that had adequate conservation assessment data and expertise in the region. It was not feasible to review all invertebrate taxa at this time. The following invertebrate groups were excluded from this RSGCN process:

a. Arachnids (~31 SGCN)
b. Amphipods (~29 SGCN)
c. Isopods (~ 20 SGCN)
d. Beetles (~143 SGCN)
e. Flatworms (~7 SGCN)
f. Grasshoppers (~51 SGCN)
g. Ants, wasps, and sawflies (~15 SGCN)
h. Diplurans, springtails, and proturans (~45 SGCN)
i. Katydids and crickets (~16 SGCN)
j. Millipedes and centipedes (~11 SGCN)
k. Freshwater and terrestrial snails (~180 SGCN)
l. Fairy, clam, and tadpole shrimps (~6 SGCN)
m. Freshwater clams (~14 SGCN)
n. Sponges (~1 SGCN)
o. Other flies (~8 SGCN)
p. Other crustaceans (copepods, ostracods, etc.) (~12 SGCN)
q. Other insects (cicadas, leafhoppers, planthoppers, lacewings, spittlebugs, true bugs, etc.) (~106 SGCN)

In addition, plants (~230 SGCN) were beyond the scope of this assessment.

Taxa Teams were encouraged to consider fish and wildlife at the species level, but subspecies or subpopulations that had unique conservation concern or conservation action could be identified as RSGCNs independently of the parent species.

FACTOR 1: REGIONAL STEWARDSHIP RESPONSIBILITY

Representation of the importance of the Midwest region was a key consideration in the inclusion of a species as RSGCN. **The regional responsibility factor was the percent of the species' range overlapping the Midwest region** as defined by the boundaries of the Midwest Association of Fish and Wildlife Agencies. For the purposes of this calculation, the Midwest region includes North Dakota, South Dakota, Nebraska, Kansas, Missouri, Kentucky, Ohio, Indiana, Michigan, Illinois, Wisconsin, Iowa, Minnesota, Ontario, Manitoba, and Saskatchewan. If data availability allowed, the full species' range included areas throughout North America, including Mexico, the United States, and Canada. At the pre-screening stage, regional responsibility was estimated for all SGCN using digital range maps and other resources. Species were assigned one of the following regional responsibility categories:

a. 100% of species' distribution is in MAFWA (Regional Endemic)
b. 75-100% of species' distribution is in MAFWA
c. 50-75% of species' distribution is in MAFWA
d. 25-50% of species' distribution is in MAFWA (excluded from RSGCN consideration except in rare circumstances)
e. <25% (MAFWA represents an edge of range or the species is very widespread within North America; excluded from RSGCN consideration except in rare circumstances)

While not a screening criterion, the number of states in the region that shared stewardship responsibility was a helpful consideration in acting on the RSGCN list.

Due to their migratory nature, supplemental regional responsibilities were identified for birds at the request of the Bird Taxa Team. In addition to the geographic range regional responsibility detailed above, individual regional responsibilities were identified for bird breeding ranges, migration or migratory stopover ranges, and wintering ranges, including conservation status from PIF (2016) with its associated Avian Conservation Assessment Database (https://pif.birdconservancy.org/), Birds of the World (https://birdsoftheworld.org/bow/home), multiple Joint Ventures (Appalachian Mountains JV 2021, Central Hardwoods JV 2021, Eastern Habitat JV 2017, Northern Great Plains JV 2021, Prairie Habitat JV 2013, Prairie Pothole JV 2017, Rainwater Basin JV 2013, Soulliere et al. 2020), the USFWS Birds of Conservation Concern (USFWS 2021), and the Midcontinent Shorebird Conservation Initiative (Manomet Center for Conservation Sciences 2021). These supplemental data fields more fully captured the regional responsibility of the Midwest for migratory birds, by indicating the region's primary responsibility with respect to individual species of migratory birds.

ADDITIONAL RESPONSIBILITY FACTORS

In general, species with regional responsibility of 50% or more were considered as RSGCN if they met concern criteria (Factor 2 below). However, there were several extenuating circumstances under which a species with less than 50% regional responsibility was considered as RSGCN. When these situations existed, the Taxa Teams identified applicable Responsibility Overriding Factor(s) (ROF). The following additional factors were considered in determining the importance of including a species with low regional responsibility as RSGCN (with ROF category labels in bold):

- **Core Population**. Taxa Teams may consider the area where the species is most secure. For example, some species are found over a very large geographic area, but the strongest populations are focused in a smaller area within the region.
- **Highly Imperiled**. When species are highly imperiled throughout the range, the Midwest may assume stewardship responsibility. For example, cave hibernating bats have large geographic ranges, but are imperiled throughout by white nose syndrome. Decisions to include species with lower than 50% regional responsibility based on imperilment were made in conjunction with considerations of concern level.
- **Migratory Species**. Migratory species usually have larger geographic ranges and are therefore less likely to meet the 50% threshold for regional responsibility. Migratory species such as birds may be included as RSGCN if at least 50% of their breeding, migratory stopover, or wintering habitat is within the region.
- **Climage Change Range Shift**. Taxa Teams may consider confident predictions of range shifts due to climate change that would increase the regional responsibility of the species in the future.
- **Disjunct Population**. The region supports a geographically isolated population of a species that may contribute to genetic diversity or the three R's (resiliency, redundancy, or representation) when conducting species status assessments.
- **Stewardship Priority**. The region has a significant stewardship responsibility for management, restoration, or recovery of the species. For example, the Midwest is disproportionately important to a suite of grassland birds.

There were no quantitative thresholds or standardized data sources for these factors. Instead, Taxa Team experts noted which Responsibility Overriding Factor(s) they based the recommendation for listing a species with low regional responsibility.

Species with greater than 50% regional responsibility may also have core populations, disjunct populations, climate change range shifts, or stewardship priority in the Midwest, or may be

highly imperiled or migratory species. However, these species do not require a ROF to justify RSGCN selection and as such are not identified with these factors in the database.

Note: if genetically distinct subspecies or subpopulations were considered the taxonomic target, the reported regional responsibility should be accurate for that sublevel (e.g., 100% MAFWA Endemic).

FACTOR 2: CONSERVATION CONCERN

The level of conservation concern for species was the second factor in determining RSGCN status. This was often represented by standard conservation status rankings. Information was provided by NatureServe (www.natureserve.org) and the NatureServe network, a leading source of information about rare and endangered species, and threatened ecosystems, as well as IUCN (2020), Jelks et al. (2008), PIF (2016), Taylor et al. (2007), and USFWS (2020).

These sources were used as indicators of conservation concern and were available to the Taxa Teams during their evaluations:

- Federal listing: if species is Endangered, Threatened, or Candidate (not petitioned)
- State listing: if species appears on a state Threatened or Endangered list
- NatureServe Global Ranks: focusing on those that are G1/G2
- NatureServe State Ranks: focusing on those with an average regional S-Rank of S1 to S3 among states which report S-ranks; excluding Iowa
- IUCN Red List Category: Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, Data Deficient
- Partners in Flight Watch List: Red or Yellow; applicable to birds
- AFS Conservation Status for Fish and Crayfishes: Endangered, Threatened, Vulnerable, Currently Stable
- Partnerships (e.g., Fish Habitat Partnerships, etc.) that have already identified species priorities

Species were assigned one of the following predicted concern level categories based on their listing status(es):

a. Very High
b. High
c. Moderate
d. Low

ADDITIONAL CONCERN FACTORS

While the following values were not incorporated in the systematic screening process, as Taxa Teams reviewed species with limited data or marginal indications of conservation concern, the following Concern Overriding Factors (COF) were considered in determining the importance of including species as RSGCN (with COF category labels in bold):

- **Emerging Threats**. Some species' conservation statuses are undergoing or likely to undergo rapid changes as a result of emerging threats, such as a new disease or a shift in market forces driving harvest or collection. In some cases, these declines may be observed without a known associated cause.
- **Climate Vulnerability**. Species with anticipated higher concern levels in the coming decades due to climate change may be recognized at this time.
- **Keystone Species**. Some species should be monitored closely because many other species rely on their sustained presence.
- **Stronghold Species**. Species that are not imperiled in the Midwest but are imperiled elsewhere should be monitored to ensure the strongest populations remain secure.
- **Genetic Distinctiveness**. In the interest of preserving genetic diversity, some populations may have unique importance.
- **Cultural Values**. Species with historical significance or strong values to Indigenous peoples may be included as RSGCN in recognition of the importance of maintaining secure populations.

There were no quantitative thresholds or standardized data sources for these factors. Instead, Taxa Team experts noted which COF they based the recommendation on. Species that met the conservation status selection criteria may also have emerging threats, climate vulnerability, genetic distinctiveness or cultural values in the Midwest, or may be keystone species or stronghold species species. However, these species do not require a COF to justify RSGCN selection and as such are not identified with these factors in the database.

SELECTION PROCESS

The selection of RSGCN had two phases. First, Terwilliger Consulting Inc. (TCI) pre-screened the species based on the data they were able to compile. Then, Taxa Teams reviewed those data and the species to confirm clear RSGCN candidates and make recommendations about the inclusion of additional species for which data were less clearly indicating RSGCN inclusion. Both phases aimed to follow the thresholds outlined below. For species with less data available, Taxa Teams interpreted the intent of these thresholds to make a recommendation for the RSGCN status of a species.

PRE-SCREENING

TCI assembled data from multiple sources, conducted a preliminary screening following the method described below, and organized all the data for Taxa Team review. This resulted in a list of species that likely met RSGCN criteria at the High or Very High concern level, a list of species that needed evaluation by the taxa teams, and a list of species that did not seem to meet the criteria.

TCI compiled SGCN data from all MAFWA states and filled in data gaps to provide the following data fields for each species in the focal taxonomic groups:

- Taxonomy (Class, Order, Family)
- Scientific and common names
- Federal listing status
- State listing status
- G ranks and date last reviewed
- S ranks for MAFWA states
- IUCN Red List of Threatened Species Category (IUCN 2020)
- Partners in Flight Watch List (PIF 2016)
- American Fisheries Society (AFS) Status for Crayfishes of the U.S. and Canada (Taylor et al. 2007, as updated)
- AFS Status for Fishes of the U.S. and Canada (Jelks et al. 2008)
- Fish Habitat Partnership priority species for Fish and Mussels (USFWS 2020)
- MAFWA state occurrences
- MAFWA state SGCN status

For Factors 1 and 2 above (Regional Responsibility and Conservation Concern), the following thresholds determined which species were included as RSGCN and were followed for pre-screening:

Predicted RSGCN. TCI used these thresholds for responsibility and concern to "predict" RSGCN, such that all species with ≥50% regional responsibility (including 50% of breeding, stopover, or wintering for migratory species) and any of the following conservation concern indicators were identified as "Predicted RSGCN" in the pre-screening process. These species were assigned a predicted concern level of "Very High Concern" or "High Concern" as follows:

Predicted Very High Concern	Predicted High Concern
• Federal listing status of E • Rounded G-rank ≤ G1 • Average S-rank in Midwest ≤ S1 • IUCN Red List Criticially Endangered (CR)	• Federal listing status of T • Rounded G-Rank G1 to G2 • Average S-Rank in Midwest S1 to S2 • IUCN Red List Endangered (EN)

Probable RSGCN. All species with ≥50% regional responsibility and any of the following lower conservation concern indicators were identified as "Probable RSGCN" with a predicted concern level of "Moderate Concern":

- Average S-ranks ≤S3 in at least half of the Midwest Region states where the species occurs (excluding IA for the pre-screening)
- State listing status of Endangered, Threatened, or Special Concern
- Vulnerable on the IUCN Red List

All species with lower regional responsibility (25-50%) and a higher conservation concern indicator were identified as "Probable RSGCN", with the same predicted concern levels of "Very High Concern" or "High Concern" as for Predicted RSGCN above.

Possible RSGCN. To protect against oversights, species with lower regional responsibility (25-50%) and any of the following lower indicators of conservation concern were identified as "Possible RSGCN" with predicted concern levels of "Moderate" during pre-screening, and were reviewed by taxa teams:

- Average S-ranks ≤S3 in at least half of the Midwest Region states where the species occurs (excluding IA for the pre-screening)
- State listing status of Endangered, Threatened, or Special Concern
- Vulnerable on the IUCN Red List

Unknown RSGCN. Any species for which sufficient data were lacking to pre-screen were listed as "Unknown RSGCN" to trigger Taxa Team review. These included species for which regional responsibility could not be estimated (i.e., no range data available); for which there were not G-ranks, S-ranks, or IUCN Red List scores; or the ranks were G or S U, NR, or NA.

Not Predicted RSGCN. Species that were not indicated to meet RSGCN criteria during the pre-screening process (species that were not placed in any of the other categories) were listed as "Not Predicted RSGCN" but Taxa Teams were still invited to review the list to make sure a species had not been mistakenly excluded. Taxa Teams could recommend a Not Predicted RSGCN species for team review and consideration as potential RSGCN.

Species that were not currently SGCN within the MAFWA region could be nominated by the Taxa Teams for discussion as potential RSGCN but were not pre-screened.

TAXA EXPERT REVIEW

Each MAFWA state identified taxonomic experts for each of the taxa groups, who were invited to participate as members of taxa review teams (Appendix B). All pre-screened species in each taxa group were forwarded to the appropriate Taxa Teams for review. Taxa Teams reviewed all pre-screening data provided by TCI and confirmed data accuracy of all data compiled.

Taxa teams were presented with organized data sets that can be easily manipulated to facilitate their review. They were asked to:

1. Review the accuracy of the data that was pre-populated.
    a. Because estimates of regional responsibility are so consequential, all estimates were reviewed. For example, estimates of regional responsibility were corrected if the estimate was based on historic range, but the species had been extirpated over a wide portion of the range. Unless there was a reasonable expectation of recovery, the taxa-review process focused on the current range.
    b. Although the data were checked for accuracy for listing statuses and other details, there was always a chance that something has been updated but not picked up in the data acquisition (e.g., taxonomic synonyms or revisions).
2. Review the species TCI identified as "Predicted RSGCN" to confirm that they warrant listing and "Probable RSGCN" to determine if they warrant including.
3. Review and discuss "Possible RSGCN" and "Unknown RSGCN," including the additional overriding factors described above and share new information about status and trend to determine which species warrant including.
4. Review the list of species identified as "Not Predicted RSGCN" to confirm they do not warrant inclusion.

To accomplish this review, TCI hosted a series of introductory webinars to present the RSGCN selection methodology, the taxa being evaluated, and the Taxa Team review process. The introductory webinar was recorded and made available to team members who were unable to attend the webinars.

Taxa Team members were then given 3-4 weeks to review the raw data and submit their feedback to TCI via an online questionnaire (administered through Survey Monkey) specific to their taxa and the pre-screened lists. TCI tallied the questionnaire responses to update the pre-screened lists into three groups: 1) species with Taxa Team consensus (at least 60% of those voting) that the species should be RSGCN; 2) species with Taxa Team consensus (at least 60% of those voting) that the species should not be RSGCN; and 3) species where there was not clear consensus.

Taxa Teams also were asked during the survey to review the predicted concern levels for species likely to be identified as RSGCN. Concern levels help indicate the risk of extinction and the urgency of conservation action:

- **Very High Concern** species are those that are highly imperiled and urgent conservation action is required to recover populations to sustainable levels.
- **High Concern** species are those that have experienced clearly documented declines and would benefit from coordinated conservation action.
- **Moderate Concern** species would benefit from region-wide monitoring and coordination.

TCI hosted a Zoom conference call of each Taxa Team to present the Round 1 Review results and discuss species and issues that lacked consensus or that were raised by individual Taxa Team members. Overriding Factors (ROF and COF) were identified by the Taxa Teams as needed and recorded by TCI. Non-SGCN species nominated by Taxa Team members for consideration were also discussed at that time. A second iteration of data review, feedback, and conference calls were sometimes necessary to finalize the RSGCN lists, particularly for taxa with large numbers of species to discuss.

Based on recommendations of the Taxa Teams, some groups of subspecies and nominal species were identified for potential merging into single RSGCN records. Similarly, some distinct populations of species were identified as separate RSGCN records, such as when the USFWS has designated Distinct Population Segments. TCI merged or split records of nominal and/or subspecies of potential RSGCN for review by the taxa teams.

The Midwest Bird Taxa Team was challenged by the migratory nature of birds, which have large geographic ranges and limited regional responsibilities based on geographic ranges alone. The taxa team therefore identified additional regional responsibilities for migratory birds during the breeding, migration, and wintering seasons, using data from PIF (2016) and its associated ACAD (https://pif.birdconservancy.org/), range maps from Birds of the World (https://birdsoftheworld.org/bow/home), and extrapolations as needed from taxonomic experts. As a result, the migratory birds have four regional responsibility metrics – geographic, breeding, migration, and wintering regional responsibilities.

Taxa Teams identified a need for an additional RSGCN category for species for which they were concerned but did not clearly meet RSGCN selection criteria. A RSGCN Watchlist was used to capture these concerns, with three subcategories:

- **Watchlist [Assessment Priority]**: species for which there is concern but insufficient information; species should be a priority for additional survey effort to document threats and declines across the region before they become severe.

- **Watchlist [Interdependent Species]:** species on which a RSGCN is dependent, such as parasitic bees, host fish for mussels, or (in the future) host plants.
- **Watchlist [Defer to Adjacent Region]**: species with high levels of concern but for which the region has low regional responsibility; deferral to adjacent regions recommends those regions consider the species for RSGCN or, if already RSGCN, to review the Concern Level.

Taxa team members were given the opportunity to identify additional species that were added to their list of SGCN since the most recent SWAP; were newly described or taxonomically split from other SGCN; or have emerging threats that are likely to result in the species being proposed as SGCN in the next SWAP update. These new species were reviewed by the Taxa Teams; those meeting the criteria for RSGCN status but not yet designated as SGCN were placed on a Proposed RSGCN list or a Proposed RSGCN Watchlist until such time as they are designated SGCN, when they are then eligible to become RSGCN (Appendices F and G).

The taxa RSGCN spreadsheets were updated based on the decisions and discussions of each team and then distributed for a second round of review. For this second round, Taxa Teams were asked to:

1. Confirm the concern level and regional responsibility for RSGCN and Proposed RSGCN
2. Confirm the S-Rank for the species in their state.
3. Confirm whether the species is identified as SGCN in their state.
4. Confirm the state protected status in their state, if applicable.
5. Confirm whether the species occurs in their state (regardless of whether the species is SGCN in the state).

TCI compiled the results of the final round of review to finalize the RSGCN lists and Watchlists and update the state-level data for each species.

RSGCN LIMITING FACTORS

The objective of this component was to identify and evaluate key factors causing RSGCN declines and to provide a summary of themes that better explain the impacts of top threats.

While threats to SGCN can be found in the Wildlife Action Plans, linkages to explain why the threats are responsible for the decline of species or degradation of habitats can be difficult to summarize at a regional scale. One reason is that the intention of the current threat-classification system is to identify *direct* threats to species and habitats. However, this approach can underestimate or ignore *indirect, interrelated,* or *amplifying* threats (e.g., climate change, shifts in food availability, or predator-prey relationships). Additionally, detailed habitat

requirements are not systematically captured, making it difficult to sort species sharing specific niches or conditions.

The data fields described below were developed for the Northeastern states based on several years' of Taxa Team consultation, gaps in the Northeast State Wildlife Action Plan database, previous efforts in modeling habitat suitability (e.g. DeGraaf and Rudis 1986, DeGraaf et al. 1992, McManamay et al. 2018, Twery and Thomasma 2019), and NatureServe life history and habitat condition comments (NatureServe 2020). These were customized for the Midwest RSGCN, in coordination with the MLI At-Risk Species Working Group and MLI Habitat Working Group.

These limiting factors help explain how (and in what ways) threats are causing declining populations or degrading habitats. They are organized in four groups 1) habitat use and condition requirements; 2) seasonal and life cycle requirements; 3) innate biological characteristics including breeding, reproduction, and survivorship; and 4) food needs.

In general, the additional data fields:

1. link directly to existing threat categories and explain how they impact species,
2. provide additional detail, like habitat condition requirements that may be lost due to the threat, and
3. demonstrate important threats to species not adequately captured by the existing classification system (e.g., food resources and species' relationships).

For species imperiled by habitat-related threats, the decline may be attributable to a reduction in spatial extent of suitable habitat or a degradation of habitat condition. For other species, declines are due to threats that cause individual mortality (e.g., disease and pollution), reduce the rate of successful reproduction (e.g., predation or host availability), or reflect a lack of sufficient suitable resources. The limiting factors help document why species are in decline, making it possible to produce more confident regional statements of conservation action goals that address concerns across many taxonomic groups. Conservation partners will also be able to enhance conditions for non-target imperiled species that share areas where conservation actions are being implemented.

TCI created a Microsoft Access database for the RSGCN and Proposed RSGCN with additional data fields addressing limiting factors or vulnerabilities for each species (below). TCI pre-populated many of the limiting factors data fields using publicly available data for RSGCN and Proposed RSGCN. The Taxa Teams then reviewed the limiting factors data fields and provided data via an online survey. TCI compiled the survey results and updated the database for the limiting factors data fields for RSGCN and Proposed RSGCN. Some data fields may be partially or fully incomplete, reflecting a research or data need and space to add newly acquired data in the future.

To facilitate information gathering, many data fields / survey questions were phrased so they could be answered with Yes, No, Maybe, Unknown, or Not Applicable (abbreviated below as [Y, N, M, U, NA]). Other categorical responses are also shown in [brackets].

HABITAT

In collaboration with the MLI Habitat Working Group, a list of coarse habitats was developed for the region that best captured various habitat classification systems in use by Midwest SWAPs and other partners. Up to three general **natural habitat types** used by each RSGCN and Proposed RSGCN (and detailed habitat requirements) were indicated:

- Forest
- Grassland (includes Prairie)
- Shrubland
- Glades, Barrens and Savanna
- Caves and Karst
- Soil
- Great Lakes
- Lakes and Ponds
- Big Rivers
- Rivers & Streams
- Riparian
- Wetlands (includes Vernal Pools)
- Shoreline

Up to three general **anthropogenic habitat types** used by the species (and detailed habitat requirements) were indicated:

- Agricultural: Annual Crops
- Agricultural: Perennial Grasses or Crops
- Silvicultural or Orchard
- Managed Wetlands
- Impoundments
- Mines

For aquatic species, it was possible to select a single associated upland habitat in addition to the three natural and three anthropogenic habitat types. This data field allowed for aquatic RSGCN or Proposed RSGCN to be associated with those upland habitats, such as grassland or forest, when their habitat preferences were for aquatic habitats *within* particular upland landscapes.

A field for Habitat Comments was used to provide additional information about how or when certain habitat types are used. Any unique habitat requirements, especially requirements that cross-over between habitat types, was also mentioned here.

Detailed habitat requirements were specified as follows in the online survey: (possible responses: Y=Yes, N=No, M=Maybe, U=Unknown, or NA=Not Applicable):

1. Is the species a habitat specialist either with respect to the habitat type or the habitat condition? (show specific requirements below) [Y, N, M, U] + [Comment box]
2. Indicate other important habitat attributes. Check box: [Flood Plain Areas, Vernal Pools, Springs & Seeps, Stream Riparian Areas, Lake Riparian Areas, Snags, Stumps/Logs/Debris, High Elevation, Outcrops & Ledges, Talus, Caves, Epikarst, Rights-of-way]
3. Is the availability (loss of acreage) of this habitat type impacting the species? [Y, N, M, U] + [Comment box]
4. Is the condition (degradation) of this habitat type impacting the species? [Y, N, M, U] + [Comment box]
5. Is connectedness of habitat impacting the species? [Y, N, M, U] + [Comment box]
6. Does the species' habitat require ongoing active management to maintain suitable conditions? [Y, N, M, U] + [Comment box]
7. Is the species' habitat projected to decline (loss of area or quality) due to climate change in the next 50 years? [Y, N, M, U] + [Comment box]
8. Does the species use different habitats for different life stages or seasons? [Y, N, M, U]
9. Does the species have high site fidelity? [Y, N, M, U]
10. Is excess energy (i.e., thermal, noise, or light) affecting the species? [Y, N, M, U] + [Comment box]
11. Are invasives degrading the habitat? [Y, N, M, U] Checkboxes: [Terrestrial plant, aquatic plant, mammal, bird, reptile, amphibian, fish, terrestrial invertebrate, aquatic invertebrate] + [Comment box]
12. Is fire regime important for this species? [Y, N, M, U, NA] Frequency: [0-5 years, 5-10, 10-20, 20-50, 50-100, 100+]
13. The importance of vegetation density is indicated for the tree canopy, forest mid-story, forest understory, shrubs, forbs and grasses, emergent vegetation, submerged vegetation [Y, N, M, U,NA] and the required density for each [Dense, Moderate, Sparse]
14. The importance of soil characteristics is indicated for the mineral substrate, organic substrate, and soil moisture conditions [Y, N, M, U, NA], with categories selected for each. Mineral [Bedrock, Boulders, Talus, Cobble, Gravel, Sand, Sandy loam, Silt, Silt loam, Clay, Sandy clay, Silty clay]; Organic [Low (<3%), Moderate, High (>70%)]; Soil moisture [Xeric, Mesic, Hydric]

15. The importance of the surface is indicated [Y, N, M, U, NA] [Bare, Thin litter, Heavy litter, Litter and Downed Wood]
16. Is forest age class important for this species? [Y, N, M, U, NA] Age class: [Early Successional, Late Successional, Old Growth]
17. Are native grasslands important for this species? [Y, N, M, U, NA] Grassland type: [Tallgrass, mixed grass, shortgrass]
18. If the species uses current or former agricultural lands, where can they be found: [Large Scale Row Crops, Small Scale Row Crops, Rotational Fallow, Abandoned Fields, Hayfields, or Grazed Grasslands]
19. The importance of caves is indicated [Y, N, M, U, NA]. In what region of the cave is the species found? [Entry, Twilight Zone, Dark Zone]
20. Are water management structures impacting the species? [Y, N, M, U, NA] + [Comment box]
21. Is the water source important? [Y, N, M, U, NA]
22. Is the water depth important? [Y, N, M, U, NA]
23. Is the hydroperiod important? [Y, N, M, U, NA] Hydroperiod type: [Permanent, long, medium, short]
24. For rivers and streams, what size best describes the species' habitat? [Headwater (0-10 km^2 watershed area), Creek (10-100 km^2), Small river (100-500 km^2), Medium river (500-2500 km^2), Mainstem (2500-10000 km^2), Large river (10000-25000 km^2), Great river (>25000 km^2), Headwater-Medium river, Medium river – Great river]
25. For lakes and ponds, what size best describes the species' habitat? [ponds, lakes, great lakes]
26. For lakes and ponds, what depth best describes the species' habitat? [vernal, shallow, deep]
27. For lakes and ponds, which trophic state best describes the habitat [Oligotrophic, Mesotrophic, Eutrophic, Hypereutrophic]
28. Is water temperature important in determining habitat suitability [Y, N, M, U, NA]; What is the preferred water temperature? [Comment box]
29. Is oxygen level important in determining habitat suitability [Y, N, M, U, NA]; What is the preferred oxygen level? [Comment box]
30. Is pH level important in determining habitat suitability [Y, N, M, U, NA]; What is the preferred pH level? [Comment box]
31. Is salinity important in determining habitat suitability [Y, N, M, U, NA]; What is the preferred salinity? [Comment box]
32. Is the aquatic substrate important for this species? [Y, N, M, U, NA] If so, which of the following best describes the substrate? [Bedrock, Boulder, Cobble, Gravel, Sand, Silt, Clay, and Organic]

33. What other habitat attributes are important to the species? (including disturbance) [Comment box]

SEASONAL ACTIVITY

Wintering strategies include migration and hibernation. Data fields in this section aimed to expose key limiting factors during wintertime.

1. Species can be indicated as [Non-migrate, Local Migrant, Long Distance Migration]
2. Migratory routes [Pacific, Central, Mississippi, Atlantic]
3. Is migration / stopover habitat availability or condition a limiting factor for population size? [Y, N, M, U] [Comment box]
4. Is wintering habitat availability or condition a limiting factor for population size? [Y, N, M, U] + [Comment box]
5. Does the species winter in the Midwest Region? [Y, N, M, U]
6. What is the daily activity for the species: [Circadian, Diurnal, Nocturnal, Crepuscular]
7. What is the wintering behavior: [Active, Hibernates/Aestivates/Brumates, Temperature Dependent Inactivity, Unknown]
8. What is the wintering location: [Trees, Cliffs & Talus, Grasses & Shrubs, Caves & Mines, Logs/Debris, Man-made Structures, Leaf Litter / Duff, Water Column, Burrows, Water Sediment]
9. What is the wintering life stage: [Egg, Larva, Nymph, Pupae, Juvenile, Adult, Unknown]
10. Is the species threatened by winter vulnerability? [Y, N, M, U] + [Comment box]
11. Is the winter vulnerability exacerbated by climate change? [Increased vulnerability, No change, Decreased vulnerability]
12. Any there any other specific habitat requirements or requirements for wintering? [Y, N, M, U] + [Comment box].

BREEDING, MORTALITY, AND OTHER POPULATION DYNAMICS

All questions in this tab were posed with answers of the format [Y, N, M, U] and comment boxes.

1. Does the species breed in the Midwest?
2. Are individuals dying or becoming vulnerable due to disease?
3. Are individuals dying or becoming vulnerable due to a toxin or other pollutant in the environment?
4. Is population isolation or the lack of genetic diversity a threat to the species?
5. Is the species affected by predation of adults or juveniles?
6. Is the species affected by individuals being taken from the wild?
7. Are population dynamics likely to shift in response to climate change?

8. *Other*: Is there another factor that is limiting reproductive success or causing mortality (or any other factor related to population dynamics)?

FOOD

For the adult and juvenile stages, primary and secondary food habits were identified. Food habits were adopted from NatureServe (2020) and appended by Peter Hazelton (pers. comm.). Categories were:

- Omnivore
- Invertivore
- Frugivore
- Carnivore
- Herbivore
- Piscivore
- Granivore
- Nectarivore
- Detritivore
- Scavenger
- Coprophagous
- Parasitic
- Nonfeeding
- Bacterivore
- Algivore
- Filter Feeder
- Scrapers
- Shredders
- Collectors

If adults or juveniles rely primarily on a single food source, it is identified [text box]. Taxa Team experts are asked to answer:

1. Is the species a specialist in regards to food? [Y, N, M, U]
2. Is the species impacted by limited food resources? [Y, N, M, U]
3. Is availability of food threatened by climate change? [Y, N, M, U] + [Comment box]
4. Is another species is competing for food or other resources? [Y, N, M, U] + Competitor type: [Exotic, Native, Invasive] + [Comment box]
5. Are there other factors related to food sources that impact populations trends? [Y, N, M, U] + [Comment box]
6. Is this species dependent on another species for either food, reproduction, or habitat? [Y, N, M, U] + [Comment box]

MONITORING & RESEARCH

If the species has a standard monitoring protocol, that was indicated and information about the protocol entered in the comment box. If there is a data need that can be responded to through monitoring, that was indicated.

Critical data needs were also identified [Y, N] + [Comment box]. Species that were likely to be impacted by climate change [Y, N, M, U] or have or need a climate vulnerability assessment were also identified [Has One, Needs One, Not Vulnerable] + [Comment box].

THREATS

The limiting factor data fields above were selected with threat links in mind. Limiting factors can be crosswalked with the threats classification system of the Conservation Measures Partnership (CMP), version 2.0.

MLI AT-RISK SPECIES WORKING GROUP REVIEW

TCI coordinated with the MLI At-Risk Species Working Group throughout the RSGCN development process (Appendix B). The MLI At-Risk Species Working Group collaborated with TCI to develop the RSGCN Methodology described herein. The Working Group also considered the usefulness of quantitative ranking methods. TCI updated the MLI at least once a month during the Working Group's regularly scheduled meetings on the project's status, taking the opportunity to solicit feedback and discuss issues that were encountered by TCI and/or the Taxa Teams. The MAFWA Wildlife Diversity Committee, MLI Habitat Working Group, and MLI Steering Committee were also briefed.

The MLI At-Risk Species Working Group then considered the results from each taxa team to confirm that the recommended RSGCN represent consistent or appropriate levels of concern across taxa groups. Along with the lists of RSGCN and their Concern Levels, TCI included several metrics for each RSGCN that will facilitate the MLI, MAFWA, and its partners in sorting the RSGCN list for multiple uses:

- Taxa group
- Subtaxon
- Scientific Name
- Common Name
- RSGCN Status
- Concern Level
- Concern Overriding Factor(s)
- Regional Responsibility Category
- Responsibility Overriding Factor(s)
- Number of MAFWA States in which the RSGCN occurs
- Federal Listing Status
- G-Rank

- Occurs in [state name]: for each of the 13 MAFWA states
- Natural Habitat Associations
- Anthropogenic Habitat Associations
- Number of states in which the species is a SGCN
- EGT_ID
- Class
- Order
- Family
- USFWS Workplan

These RSGCN metrics allow for the MLI and its partners to sort the RSGCN list to focus on multi-state, shared species that allow opportunities for collaboration as well as narrow-range and/or endemic species that represent the region's biodiversity. Sorting the RSGCN based on any of these metrics enables users to prioritize the RSGCN in multiple ways.

APPENDIX B. LIST OF TAXA TEAM PARTICIPANTS AND MLI COORDINATION

Taxonomic experts from each state were invited to participate in the taxa review teams for each taxonomic group of RSGCN. Taxa teams reviewed pre-screened SGCN species for selection as RSGCN via an online questionnaire administered through Survey Monkey. Each taxa team met at least once using a Zoom web-based conference call to discuss selection of RSGCN and utilized email discussions for consideration of follow-up issues. The draft final RSGCN list and any remaining unresolved issues were distributed for review via email. Taxa team representatives identified limiting factors for each RSGCN with a second online questionnaire. Participants in each of the taxa teams and the dates of their conference calls / review dates are listed below.

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EPT: EPHEMEROPTERA, PLECOPTERA, AND TRICHOPTERA

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Annmarie Krmpotich	U.S. Fish and Wildlife Service, Science Applications
Bill Moritz	Wildlife Management Institute
Nathan Muenks	Missouri Department of Conservation (formerly), U.S. Forest Service (currently)
Kelley Myers	U.S. Fish and Wildlife Service, Science Applications
Melissa Panella	Nebraska Game and Parks Commission, Wildlife Diversity Program
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Donovan Drummey

David Munoz

Pam Hunt

Michelle Kopfler

Julie Victoria

Daniel Chuquin

TAXA TEAM ENGAGEMENT

Introductory RGSCN Selection Webinars: December 9, 10, 14 and 15, 2020

Round 1: RSGCN Selection Review & Survey Monkey: December 9, 2020 to January 11, 2021

Taxa-specific RSGCN Selection Discussion Webinars:

EPT Taxa Team: December 11, 2021

Bees Taxa Team: January 11, 2021 (Bumble Bees) and January 12, 2021 (Solitary Bees)

Crayfish Taxa Team: February 1, 2021

Mammal Taxa Team: February 2, 2021

Reptiles and Amphibians Taxa Team: February 5 and February 23, 2021

Birds Taxa Team: February 9 and March 2, 2021

Freshwater Mussels Taxa Team: February 10, 2021

Fish Taxa Team: February 11, 2021

Lepidoptera Taxa Team: February 17 and March 23, 2021

Odonates Taxa Team: February 19, 2021

Round 2: RSGCN Habitats and Limiting Factors Review & Survey Monkey: March 17 to April 9, 2021

APPENDIX C. GLOSSARY

Climate Change Range Shift: Confident predictions of range shifts due to climate change would make the species a regional responsibility in the future. A Midwest RSGCN Regional Responsibility Overriding Factor.

Climate Vulnerability: Species with anticipated higher concern levels in the coming decades due to climate change. A Midwest RSGCN Concern Level Overriding Factor.

Concern Level: RSGCN and Proposed RSGCN are assigned by the taxa teams to one of three levels of concern: Very High, High, or Moderate. Concern Levels help indicate the risk of extinction and the urgency of conservation action.

Concern Overriding Factor (COF): For species recommended by the taxa teams as RSGCN that do not meet the concern selection criteria in the Midwest, the taxa teams select at least one COF that justifies selection of the species as RSGCN. COF include Emerging Threats, Climate Vulnerability, Stronghold Species, Keystone Species, Genetic Distinctiveness, or Cultural Values.

Core Population: Some species are found over a very large geographic area, but the strongest populations are in a smaller area within the MAFWA region. A Midwest RSGCN Regional Responsibility Overriding Factor.

Cultural Values: Species with historical significance or strong values to Indigenous peoples may be included as RSGCN in recognition of the importance of maintaining secure populations. A Midwest RSGCN Concern Level Overriding Factor.

Disjunct Population: The region supports a disjunct population of a species that may contribute to genetic diversity or the three R's (resiliency, redundancy or representation) when conducting species status assessments. A Midwest RSGCN Regional Responsibility Overriding Factor.

Emerging threats or recent declines: Some species' conservation statuses are likely to change quickly as a result of emerging threats, such a new disease or a shift in market forces driving harvest or collection. A Midwest RSGCN Concern Level Overriding Factor.

Genetic Distinctiveness: In the interest of preserving biodiversity generally, some species may have unique importance. A Midwest RSGCN Concern Level Overriding Factor.

High Concern Level: During pre-screening of species, species predicted with High Concern Level must have at least one of the following: a G-Rank of G2, an average S-Rank in the region between 1 and 2, be federally-listed as threatened, or listed as Endangered on the IUCN Red List. Taxa teams reviewed predicted concern levels and selected a final concern level based on

their expertise and knowledge of the species. High Concern Level generally indicates clearly documented declines and that the species would benefit from coordinated conservation action.

Highly Imperiled: Species is highly imperiled throughout its range and is of high conservation concern in every region in which it occurs. A Midwest RSGCN Regional Responsibility Overriding Factor.

Keystone Species: Species should be monitored closely because many other species rely on its sustained presence ecologically. A Midwest RSGCN Concern Level Overriding Factor.

MAFWA Region: The Midwest Association of Fish and Wildlife Agencies (MAFWA) member states are Indiana, Illinois, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

Migratory species: These species usually have larger geographic ranges and are therefore less likely to meet a 50% threshold for regional responsibility. Migratory species may be included as RSGCN if at least 50% of their breeding, migratory stopover, or wintering habitat is within the region. A Midwest RSGCN Regional Responsibility Overriding Factor.

Moderate Concern Level: During pre-screening of species, species predicted with Moderate Concern Level must have at least one of the following: an average S-Rank in the region between 2 and 3, be state-listed in any MAFWA state, or listed as Vulnerable on the IUCN Red List. Taxa teams reviewed predicted concern levels and selected a final concern level based on their expertise and knowledge of the species. Moderate Concern Level generally indicates that the species would benefit from region-wide monitoring and coordination.

NEAFWA Region: The Northeast Association of Fish and Wildlife Agencies (NEAFWA) member states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, and the District of Columbia.

Not Predicted RSGCN: During pre-screening of species with the RSGCN selection criteria, SGCN that did not meet either the regional responsibility or concern selection criteria were predicted to not be selected by the taxa teams as RSGCN and were categorized as Not Predicted RSGCN.

Possible RSGCN: During pre-screening of species with the RSGCN selection criteria, SGCN that had 25-50% regional responsibility and lower conservation status were predicted to be selected by taxa teams as RSGCN and were categorized as Possible RSGCN. Possible RSGCN have 25-50% regional responsibility and at least one of the following: average S-Rank in the region of S3, state-listed in at least one state, or be Vulnerable on the IUCN Red List.

Predicted RSGCN: During pre-screening of species with the RSGCN selection criteria, SGCN that met both the regional responsibility and concern selection criteria were predicted to be selected by taxa teams as RSGCN and were categorized as Predicted RSGCN.

Probable RSGCN: During pre-screening of species with the RSGCN selection criteria, SGCN that met one but not both of the selection criteria (regional responsibility and concervation status) were predicted to be probable selections by taxa teams as RSGCN and were categorized as Probable RSGCN. Probable RSGCN were pre-screened in one of two ways: 1) low regional responsibility but high conservation status, or 2) high regional responsibility but low conservation status. The first option were species with a regional responsibility of 25-50% and at least one of the following: federally-listed as endangered or threatened, G-Rank of G1 or G2, average S-Rank in the region of S1 to S2, or be Critically Endangered or Endangered on the IUCN Red List. The second option were species with at least 50% regional responsibility and at least one of the following: average S-Rank in the region of S3, state-listed in at least one state, or be Vulnerable on the IUCN Red List.

Proposed RSGCN: Species that met RSGCN selection criteria but were not currently SGCN in the region.

Proposed Watchlist: Non-SGCN species that are an Assessment Priority.

Regional Responsibility: The proportion of the species' North American geographic range that is within the MAFWA region, including 13 states and 3 Canadian provinces.

Regional Responsibility Overriding Factor (ROF): For species recommended by the taxa teams as RSGCN that have less than 50% regional responsibility in the Midwest, the taxa teams selected at least one ROF that justified selection of the species as RSGCN. ROF include Highly Imperiled, Core Population, Migratory Species, Disjunct Population, Climate Change Range Shift, and Stewardship Priority.

RSGCN: Regional Species of Greatest Conservation Need.

SGCN: Species of Greatest Conservation Need, as identified in State Wildlife Action Plans. All SGCN from the region's State Wildlife Action Plans comprised the initial list of species pre-screened with RSGCN selection criteria for consideration by taxa teams.

SEAFWA Region: The Southeast Association of Fish and Wildlife Agencies (SEAFWA) member states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia, plus Puerto Rico and the U.S. Virgin Islands.

Stewardship Priority: The region has a significant stewardship responsibility for management, restoration, or recovery of the species. A Midwest RSGCN Regional Responsibility Overriding Factor.

Stronghold Species: Species that are not imperiled in the Midwest but are imperiled everywhere else should be monitored to ensure the strongest populations remain secure. A Midwest RSGCN Concern Level Overriding Factor.

Taxa Team: A group of biological experts or knowledgeable individuals in a particular taxa, or group of animals, ideally with representatives from each of the region's states.

Unknown RSGCN: During pre-screening of species with the RSGCN selection criteria, species with missing data for regional responsibility or *all* of the conservation indicators (i.e., G-Rank, S-Rank, federal listing status, IUCN status, state listing status) were categorized as Unknown RSGCN due to an inability to fully pre-screen the species. Information gaps were filled by the taxa teams during the taxa team review period.

Very High Concern Level: During pre-screening of species, species predicted with Very High Concern Level must have had at least one of the following: a G-Rank of G1, an average S-Rank less than or equal to S1, be federally-listed as endangered, or listed as Critically Endangered on the IUCN Red List. Taxa teams reviewed predicted concern levels and selected a final concern level based on their expertise and knowledge of the species. Very High Concern Level generally indicates the species is highly imperiled and urgent conservation action is required to recover populations to sustainable levels.

Watchlist [Assessment Priority]: Species for which there was concern but insufficient information; species should be a priority for additional survey efforts to document threats and declines across the region before they become severe.

Watchlist [Deferral] to Adjacent Region: Species with high levels of concern but for which the region had low regional responsibility; deferral to adjacent regions recommends those regions consider the species for RSGCN or, if already RSGCN, to evaluate the Concern Level.

Watchlist [Interdependent Species]: Species on which a RSGCN is dependent, such as parasitic bees, host fish for mussels, or host plants.

APPENDIX D. MIDWEST RSGCN IN ALPHABETICAL ORDER BY SCIENTIFIC NAME

Table D-1. RSGCN in the Midwest in alphabetical order by scientific name.

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Mayflies	Pecatonica River Mayfly (*Acanthametropus pecatonica*)	Very High	50-75%
Fishes	Lake Sturgeon (*Acipenser fulvescens*)	High	75-100%
Amphibians	Blanchard's Cricket Frog (*Acris blanchardi*)	High	50-75%
Invertebrates: Stoneflies	Illinois Stone (*Acroneuria filicis*)	Very High	25-50%
Invertebrates: Butterflies and Moths	Doll's Dagger Moth (*Acronicta dolli*)	Moderate	50-75%
Invertebrates: Caddisflies	Artesian Agapetus Caddisfly (*Agapetus artesus*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	a saddlecase caddisfly (*Agapetus illini*)	Moderate	50-75%
Invertebrates: Caddisflies	a saddlecase caddisfly (*Agapetus tomus*)	Moderate	50-75%
Invertebrates: Freshwater Mussels	Cumberland Elktoe (*Alasmidonta atropurpurea*)	Very High	50-75%
Invertebrates: Freshwater Mussels	Elktoe (*Alasmidonta marginata*)	Moderate	75-100%
Invertebrates: Stoneflies	Illinois Snowfly (*Allocapnia illinoensis*)	High	50-75%
Invertebrates: Stoneflies	Three-lobed Snowfly (*Allocapnia smithi*)	Very High	75-100%
Fishes	Hoosier Cavefish (*Amblyopsis hoosieri*)	Very High	100% (MAFWA Endemic)
Fishes	Northern Cavefish (*Amblyopsis spelaea*)	High	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	Linda's Roadside-Skipper (*Amblyscirtes linda*)	High	50-75%
Amphibians	Ringed Salamander (*Ambystoma annulatum*)	Moderate	50-75%
Amphibians	Blue-spotted Salamander (*Ambystoma laterale*)	Moderate	50-75%
Amphibians	Unisexual Ambystoma Complex (*Ambystoma* spp.)	Moderate	75-100%
Invertebrates: Mayflies	Striped Comb Minnow Mayfly (*Ameletus lineatus*)	Moderate	50-75%
Fishes	Western Sand Darter (*Ammocrypta clara*)	Moderate	75-100%
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	Moderate	25-50%
Birds	LeConte's Sparrow (*Ammospiza leconteii*)	High	25-50%
Birds	Nelson's Sparrow (*Ammospiza nelsoni*)	High	25-50%
Invertebrates: Caddisflies	Ozburn's Northern Caddisfly (*Anabolia ozburni*)	Very High	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Butterflies and Moths	Early Leadplant Leaf-twirler Moth (*Anacampsis wikeri*)	Moderate	75-100%
Invertebrates: Butterflies and Moths	a tortricid moth (*Ancylis semiovana*)	High	25-50%
Invertebrates: Bees	an andrenid bee (*Andrena beameri*)	Moderate	75-100%
Amphibians	Green Salamander (*Aneides aeneus*)	Moderate	25-50%
Invertebrates: Freshwater Mussels	Cumberland Papershell (*Anodontoides denigrata*)	Very High	75-100%
Birds	Sprague's Pipit (*Anthus spragueii*)	High	25-50%
Birds	Eastern Whip-poor-will (*Antrostomus vociferus*)	High	25-50%
Invertebrates: Mayflies	a mayfly (*Apobaetis lakota*)	High	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	New Jersey Tea Inchworm (*Apodrepanulatrix liberaria*)	Moderate	25-50%
Invertebrates: Stoneflies	Holarctic Springfly (*Arcynopteryx dichroa*)	Very High	25-50%
Invertebrates: Butterflies and Moths	Regal Fritillary (*Argynnis idalia*)	Very High	75-100%
Birds	Short-eared Owl (*Asio flammeus*)	Moderate	<25%
Invertebrates: Caddisflies	Ross's Northern Caddisfly (*Asynarchus rossi*)	Very High	75-100%
Invertebrates: Butterflies and Moths	Arogos Skipper (*Atrytone arogos*)	High	75-100%
Invertebrates: Butterflies and Moths	Dusted Skipper (*Atrytonopsis hianna*)	Moderate	50-75%
Invertebrates: Stoneflies	Giant Stone (*Attaneuria ruralis*)	Moderate	50-75%
Invertebrates: Mayflies	Fork-headed Armored Mayfly (*Baetisca obesa*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	a noctuid moth (*Bagisara gulnare*)	Very High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Bottlebrush Crayfish (*Barbicambarus cornutus*)	High	100% (MAFWA Endemic)
Birds	Upland Sandpiper (*Bartramia longicauda*)	Moderate	25-50%
Invertebrates: Caddisflies	Complex Giant Caddisfly (*Beothukus complicatus*)	Very High	50-75%
Invertebrates: Bees	Rusty-patched Bumble Bee (*Bombus affinis*)	Very High	75-100%
Invertebrates: Bees	Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	Very High	25-50%
Invertebrates: Bees	Southern Plains Bumble Bee (*Bombus fraternus*)	Very High	50-75%
Invertebrates: Bees	American Bumble Bee (*Bombus pensylvanicus*)	High	25-50%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	High	25-50%
Invertebrates: Bees	Variable Cuckoo Bumble Bee (*Bombus variabilis*)	Very High	75-100%
Invertebrates: Caddisflies	Sideways Humpless Caddisfly (*Brachycentrus lateralis*)	High	25-50%
Invertebrates: Butterflies and Moths	Swamp Metalmark (*Calephelis muticum*)	High	75-100%
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	Moderate	25-50%
Invertebrates: Butterflies and Moths	Frosted Elfin (*Callophrys irus*)	Very High	25-50%
Invertebrates: Crayfishes	Big South Fork Crayfish (*Cambarus bouchardi*)	Very High	25-50%
Invertebrates: Crayfishes	Freckled Crayfish (*Cambarus maculatus*)	Moderate	100% (MAFWA Endemic)
Invertebrates: Mayflies	a mayfly (*Camelobaetidius waltzi*)	High	75-100%
Invertebrates: Butterflies and Moths	Abbreviated Underwing (*Catocala abbreviatella*)	High	75-100%
Invertebrates: Butterflies and Moths	Quiet or Sweet Underwing (*Catocala dulciola*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	Whitney's Underwing (*Catocala whitneyi*)	Very High	75-100%
Birds	Henslow's Sparrow (*Centronyx henslowii*)	High	25-50%
Invertebrates: Mayflies	White Small Minnow Mayfly (*Centroptilum album*)	Moderate	25-50%
Invertebrates: Mayflies	Forky Small Minnow Mayfly (*Centroptilum bifurcatum*)	Moderate	25-50%
Invertebrates: Mayflies	Fox Small Square-gilled Mayfly (*Cercobrachys fox*)	High	100% (MAFWA Endemic)
Invertebrates: Mayflies	Wisconsin Small Square-gilled Mayfly (*Cercobrachys lilliei*)	Very High	100% (MAFWA Endemic)
Invertebrates: Mayflies	Winnebago Small Square-gilled Mayfly (*Cercobrachys winnebago*)	Very High	75-100%
Birds	Chimney Swift (*Chaetura pelagica*)	Moderate	25-50%
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	Very High	25-50%
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	Very High	25-50%
Invertebrates: Caddisflies	Beautiful Net-spinning Caddisfly (*Cheumatopsyche speciosa*)	Moderate	50-75%
Invertebrates: Caddisflies	Headwater Chilostigman Caddisfly (*Chilostigma itascae*)	Very High	100% (MAFWA Endemic)
Birds	Black Tern (*Chlidonias niger*)	High	25-50%

Taxa	Species	Concern Level	Regional Responsibility
Fishes	Blackside Dace (*Chrosomus cumberlandensis*)	High	50-75%
Fishes	Finescale Dace (*Chrosomus neogaeus*)	Moderate	75-100%
Reptiles	Spotted Turtle (*Clemmys guttata*)	High	25-50%
Fishes	Redside Dace (*Clinostomus elongatus*)	Moderate	50-75%
Reptiles	Kirtland's Snake (*Clonophis kirtlandii*)	High	75-100%
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	Moderate	25-50%
Birds	Northern Bobwhite (*Colinus virginianus*)	Moderate	25-50%
Invertebrates: Butterflies and Moths	Michigan Dune Dart Moth (*Copablepharon michiganensis*)	Very High	100% (MAFWA Endemic)
Fishes	Cisco (*Coregonus artedi*)	Very High	75-100%
Fishes	Ives Lake Cisco (*Coregonus hubbsi*)	Very High	100% (MAFWA Endemic)
Fishes	Shortjaw Cisco (*Coregonus zenithicus*)	Very High	100% (MAFWA Endemic)
Fishes	Siskiwit Lake Cisco (*Coregonus zenithicus bartletti*)	Very High	100% (MAFWA Endemic)
Fishes	Spoonhead Sculpin (*Cottus ricei*)	High	75-100%
Birds	Yellow Rail (*Coturnicops noveboracensis*)	High	25-50%
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	Moderate	25-50%
Amphibians	Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*)	High	25-50%
Amphibians	Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*)	Very High	75-100%
Fishes	Crystal Darter (*Crystallaria asprella*)	High	25-50%
Invertebrates: Freshwater Mussels	Spectaclecase (*Cumberlandia monodonta*)	Very High	50-75%
Invertebrates: Freshwater Mussels	Wartyback (*Cyclonaias nodulata*)	Moderate	75-100%
Invertebrates: Freshwater Mussels	Purple Wartyback (*Cyclonaias tuberculata*)	Moderate	75-100%
Invertebrates: Freshwater Mussels	Western Fanshell (*Cyprogenia aberti*)	High	75-100%
Invertebrates: Freshwater Mussels	Fanshell (*Cyprogenia stegaria*)	Very High	75-100%
Invertebrates: Butterflies and Moths	Monarch (*Danaus plexippus*)	Moderate	25-50%
Invertebrates: Mayflies	Simple Spiny Crawler Mayfly (*Dannella simplex*)	Moderate	25-50%
Invertebrates: Butterflies and Moths	a dart moth (*Dichagyris reliqua*)	High	50-75%
Invertebrates: Stoneflies	Robust Springfly (*Diploperla robusta*)	High	25-50%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Mayflies	American Sand-burrowing Mayfly (*Dolania americana*)	Very High	50-75%
Birds	Bobolink (*Dolichonyx oryzivorus*)	Moderate	25-50%
Invertebrates: Freshwater Mussels	Butterfly Mussel (*Ellipsaria lineolata*)	Moderate	50-75%
Invertebrates: Freshwater Mussels	Elephantear (*Elliptio crassidens*)	High	75-100%
Reptiles	Blanding's Turtle (*Emydoidea blandingii*)	High	75-100%
Invertebrates: Bees	Ainslie's Cuckoo Nomad Bee (*Epeolus ainsliei*)	High	50-75%
Invertebrates: Mayflies	a mayfly (*Epeorus namatus*)	High	50-75%
Invertebrates: Mayflies	Blushing Flat-headed Mayfly (*Epeorus suffusus*)	Very High	50-75%
Invertebrates: Freshwater Mussels	Curtis Pearlymussel (*Epioblasma curtisii*)	Very High	75-100%
Invertebrates: Freshwater Mussels	White Catspaw (*Epioblasma perobliqua*)	Very High	100% (MAFWA Endemic)
Invertebrates: Freshwater Mussels	Northern Riffleshell (*Epioblasma rangiana*)	Very High	75-100%
Invertebrates: Freshwater Mussels	Snuffbox (*Epioblasma triquetra*)	Very High	75-100%
Invertebrates: Freshwater Mussels	Tan Riffleshell (*Epioblasma walkeri*)	Very High	50-75%
Invertebrates: Butterflies and Moths	Mottled Duskywing (*Erynnis martialis*)	High	25-50%
Invertebrates: Butterflies and Moths	Persius Duskywing (*Erynnis persius persius*)	High	25-50%
Fishes	Relict Darter (*Etheostoma chienense*)	Very High	75-100%
Fishes	Tuxedo Darter (*Etheostoma lemniscatum*)	Very High	25-50%
Fishes	Spotted Darter (*Etheostoma maculatum*)	High	75-100%
Fishes	Shawnee Darter (*Etheostoma tecumsehi*)	High	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	Milne's Looper Moth (*Euchlaena milnei*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	Two-spotted Eucosma (*Eucosma bipunctella*)	Very High	75-100%
Birds	Rusty Blackbird (*Euphagus carolinus*)	High	25-50%
Invertebrates: Butterflies and Moths	Two-spotted Skipper (*Euphyes bimacula*)	Moderate	50-75%
Amphibians	Grotto Salamander (*Eurycea spelaea*)	High	50-75%
Invertebrates: Mayflies	Brown Spiny Crawler Mayfly (*Eurylophella funeralis*)	Moderate	50-75%
Invertebrates: Mayflies	Dirty Spiny Crawler Mayfly (*Eurylophella lutulenta*)	Very High	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Butterflies and Moths	Dune Cutworm Moth (*Euxoa aurulenta*)	Moderate	25-50%
Invertebrates: Crayfishes	Crittenden Crayfish (*Faxonius bisectus*)	Very High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Blood River Crayfish (*Faxonius burri*)	High	50-75%
Invertebrates: Crayfishes	Coldwater Crayfish (*Faxonius eupunctus*)	Very High	75-100%
Invertebrates: Crayfishes	Indiana Crayfish (*Faxonius indianensis*)	High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Louisville Crayfish (*Faxonius jeffersoni*)	Very High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Kentucky Crayfish (*Faxonius kentuckiensis*)	High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Mammoth Spring Crayfish (*Faxonius marchandi*)	Very High	25-50%
Invertebrates: Crayfishes	Livingston Crayfish (*Faxonius margorectus*)	High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Meek's Crayfish (*Faxonius meeki meeki*)	Very High	50-75%
Invertebrates: Crayfishes	Big Creek Crayfish (*Faxonius peruncus*)	Very High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Northern Clearwater Crayfish (*Faxonius propinquus*)	Moderate	50-75%
Invertebrates: Crayfishes	St. Francis River Crayfish (*Faxonius quadruncus*)	Very High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Little Wabash Crayfish (*Faxonius stannardi*)	High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Caney Mountain Cave Crayfish (*Faxonius stygocaneyi*)	Very High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Williams' Crayfish (*Faxonius williamsi*)	High	25-50%
Fishes	Spring Cavefish (*Forbesichthys agassizii*)	High	50-75%
Fishes	Plains Topminnow (*Fundulus sciadicus*)	Moderate	75-100%
Invertebrates: Caddisflies	Missouri Glyphopsyche Caddisfly (*Glyphopsyche missouri*)	Very High	100% (MAFWA Endemic)
Reptiles	Wood Turtle (*Glyptemys insculpta*)	High	25-50%
Invertebrates: Caddisflies	Stalked Weighted-case Caddisfly (*Goera stylata*)	High	25-50%
Invertebrates: Dragonflies and Damselflies	Skillet Clubtail (*Gomphurus ventricosus*)	High	75-100%
Birds	Whooping Crane (*Grus americana*)	Very High	25-50%
Invertebrates: Mayflies	American Prong-gilled Mayfly (*Habrophlebiodes americana*)	High	50-75%
Invertebrates: Butterflies and Moths	The Starry Campion Moth (*Hadena ectypa*)	High	25-50%
Invertebrates: Stoneflies	Ozark Springfly (*Helopicus nalatus*)	High	75-100%

Taxa	Species	Concern Level	Regional Responsibility
Amphibians	Four-toed Salamander (*Hemidactylium scutatum*)	Moderate	25-50%
Invertebrates: Freshwater Mussels	Cracking Pearlymussel (*Hemistena lata*)	Very High	25-50%
Invertebrates: Butterflies and Moths	Dakota Skipper (*Hesperia dacotae*)	Very High	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	Leonard's Skipper (*Hesperia leonardus*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	Cobweb Skipper (*Hesperia metea*)	High	25-50%
Invertebrates: Butterflies and Moths	Ottoe Skipper (*Hesperia ottoe*)	Very High	50-75%
Reptiles	Dusty Hog-nosed Snake (*Heterodon gloydi*)	Very High	25-50%
Reptiles	Plains Hog-nosed Snake (*Heterodon nasicus*)	Moderate	50-75%
Invertebrates: Mayflies	Late Hex Burrowing Mayfly (*Hexagenia atrocaudata*)	Moderate	50-75%
Invertebrates: Caddisflies	Frozen Trumpet-net Caddisfly (*Holocentropus glacialis*)	High	50-75%
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Holocentropus milaca*)	Very High	100% (MAFWA Endemic)
Invertebrates: Mayflies	a sand-filtering mayfly (*Homoeoneuria ammophila*)	High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	a hydropsychid caddisfly (*Homoplectra doringa*)	Moderate	25-50%
Fishes	Western Silvery Minnow (*Hybognathus argyritis*)	Moderate	50-75%
Invertebrates: Caddisflies	Reisen's Hydropsyche Caddisfly (*Hydropsyche arinale*)	Moderate	75-100%
Invertebrates: Caddisflies	a net-spinning caddisfly (*Hydropsyche cuanis*)	High	50-75%
Invertebrates: Caddisflies	Waskesiu Microcaddisfly (*Hydroptila waskesia*)	High	50-75%
Invertebrates: Dragonflies and Damselflies	Green-faced Clubtail (*Hylogomphus viridifrons*)	Moderate	75-100%
Invertebrates: Butterflies and Moths	an olethreutine moth (*Hystrichophora loricana*)	High	75-100%
Fishes	Ohio Lamprey (*Ichthyomyzon bdellium*)	High	25-50%
Invertebrates: Caddisflies	Harping Northern Caddisfly (*Ironoquia lyrata*)	Moderate	50-75%
Invertebrates: Caddisflies	Platte River Caddisfly (*Ironoquia plattensis*)	Very High	100% (MAFWA Endemic)
Invertebrates: Stoneflies	Michigan Springfly (*Isogenoides doratus*)	Very High	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Stoneflies	Hudsonian Springfly (*Isogenoides frontalis*)	Very High	50-75%
Invertebrates: Stoneflies	Olive Springfly (*Isogenoides olivaceus*)	High	50-75%
Invertebrates: Stoneflies	Rock Island Springfly (*Isogenoides varians*)	Very High	25-50%
Invertebrates: Stoneflies	Midwestern Stripetail (*Isoperla marlynia*)	High	50-75%
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (*Kinosternon flavescens*)	High	<25%
Invertebrates: Freshwater Mussels	Pink Mucket (*Lampsilis abrupta*)	Very High	25-50%
Invertebrates: Freshwater Mussels	Higgins Eye (*Lampsilis higginsii*)	Very High	100% (MAFWA Endemic)
Invertebrates: Freshwater Mussels	Pocketbook (*Lampsilis ovata*)	High	50-75%
Invertebrates: Freshwater Mussels	Neosho Mucket (*Lampsilis rafinesqueana*)	Very High	75-100%
Invertebrates: Freshwater Mussels	Yellow Sandshell (*Lampsilis teres*)	Moderate	50-75%
Birds	Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	High	50-75%
Invertebrates: Bees	a sweat bee (*Lasioglossum fedorense*)	High	75-100%
Mammals	Silver-haired Bat (*Lasionycteris noctivagans*)	Moderate	25-50%
Mammals	Eastern Red Bat (*Lasiurus borealis*)	High	25-50%
Mammals	Hoary Bat (*Lasiurus cinereus*)	High	25-50%
Invertebrates: Freshwater Mussels	Creek Heelsplitter (*Lasmigona compressa*)	Moderate	75-100%
Invertebrates: Freshwater Mussels	Scaleshell (*Leptodea leptodon*)	Very High	50-75%
Invertebrates: Mayflies	Konza Prairie Mayfly (*Leptophlebia konza*)	Very High	100% (MAFWA Endemic)
Mammals	White-tailed Jackrabbit (*Lepus townsendii*)	Moderate	25-50%
Invertebrates: Stoneflies	Alta Needlefly (*Leuctra alta*)	High	50-75%
Invertebrates: Freshwater Mussels	Black Sandshell (*Ligumia recta*)	Moderate	75-100%
Invertebrates: Caddisflies	Pale Northern Caddisfly (*Limnephilus samoedus*)	Very High	50-75%
Birds	Marbled Godwit (*Limosa fedoa*)	Moderate	<25%
Amphibians	Crawfish Frog (*Lithobates areolatus*)	High	25-50%
Invertebrates: Mayflies	a flat-headed mayfly (*Maccaffertium bednariki*)	High	50-75%
Invertebrates: Mayflies	a mayfly (*Macdunnoa persimplex*)	Very High	50-75%
Fishes	Sturgeon Chub (*Macrhybopsis gelida*)	High	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Fishes	Sicklefin Chub (*Macrhybopsis meeki*)	High	50-75%
Fishes	Peppered Chub (*Macrhybopsis tetranema*)	Very High	25-50%
Invertebrates: Bees	an oil-collecting bee (*Macropis steironematis*)	High	50-75%
Invertebrates: Bees	a leafcutter bee (*Megachile ingenua*)	High	75-100%
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	High	25-50%
Invertebrates: Butterflies and Moths	Barrens Metarranthis Moth (*Metarranthis apiciaria*)	Very High	25-50%
Invertebrates: Mayflies	Boreal Cleft-footed Minnow Mayfly (*Metretopus borealis*)	Very High	50-75%
Mammals	Kentucky Red-backed Vole (*Myodes gapperi maurus*)	Moderate	100% (MAFWA Endemic)
Mammals	Gray Myotis (*Myotis grisescens*)	High	25-50%
Mammals	Little Brown Myotis (*Myotis lucifugus*)	Very High	25-50%
Mammals	Northern Long-eared Bat (*Myotis septentrionalis*)	Very High	25-50%
Mammals	Indiana Myotis (*Myotis sodalis*)	Very High	50-75%
Mammals	Fringe-tailed Myotis (*Myotis thysanodes pahasapensis*)	High	75-100%
Invertebrates: Dragonflies and Damselflies	Elfin Skimmer (*Nannothemis bella*)	High	25-50%
Amphibians	Common Mudpuppy (*Necturus maculosus*)	Moderate	50-75%
Invertebrates: Mayflies	Canadian Large Square-gilled Mayfly (*Neoephemera bicolor*)	Very High	75-100%
Invertebrates: Stoneflies	Arkansas Stone (*Neoperla harpi*)	Moderate	50-75%
Reptiles	Plain-bellied Watersnake (Copperbelly pop.) (*Nerodia erythrogaster neglecta*)	Very High	100% (MAFWA Endemic)
Reptiles	Lake Erie Watersnake (*Nerodia sipedon insularum*)	Moderate	100% (MAFWA Endemic)
Fishes	Pugnose Shiner (*Notropis anogenus*)	Very High	75-100%
Fishes	Popeye Shiner (*Notropis ariommus*)	High	50-75%
Fishes	Blacknose Shiner (*Notropis heterolepis*)	High	75-100%
Fishes	Topeka Shiner (*Notropis topeka*)	Very High	75-100%
Fishes	Neosho Madtom (*Noturus placidus*)	High	75-100%
Fishes	Northern Madtom (*Noturus stigmosus*)	High	75-100%
Invertebrates: Butterflies and Moths	Poweshiek Skipperling (*Oarisma poweshiek*)	Very High	100% (MAFWA Endemic)
Invertebrates: Freshwater Mussels	Ring Pink (*Obovaria retusa*)	Very High	25-50%
Invertebrates: Freshwater Mussels	Round Hickorynut (*Obovaria subrotunda*)	Very High	75-100%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Caddisflies	Contorted Ochrotrichian Micro Caddisfly (*Ochrotrichia contorta*)	Moderate	50-75%
Invertebrates: Caddisflies	Prickled Microcaddisfly (*Ochrotrichia spinosa*)	High	50-75%
Invertebrates: Butterflies and Moths	Chryxus Arctic (*Oeneis chryxus*)	High	25-50%
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	High	50-75%
Invertebrates: Dragonflies and Damselflies	Pygmy Snaketail (*Ophiogomphus howei*)	High	50-75%
Invertebrates: Dragonflies and Damselflies	Sioux Snaketail (*Ophiogomphus smithi*)	High	100% (MAFWA Endemic)
Invertebrates: Dragonflies and Damselflies	St. Croix Snaketail (*Ophiogomphus susbehcha*)	High	50-75%
Birds	Connecticut Warbler (*Oporornis agilis*)	High	50-75%
Invertebrates: Bees	a mason bee (*Osmia illinoensis*)	Very High	50-75%
Invertebrates: Caddisflies	Unhorned Microcaddisfly (*Oxyethira ecornuta*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	an oxyethiran microcaddisfly (*Oxyethira itascae*)	Very High	100% (MAFWA Endemic)
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	Moderate	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	Aweme Borer Moth (*Papaipema aweme*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	Blazing Star Stem Borer (*Papaipema beeriana*)	High	75-100%
Invertebrates: Butterflies and Moths	Golden Borer Moth (*Papaipema cerina*)	High	50-75%
Invertebrates: Butterflies and Moths	Rattlesnake-master Borer Moth (*Papaipema eryngii*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	Culvers Root Borer (*Papaipema sciata*)	High	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	Silphium Borer Moth (*Papaipema silphii*)	High	75-100%
Invertebrates: Butterflies and Moths	Ozark Swallowtail (*Papilio joanae*)	High	50-75%
Invertebrates: Mayflies	a prongill mayfly (*Paraleptophlebia calcarica*)	Moderate	50-75%
Invertebrates: Mayflies	a prongill mayfly (*Paraleptophlebia sticta*)	Very High	100% (MAFWA Endemic)
Invertebrates: Freshwater Mussels	Littlewing Pearlymussel (*Pegias fabula*)	Very High	25-50%
Invertebrates: Mayflies	Robust Pentagenian Burrowing Mayfly (*Pentagenia robusta*)	Very High	100% (MAFWA Endemic)
Fishes	Longhead Darter (*Percina macrocephala*)	Very High	25-50%
Mammals	Tricolored Bat (*Perimyotis subflavus*)	Very High	25-50%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Stoneflies	Plains Stone (*Perlesta cinctipes*)	Moderate	50-75%
Invertebrates: Stoneflies	Dakota Stone (*Perlesta dakota*)	Moderate	100% (MAFWA Endemic)
Invertebrates: Stoneflies	Cloudy Stonefly (*Perlesta ephelida*)	Moderate	50-75%
Invertebrates: Stoneflies	Two-lined Stone (*Perlesta golconda*)	Moderate	100% (MAFWA Endemic)
Invertebrates: Stoneflies	Wabash Stone (*Perlesta ouabache*)	Moderate	100% (MAFWA Endemic)
Invertebrates: Stoneflies	Pawnee Stone (*Perlesta xube*)	High	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	Tawny Crescent (*Phyciodes batesii*)	Moderate	50-75%
Fishes	Eastern Slim Minnow (*Pimephales tenellus parviceps*)	High	100% (MAFWA Endemic)
Fishes	Flathead Chub (*Platygobio gracilis*)	High	25-50%
Invertebrates: Mayflies	Band-bellied Small Minnow Mayfly (*Plauditus cestus*)	Moderate	50-75%
Invertebrates: Mayflies	a small minnow mayfly (*Plauditus veteris*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	Nabokov's Blue (*Plebejus idas nabokovi*)	High	75-100%
Invertebrates: Butterflies and Moths	Karner Blue (*Plebejus samuelis*)	High	75-100%
Invertebrates: Freshwater Mussels	White Wartyback (*Plethobasus cicatricosus*)	Very High	50-75%
Invertebrates: Freshwater Mussels	Orangefoot Pimpleback (*Plethobasus cooperianus*)	Very High	25-50%
Invertebrates: Freshwater Mussels	Sheepnose (*Plethobasus cyphyus*)	Very High	75-100%
Invertebrates: Freshwater Mussels	Clubshell (*Pleurobema clava*)	Very High	75-100%
Invertebrates: Freshwater Mussels	Ohio Pigtoe (*Pleurobema cordatum*)	High	50-75%
Invertebrates: Freshwater Mussels	Rough Pigtoe (*Pleurobema plenum*)	Very High	50-75%
Invertebrates: Freshwater Mussels	Pyramid Pigtoe (*Pleurobema rubrum*)	Very High	25-50%
Mammals	Franklin's Ground Squirrel (*Poliocitellus franklinii*)	Moderate	75-100%
Invertebrates: Freshwater Mussels	Fat Pocketbook (*Potamilus capax*)	Very High	75-100%
Invertebrates: Mayflies	Simple Small Minnow Mayfly (*Procloeon simplex*)	Moderate	50-75%
Amphibians	Illinois Chorus Frog (*Pseudacris illinoensis*)	Very High	75-100%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Mayflies	White Sand-river Mayfly (*Pseudiron centralis*)	Moderate	50-75%
Invertebrates: Freshwater Mussels	Kidneyshell (*Ptychobranchus fasciolaris*)	Moderate	75-100%
Invertebrates: Freshwater Mussels	Fluted Kidneyshell (*Ptychobranchus subtentus*)	Very High	25-50%
Invertebrates: Caddisflies	a northern casemaker caddisfly (*Pycnopsyche rossi*)	Very High	50-75%
Invertebrates: Butterflies and Moths	a pyralid moth (*Pyla arenaeola*)	Moderate	75-100%
Invertebrates: Butterflies and Moths	Appalachian Grizzled Skipper (*Pyrgus centaureae wyandot*)	Very High	25-50%
Invertebrates: Freshwater Mussels	Winged Mapleleaf (*Quadrula fragosa*)	Very High	25-50%
Invertebrates: Mayflies	Wallace's Deepwater Mayfly (*Raptoheptagenia cruentata*)	High	50-75%
Invertebrates: Freshwater Mussels	Ebonyshell (*Reginaia ebenus*)	High	75-100%
Invertebrates: Dragonflies and Damselflies	Spatterdock Darner (*Rhionaeschna mutata*)	High	50-75%
Fishes	Pallid Sturgeon (*Scaphirhynchus albus*)	Very High	50-75%
Invertebrates: Butterflies and Moths	Bina Flower Moth (*Schinia bina*)	Moderate	50-75%
Invertebrates: Butterflies and Moths	Phlox Moth (*Schinia indiana*)	Very High	75-100%
Invertebrates: Mayflies	Frison's Serratellan Mayfly (*Serratella frisoni*)	Very High	50-75%
Invertebrates: Caddisflies	Little Long-horned Caddisfly (*Setodes oligius*)	High	50-75%
Birds	Cerulean Warbler (*Setophaga cerulea*)	High	25-50%
Birds	Kirtland's Warbler (*Setophaga kirtlandii*)	Very High	50-75%
Invertebrates: Freshwater Mussels	Salamander Mussel (*Simpsonaias ambigua*)	High	75-100%
Invertebrates: Mayflies	a primitive minnow mayfly (*Siphlonurus minnoi*)	Moderate	50-75%
Invertebrates: Mayflies	Flapped Cleft-footed Minnow Mayfly (*Siphloplecton basale*)	Moderate	50-75%
Invertebrates: Mayflies	Flapless Cleft-footed Minnow Mayfly (*Siphloplecton interlineatum*)	Moderate	50-75%
Reptiles	Eastern Massasauga (*Sistrurus catenatus*)	Very High	75-100%
Reptiles	Western Massasauga (*Sistrurus tergeminus*)	High	25-50%
Invertebrates: Butterflies and Moths	Pearly Indigo Borer (*Sitochroa dasconalis*)	High	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Dragonflies and Damselflies	Quebec Emerald (*Somatochlora brevicincta*)	Moderate	25-50%
Invertebrates: Dragonflies and Damselflies	Plains Emerald (*Somatochlora ensigera*)	High	75-100%
Invertebrates: Dragonflies and Damselflies	Hine's Emerald (*Somatochlora hineana*)	Very High	100% (MAFWA Endemic)
Invertebrates: Dragonflies and Damselflies	Ozark Emerald (*Somatochlora ozarkensis*)	High	25-50%
Invertebrates: Mayflies	Lacustrine Small Square-gilled Mayfly (*Sparbarus lacustris*)	Very High	50-75%
Invertebrates: Mayflies	a small square-gilled mayfly (*Sparbarus nasutus*)	Very High	75-100%
Mammals	Eastern Spotted Skunk (*Spilogale putorius*)	High	25-50%
Mammals	Plains Spotted Skunk (*Spilogale putorius interrupta*)	High	25-50%
Invertebrates: Mayflies	Wallace's Deepwater Mayfly (*Spinadis simplex*)	High	50-75%
Invertebrates: Mayflies	Candid Flat-headed Mayfly (*Stenacron candidum*)	Moderate	50-75%
Invertebrates: Mayflies	Gildersleeve's Stenacron Mayfly (*Stenacron gildersleevei*)	Moderate	50-75%
Invertebrates: Mayflies	Minnetonka Flat-headed Mayfly (*Stenacron minnetonka*)	High	75-100%
Birds	Interior Least Tern (*Sternula antillarum athalassos*)	High	25-50%
Reptiles	Red-bellied Snake (Black Hills pop.) (*Storeria occipitomaculata pahasapae*)	Moderate	50-75%
Birds	Eastern Meadowlark (*Sturnella magna*)	High	25-50%
Birds	Western Meadowlark (*Sturnella neglecta*)	Moderate	<25%
Invertebrates: Dragonflies and Damselflies	Riverine Clubtail (*Stylurus amnicola*)	High	75-100%
Invertebrates: Dragonflies and Damselflies	Elusive Clubtail (*Stylurus notatus*)	High	75-100%
Invertebrates: Bees	a long-horned bee (*Svastra compta*)	High	50-75%
Invertebrates: Dragonflies and Damselflies	Gray Petaltail (*Tachopteryx thoreyi*)	High	25-50%
Invertebrates: Butterflies and Moths	Rosinweed Moth (*Tebenna silphiella*)	Moderate	75-100%
Reptiles	Butler's Gartersnake (*Thamnophis butleri*)	Moderate	75-100%
Invertebrates: Freshwater Mussels	Rabbitsfoot (*Theliderma cylindrica*)	Very High	25-50%
Fishes	Blackfin Sucker (*Thoburnia atripinnis*)	High	25-50%
Mammals	Cheyenne Northern Pocket Gopher (*Thomomys talpoides cheyennensis*)	High	100% (MAFWA Endemic)

Taxa	Species	Concern Level	Regional Responsibility
Mammals	Pierre Northern Pocket Gopher (*Thomomys talpoides pierreicolus*)	High	100% (MAFWA Endemic)
Invertebrates: Mayflies	Manitoba White Burrowing Mayfly (*Tortopsis primus*)	High	75-100%
Invertebrates: Freshwater Mussels	Purple Lilliput (*Toxolasma lividum*)	High	50-75%
Invertebrates: Butterflies and Moths	Marked Noctuid (*Tricholita notata*)	Moderate	50-75%
Birds	Greater Prairie-Chicken (*Tympanuchus cupido*)	High	75-100%
Invertebrates: Freshwater Mussels	Ellipse (*Venustaconcha ellipsiformis*)	Moderate	75-100%
Invertebrates: Freshwater Mussels	Cumberland Bean (*Venustaconcha troostensis*)	Very High	75-100%
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	High	25-50%
Invertebrates: Freshwater Mussels	Rayed Bean (*Villosa fabalis*)	Very High	75-100%
Invertebrates: Freshwater Mussels	Little Spectaclecase (*Villosa lienosa*)	Moderate	50-75%
Invertebrates: Freshwater Mussels	Kentucky Creekshell (*Villosa ortmanni*)	Very High	75-100%
Invertebrates: Stoneflies	Northern Needlefly (*Zealeuctra narfi*)	High	50-75%

APPENDIX E. MIDWEST RSGCN BY CONCERN LEVEL

Table E-1. Midwest RSGCN of Very High Concern, in alphabetical order of scientific name by taxa.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Amphibians	Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*)	75-100%	2
Amphibians	Illinois Chorus Frog (*Pseudacris illinoensis*)	75-100%	3
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	25-50%	7
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	25-50%	10
Birds	Whooping Crane (*Grus americana*)	25-50%	10
Birds	Kirtland's Warbler (*Setophaga kirtlandii*)	50-75%	4
Fishes	Hoosier Cavefish (*Amblyopsis hoosieri*)	100% (MAFWA Endemic)	1
Fishes	Cisco (*Coregonus artedi*)	75-100%	7
Fishes	Ives Lake Cisco (*Coregonus hubbsi*)	100% (MAFWA Endemic)	1
Fishes	Shortjaw Cisco (*Coregonus zenithicus*)	100% (MAFWA Endemic)	3
Fishes	Siskiwit Lake Cisco (*Coregonus zenithicus bartletti*)	100% (MAFWA Endemic)	1
Fishes	Relict Darter (*Etheostoma chienense*)	75-100%	1
Fishes	Tuxedo Darter (*Etheostoma lemniscatum*)	25-50%	1
Fishes	Peppered Chub (*Macrhybopsis tetranema*)	25-50%	1
Fishes	Pugnose Shiner (*Notropis anogenus*)	75-100%	7
Fishes	Topeka Shiner (*Notropis topeka*)	75-100%	6
Fishes	Longhead Darter (*Percina macrocephala*)	25-50%	2
Fishes	Pallid Sturgeon (*Scaphirhynchus albus*)	50-75%	8
Invertebrates: Bees	Rusty-patched Bumble Bee (*Bombus affinis*)	75-100%	10
Invertebrates: Bees	Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	25-50%	5
Invertebrates: Bees	Southern Plains Bumble Bee (*Bombus fraternus*)	50-75%	12
Invertebrates: Bees	Variable Cuckoo Bumble Bee (*Bombus variabilis*)	75-100%	9
Invertebrates: Bees	a mason bee (*Osmia illinoensis*)	50-75%	3

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Butterflies and Moths	Regal Fritillary (*Argynnis idalia*)	75-100%	13
Invertebrates: Butterflies and Moths	a noctuid moth (*Bagisara gulnare*)	100% (MAFWA Endemic)	4
Invertebrates: Butterflies and Moths	Frosted Elfin (*Callophrys irus*)	25-50%	7
Invertebrates: Butterflies and Moths	Whitney's Underwing (*Catocala whitneyi*)	75-100%	11
Invertebrates: Butterflies and Moths	Michigan Dune Dart Moth (*Copablepharon michiganensis*)	100% (MAFWA Endemic)	2
Invertebrates: Butterflies and Moths	Two-spotted Eucosma (*Eucosma bipunctella*)	75-100%	5
Invertebrates: Butterflies and Moths	Dakota Skipper (*Hesperia dacotae*)	100% (MAFWA Endemic)	5
Invertebrates: Butterflies and Moths	Ottoe Skipper (*Hesperia ottoe*)	50-75%	11
Invertebrates: Butterflies and Moths	Barrens Metarranthis Moth (*Metarranthis apiciaria*)	25-50%	1
Invertebrates: Butterflies and Moths	Poweshiek Skipperling (*Oarisma poweshiek*)	100% (MAFWA Endemic)	8
Invertebrates: Butterflies and Moths	Appalachian Grizzled Skipper (*Pyrgus centaureae wyandot*)	25-50%	2
Invertebrates: Butterflies and Moths	Phlox Moth (*Schinia indiana*)	75-100%	5
Invertebrates: Caddisflies	Artesian Agapetus Caddisfly (*Agapetus artesus*)	100% (MAFWA Endemic)	1
Invertebrates: Caddisflies	Ozburn's Northern Caddisfly (*Anabolia ozburni*)	50-75%	5
Invertebrates: Caddisflies	Ross's Northern Caddisfly (*Asynarchus rossi*)	75-100%	3
Invertebrates: Caddisflies	Complex Giant Caddisfly (*Beothukus complicatus*)	50-75%	3
Invertebrates: Caddisflies	Headwater Chilostigman Caddisfly (*Chilostigma itascae*)	100% (MAFWA Endemic)	1
Invertebrates: Caddisflies	Missouri Glyphopsyche Caddisfly (*Glyphopsyche missouri*)	100% (MAFWA Endemic)	1
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Holocentropus milaca*)	100% (MAFWA Endemic)	2
Invertebrates: Caddisflies	Platte River Caddisfly (*Ironoquia plattensis*)	100% (MAFWA Endemic)	1
Invertebrates: Caddisflies	Pale Northern Caddisfly (*Limnephilus samoedus*)	50-75%	1
Invertebrates: Caddisflies	Unhorned Microcaddisfly (*Oxyethira ecornuta*)	100% (MAFWA Endemic)	2

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Caddisflies	an oxyethiran microcaddisfly (*Oxyethira itascae*)	100% (MAFWA Endemic)	2
Invertebrates: Caddisflies	a northern casemaker caddisfly (*Pycnopsyche rossi*)	50-75%	5
Invertebrates: Crayfishes	Big South Fork Crayfish (*Cambarus bouchardi*)	25-50%	1
Invertebrates: Crayfishes	Crittenden Crayfish (*Faxonius bisectus*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Coldwater Crayfish (*Faxonius eupunctus*)	75-100%	1
Invertebrates: Crayfishes	Louisville Crayfish (*Faxonius jeffersoni*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Mammoth Spring Crayfish (*Faxonius marchandi*)	25-50%	1
Invertebrates: Crayfishes	Meek's Crayfish (*Faxonius meeki meeki*)	50-75%	1
Invertebrates: Crayfishes	Big Creek Crayfish (*Faxonius peruncus*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	St. Francis River Crayfish (*Faxonius quadruncus*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Caney Mountain Cave Crayfish (*Faxonius stygocaneyi*)	100% (MAFWA Endemic)	1
Invertebrates: Dragonflies and Damselflies	Hine's Emerald (*Somatochlora hineana*)	100% (MAFWA Endemic)	6
Invertebrates: Freshwater Mussels	Cumberland Elktoe (*Alasmidonta atropurpurea*)	50-75%	1
Invertebrates: Freshwater Mussels	Cumberland Papershell (*Anodontoides denigrata*)	75-100%	1
Invertebrates: Freshwater Mussels	Spectaclecase (*Cumberlandia monodonta*)	50-75%	8
Invertebrates: Freshwater Mussels	Fanshell (*Cyprogenia stegaria*)	75-100%	4
Invertebrates: Freshwater Mussels	Curtis Pearlymussel (*Epioblasma curtisii*)	75-100%	1
Invertebrates: Freshwater Mussels	White Catspaw (*Epioblasma perobliqua*)	100% (MAFWA Endemic)	4
Invertebrates: Freshwater Mussels	Northern Riffleshell (*Epioblasma rangiana*)	75-100%	5
Invertebrates: Freshwater Mussels	Snuffbox (*Epioblasma triquetra*)	75-100%	9
Invertebrates: Freshwater Mussels	Tan Riffleshell (*Epioblasma walkeri*)	50-75%	1
Invertebrates: Freshwater Mussels	Cracking Pearlymussel (*Hemistena lata*)	25-50%	2
Invertebrates: Freshwater Mussels	Pink Mucket (*Lampsilis abrupta*)	25-50%	4

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Freshwater Mussels	Higgins Eye (*Lampsilis higginsii*)	100% (MAFWA Endemic)	6
Invertebrates: Freshwater Mussels	Neosho Mucket (*Lampsilis rafinesqueana*)	75-100%	2
Invertebrates: Freshwater Mussels	Scaleshell (*Leptodea leptodon*)	50-75%	8
Invertebrates: Freshwater Mussels	Ring Pink (*Obovaria retusa*)	25-50%	2
Invertebrates: Freshwater Mussels	Round Hickorynut (*Obovaria subrotunda*)	75-100%	5
Invertebrates: Freshwater Mussels	Littlewing Pearlymussel (*Pegias fabula*)	25-50%	1
Invertebrates: Freshwater Mussels	White Wartyback (*Plethobasus cicatricosus*)	50-75%	3
Invertebrates: Freshwater Mussels	Orangefoot Pimpleback (*Plethobasus cooperianus*)	25-50%	3
Invertebrates: Freshwater Mussels	Sheepnose (*Plethobasus cyphyus*)	75-100%	8
Invertebrates: Freshwater Mussels	Clubshell (*Pleurobema clava*)	75-100%	6
Invertebrates: Freshwater Mussels	Rough Pigtoe (*Pleurobema plenum*)	50-75%	3
Invertebrates: Freshwater Mussels	Pyramid Pigtoe (*Pleurobema rubrum*)	25-50%	7
Invertebrates: Freshwater Mussels	Fat Pocketbook (*Potamilus capax*)	75-100%	5
Invertebrates: Freshwater Mussels	Fluted Kidneyshell (*Ptychobranchus subtentus*)	25-50%	1
Invertebrates: Freshwater Mussels	Winged Mapleleaf (*Quadrula fragosa*)	25-50%	7
Invertebrates: Freshwater Mussels	Rabbitsfoot (*Theliderma cylindrica*)	25-50%	7
Invertebrates: Freshwater Mussels	Cumberland Bean (*Venustaconcha troostensis*)	75-100%	1
Invertebrates: Freshwater Mussels	Rayed Bean (*Villosa fabalis*)	75-100%	5
Invertebrates: Freshwater Mussels	Kentucky Creekshell (*Villosa ortmanni*)	75-100%	1
Invertebrates: Mayflies	Pecatonica River Mayfly (*Acanthametropus pecatonica*)	50-75%	2
Invertebrates: Mayflies	Wisconsin Small Square-gilled Mayfly (*Cercobrachys lilliei*)	100% (MAFWA Endemic)	3
Invertebrates: Mayflies	Winnebago Small Square-gilled Mayfly (*Cercobrachys winnebago*)	75-100%	4

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Mayflies	American Sand-burrowing Mayfly (*Dolania americana*)	50-75%	2
Invertebrates: Mayflies	Blushing Flat-headed Mayfly (*Epeorus suffusus*)	50-75%	1
Invertebrates: Mayflies	Dirty Spiny Crawler Mayfly (*Eurylophella lutulenta*)	50-75%	7
Invertebrates: Mayflies	Konza Prairie Mayfly (*Leptophlebia konza*)	100% (MAFWA Endemic)	1
Invertebrates: Mayflies	a mayfly (*Macdunnoa persimplex*)	50-75%	9
Invertebrates: Mayflies	Boreal Cleft-footed Minnow Mayfly (*Metretopus borealis*)	50-75%	2
Invertebrates: Mayflies	Canadian Large Square-gilled Mayfly (*Neoephemera bicolor*)	75-100%	3
Invertebrates: Mayflies	a prongill mayfly (*Paraleptophlebia sticta*)	100% (MAFWA Endemic)	2
Invertebrates: Mayflies	Robust Pentagenian Burrowing Mayfly (*Pentagenia robusta*)	100% (MAFWA Endemic)	2
Invertebrates: Mayflies	Frison's Serratellan Mayfly (*Serratella frisoni*)	50-75%	5
Invertebrates: Mayflies	Lacustrine Small Square-gilled Mayfly (*Sparbarus lacustris*)	50-75%	11
Invertebrates: Mayflies	a small square-gilled mayfly (*Sparbarus nasutus*)	75-100%	7
Invertebrates: Stoneflies	Illinois Stone (*Acroneuria filicis*)	25-50%	5
Invertebrates: Stoneflies	Three-lobed Snowfly (*Allocapnia smithi*)	75-100%	4
Invertebrates: Stoneflies	Holarctic Springfly (*Arcynopteryx dichroa*)	25-50%	1
Invertebrates: Stoneflies	Michigan Springfly (*Isogenoides doratus*)	50-75%	3
Invertebrates: Stoneflies	Hudsonian Springfly (*Isogenoides frontalis*)	50-75%	3
Invertebrates: Stoneflies	Rock Island Springfly (*Isogenoides varians*)	25-50%	5
Mammals	Little Brown Myotis (*Myotis lucifugus*)	25-50%	13
Mammals	Northern Long-eared Bat (*Myotis septentrionalis*)	25-50%	13
Mammals	Indiana Myotis (*Myotis sodalis*)	50-75%	7
Mammals	Tricolored Bat (*Perimyotis subflavus*)	25-50%	11
Reptiles	Dusty Hog-nosed Snake (*Heterodon gloydi*)	25-50%	3
Reptiles	Plain-bellied Watersnake (Copperbelly pop.) (*Nerodia erythrogaster neglecta*)	100% (MAFWA Endemic)	3
Reptiles	Eastern Massasauga (*Sistrurus catenatus*)	75-100%	7

Table E-2. Midwest RSGCN of High Concern, in alphabetical order of scientific name by taxa.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Amphibians	Blanchard's Cricket Frog (*Acris blanchardi*)	50-75%	12
Amphibians	Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*)	25-50%	6
Amphibians	Grotto Salamander (*Eurycea spelaea*)	50-75%	3
Amphibians	Crawfish Frog (*Lithobates areolatus*)	25-50%	6
Birds	LeConte's Sparrow (*Ammospiza leconteii*)	25-50%	13
Birds	Nelson's Sparrow (*Ammospiza nelsoni*)	25-50%	13
Birds	Sprague's Pipit (*Anthus spragueii*)	25-50%	8
Birds	Eastern Whip-poor-will (*Antrostomus vociferus*)	25-50%	13
Birds	Henslow's Sparrow (*Centronyx henslowii*)	25-50%	13
Birds	Black Tern (*Chlidonias niger*)	25-50%	13
Birds	Yellow Rail (*Coturnicops noveboracensis*)	25-50%	12
Birds	Rusty Blackbird (*Euphagus carolinus*)	25-50%	13
Birds	Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	50-75%	13
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	25-50%	13
Birds	Connecticut Warbler (*Oporornis agilis*)	50-75%	12
Birds	Cerulean Warbler (*Setophaga cerulea*)	25-50%	12
Birds	Interior Least Tern (*Sternula antillarum athalassos*)	25-50%	10
Birds	Eastern Meadowlark (*Sturnella magna*)	25-50%	12
Birds	Greater Prairie-Chicken (*Tympanuchus cupido*)	75-100%	9
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	25-50%	13
Fishes	Lake Sturgeon (*Acipenser fulvescens*)	75-100%	13
Fishes	Northern Cavefish (*Amblyopsis spelaea*)	100% (MAFWA Endemic)	1
Fishes	Blackside Dace (*Chrosomus cumberlandensis*)	50-75%	1
Fishes	Spoonhead Sculpin (*Cottus ricei*)	75-100%	3
Fishes	Crystal Darter (*Crystallaria asprella*)	25-50%	6
Fishes	Spotted Darter (*Etheostoma maculatum*)	75-100%	3
Fishes	Shawnee Darter (*Etheostoma tecumsehi*)	100% (MAFWA Endemic)	1
Fishes	Spring Cavefish (*Forbesichthys agassizii*)	50-75%	3
Fishes	Ohio Lamprey (*Ichthyomyzon bdellium*)	25-50%	3
Fishes	Sturgeon Chub (*Macrhybopsis gelida*)	50-75%	8

Taxa	Species	Regional Responsibility	Number of MAFWA States
Fishes	Sicklefin Chub (*Macrhybopsis meeki*)	50-75%	8
Fishes	Popeye Shiner (*Notropis ariommus*)	50-75%	3
Fishes	Blacknose Shiner (*Notropis heterolepis*)	75-100%	11
Fishes	Neosho Madtom (*Noturus placidus*)	75-100%	2
Fishes	Northern Madtom (*Noturus stigmosus*)	75-100%	6
Fishes	Eastern Slim Minnow (*Pimephales tenellus parviceps*)	100% (MAFWA Endemic)	1
Fishes	Flathead Chub (*Platygobio gracilis*)	25-50%	9
Fishes	Blackfin Sucker (*Thoburnia atripinnis*)	25-50%	1
Invertebrates: Bees	American Bumble Bee (*Bombus pensylvanicus*)	25-50%	13
Invertebrates: Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	25-50%	6
Invertebrates: Bees	Ainslie's Cuckoo Nomad Bee (*Epeolus ainsliei*)	50-75%	4
Invertebrates: Bees	a sweat bee (*Lasioglossum fedorense*)	75-100%	4
Invertebrates: Bees	an oil-collecting bee (*Macropis steironematis*)	50-75%	2
Invertebrates: Bees	a leafcutter bee (*Megachile ingenua*)	75-100%	3
Invertebrates: Bees	a long-horned bee (*Svastra compta*)	50-75%	2
Invertebrates: Butterflies and Moths	Linda's Roadside-Skipper (*Amblyscirtes linda*)	50-75%	3
Invertebrates: Butterflies and Moths	a tortricid moth (*Ancylis semiovana*)	25-50%	6
Invertebrates: Butterflies and Moths	Arogos Skipper (*Atrytone arogos*)	75-100%	8
Invertebrates: Butterflies and Moths	Swamp Metalmark (*Calephelis muticum*)	75-100%	8
Invertebrates: Butterflies and Moths	Abbreviated Underwing (*Catocala abbreviatella*)	75-100%	9
Invertebrates: Butterflies and Moths	a dart moth (*Dichagyris reliqua*)	50-75%	5
Invertebrates: Butterflies and Moths	Mottled Duskywing (*Erynnis martialis*)	25-50%	12
Invertebrates: Butterflies and Moths	Persius Duskywing (*Erynnis persius* persius)	25-50%	6
Invertebrates: Butterflies and Moths	The Starry Campion Moth (*Hadena ectypa*)	25-50%	5
Invertebrates: Butterflies and Moths	Cobweb Skipper (*Hesperia metea*)	25-50%	9
Invertebrates: Butterflies and Moths	an olethreutine moth (*Hystrichophora loricana*)	75-100%	5

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Butterflies and Moths	Chryxus Arctic (*Oeneis chryxus*)	25-50%	2
Invertebrates: Butterflies and Moths	Blazing Star Stem Borer (*Papaipema beeriana*)	75-100%	10
Invertebrates: Butterflies and Moths	Golden Borer Moth (*Papaipema cerina*)	50-75%	8
Invertebrates: Butterflies and Moths	Culvers Root Borer (*Papaipema sciata*)	100% (MAFWA Endemic)	7
Invertebrates: Butterflies and Moths	Silphium Borer Moth (*Papaipema silphii*)	75-100%	9
Invertebrates: Butterflies and Moths	Ozark Swallowtail (*Papilio joanae*)	50-75%	1
Invertebrates: Butterflies and Moths	Nabokov's Blue (*Plebejus idas nabokovi*)	75-100%	3
Invertebrates: Butterflies and Moths	Karner Blue (*Plebejus samuelis*)	75-100%	7
Invertebrates: Butterflies and Moths	Pearly Indigo Borer (*Sitochroa dasconalis*)	50-75%	3
Invertebrates: Caddisflies	Sideways Humpless Caddisfly (*Brachycentrus lateralis*)	25-50%	7
Invertebrates: Caddisflies	Stalked Weighted-case Caddisfly (*Goera stylata*)	25-50%	6
Invertebrates: Caddisflies	Frozen Trumpet-net Caddisfly (*Holocentropus glacialis*)	50-75%	5
Invertebrates: Caddisflies	a net-spinning caddisfly (*Hydropsyche cuanis*)	50-75%	5
Invertebrates: Caddisflies	Waskesiu Microcaddisfly (*Hydroptila waskesia*)	50-75%	3
Invertebrates: Caddisflies	Prickled Microcaddisfly (*Ochrotrichia spinosa*)	50-75%	7
Invertebrates: Caddisflies	Little Long-horned Caddisfly (*Setodes oligius*)	50-75%	5
Invertebrates: Crayfishes	Bottlebrush Crayfish (*Barbicambarus cornutus*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Blood River Crayfish (*Faxonius burri*)	50-75%	1
Invertebrates: Crayfishes	Indiana Crayfish (*Faxonius indianensis*)	100% (MAFWA Endemic)	2
Invertebrates: Crayfishes	Kentucky Crayfish (*Faxonius kentuckiensis*)	100% (MAFWA Endemic)	2
Invertebrates: Crayfishes	Livingston Crayfish (*Faxonius margorectus*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Little Wabash Crayfish (*Faxonius stannardi*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Williams' Crayfish (*Faxonius williamsi*)	25-50%	1

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Dragonflies and Damselflies	Skillet Clubtail (*Gomphurus ventricosus*)	75-100%	9
Invertebrates: Dragonflies and Damselflies	Elfin Skimmer (*Nannothemis bella*)	25-50%	7
Invertebrates: Dragonflies and Damselflies	Pygmy Snaketail (*Ophiogomphus howei*)	50-75%	4
Invertebrates: Dragonflies and Damselflies	Sioux Snaketail (*Ophiogomphus smithi*)	100% (MAFWA Endemic)	3
Invertebrates: Dragonflies and Damselflies	St. Croix Snaketail (*Ophiogomphus susbehcha*)	50-75%	2
Invertebrates: Dragonflies and Damselflies	Spatterdock Darner (*Rhionaeschna mutata*)	50-75%	9
Invertebrates: Dragonflies and Damselflies	Plains Emerald (*Somatochlora ensigera*)	75-100%	8
Invertebrates: Dragonflies and Damselflies	Ozark Emerald (*Somatochlora ozarkensis*)	25-50%	2
Invertebrates: Dragonflies and Damselflies	Riverine Clubtail (*Stylurus amnicola*)	75-100%	12
Invertebrates: Dragonflies and Damselflies	Elusive Clubtail (*Stylurus notatus*)	75-100%	11
Invertebrates: Dragonflies and Damselflies	Gray Petaltail (*Tachopteryx thoreyi*)	25-50%	7
Invertebrates: Freshwater Mussels	Western Fanshell (*Cyprogenia aberti*)	75-100%	2
Invertebrates: Freshwater Mussels	Elephantear (*Elliptio crassidens*)	75-100%	7
Invertebrates: Freshwater Mussels	Pocketbook (*Lampsilis ovata*)	50-75%	4
Invertebrates: Freshwater Mussels	Ohio Pigtoe (*Pleurobema cordatum*)	50-75%	4
Invertebrates: Freshwater Mussels	Ebonyshell (*Reginaia ebenus*)	75-100%	8
Invertebrates: Freshwater Mussels	Salamander Mussel (*Simpsonaias ambigua*)	75-100%	9
Invertebrates: Freshwater Mussels	Purple Lilliput (*Toxolasma lividum*)	50-75%	6
Invertebrates: Mayflies	a mayfly (*Apobaetis lakota*)	100% (MAFWA Endemic)	3
Invertebrates: Mayflies	a mayfly (*Camelobaetidius waltzi*)	75-100%	5
Invertebrates: Mayflies	Fox Small Square-gilled Mayfly (*Cercobrachys fox*)	100% (MAFWA Endemic)	8
Invertebrates: Mayflies	a mayfly (*Epeorus namatus*)	50-75%	3
Invertebrates: Mayflies	American Prong-gilled Mayfly (*Habrophlebiodes americana*)	50-75%	6

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Mayflies	a sand-filtering mayfly (*Homoeoneuria ammophila*)	100% (MAFWA Endemic)	5
Invertebrates: Mayflies	a flat-headed mayfly (*Maccaffertium bednariki*)	50-75%	2
Invertebrates: Mayflies	Wallace's Deepwater Mayfly (*Raptoheptagenia cruentata*)	50-75%	8
Invertebrates: Mayflies	Wallace's Deepwater Mayfly (*Spinadis simplex*)	50-75%	6
Invertebrates: Mayflies	Minnetonka Flat-headed Mayfly (*Stenacron minnetonka*)	75-100%	10
Invertebrates: Mayflies	Manitoba White Burrowing Mayfly (*Tortopsis primus*)	75-100%	9
Invertebrates: Stoneflies	Illinois Snowfly (*Allocapnia illinoensis*)	50-75%	5
Invertebrates: Stoneflies	Robust Springfly (*Diploperla robusta*)	25-50%	4
Invertebrates: Stoneflies	Ozark Springfly (*Helopicus nalatus*)	75-100%	6
Invertebrates: Stoneflies	Olive Springfly (*Isogenoides olivaceus*)	50-75%	3
Invertebrates: Stoneflies	Midwestern Stripetail (*Isoperla marlynia*)	50-75%	10
Invertebrates: Stoneflies	Alta Needlefly (*Leuctra alta*)	50-75%	3
Invertebrates: Stoneflies	Pawnee Stone (*Perlesta xube*)	100% (MAFWA Endemic)	6
Invertebrates: Stoneflies	Northern Needlefly (*Zealeuctra narfi*)	50-75%	3
Mammals	Eastern Red Bat (*Lasiurus borealis*)	25-50%	13
Mammals	Hoary Bat (*Lasiurus cinereus*)	25-50%	13
Mammals	Gray Myotis (*Myotis grisescens*)	25-50%	5
Mammals	Fringe-tailed Myotis (*Myotis thysanodes pahasapensis*)	75-100%	2
Mammals	Eastern Spotted Skunk (*Spilogale putorius*)	25-50%	7
Mammals	Plains Spotted Skunk (*Spilogale putorius interrupta*)	25-50%	4
Mammals	Cheyenne Northern Pocket Gopher (*Thomomys talpoides cheyennensis*)	100% (MAFWA Endemic)	1
Mammals	Pierre Northern Pocket Gopher (*Thomomys talpoides pierreicolus*)	100% (MAFWA Endemic)	1
Reptiles	Spotted Turtle (*Clemmys guttata*)	25-50%	4
Reptiles	Kirtland's Snake (*Clonophis kirtlandii*)	75-100%	6
Reptiles	Blanding's Turtle (*Emydoidea blandingii*)	75-100%	10
Reptiles	Wood Turtle (*Glyptemys insculpta*)	25-50%	4
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (*Kinosternon flavescens*)	<25%	5
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	50-75%	12

Taxa	Species	Regional Responsibility	Number of MAFWA States
Reptiles	Western Massasauga (*Sistrurus tergeminus*)	25-50%	4

Table E-3. Midwest RSGCN of Moderate Concern, in alphabetical order of scientific name by taxa.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Amphibians	Ringed Salamander (*Ambystoma annulatum*)	50-75%	2
Amphibians	Blue-spotted Salamander (*Ambystoma laterale*)	50-75%	7
Amphibians	Unisexual Ambystoma Complex (*Ambystoma* sp.)	75-100%	6
Amphibians	Green Salamander (*Aneides aeneus*)	25-50%	3
Amphibians	Four-toed Salamander (*Hemidactylium scutatum*)	25-50%	8
Amphibians	Common Mudpuppy (*Necturus maculosus*)	50-75%	12
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	25-50%	13
Birds	Short-eared Owl (*Asio flammeus*)	<25%	13
Birds	Upland Sandpiper (*Bartramia longicauda*)	25-50%	13
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	25-50%	13
Birds	Chimney Swift (*Chaetura pelagica*)	25-50%	13
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	25-50%	13
Birds	Northern Bobwhite (*Colinus virginianus*)	25-50%	12
Birds	Bobolink (*Dolichonyx oryzivorus*)	25-50%	13
Birds	Marbled Godwit (*Limosa fedoa*)	<25%	10
Birds	Western Meadowlark (*Sturnella neglecta*)	<25%	13
Fishes	Western Sand Darter (*Ammocrypta clara*)	75-100%	8
Fishes	Finescale Dace (*Chrosomus neogaeus*)	75-100%	7
Fishes	Redside Dace (*Clinostomus elongatus*)	50-75%	7
Fishes	Plains Topminnow (*Fundulus sciadicus*)	75-100%	6
Fishes	Western Silvery Minnow (*Hybognathus argyritis*)	50-75%	7
Invertebrates: Bees	an andrenid bee (*Andrena beameri*)	75-100%	1
Invertebrates: Butterflies and Moths	Doll's Dagger Moth (*Acronicta dolli*)	50-75%	3
Invertebrates: Butterflies and Moths	Early Leadplant Leaf-twirler Moth (*Anacampsis wikeri*)	75-100%	3
Invertebrates: Butterflies and Moths	New Jersey Tea Inchworm (*Apodrepanulatrix liberaria*)	25-50%	6
Invertebrates: Butterflies and Moths	Dusted Skipper (*Atrytonopsis hianna*)	50-75%	13

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Butterflies and Moths	Quiet or Sweet Underwing (*Catocala dulciola*)	50-75%	6
Invertebrates: Butterflies and Moths	Monarch (*Danaus plexippus*)	25-50%	13
Invertebrates: Butterflies and Moths	Milne's Looper Moth (*Euchlaena milnei*)	50-75%	3
Invertebrates: Butterflies and Moths	Two-spotted Skipper (*Euphyes bimacula*)	50-75%	10
Invertebrates: Butterflies and Moths	Dune Cutworm Moth (*Euxoa aurulenta*)	25-50%	5
Invertebrates: Butterflies and Moths	Leonard's Skipper (*Hesperia leonardus*)	50-75%	13
Invertebrates: Butterflies and Moths	Aweme Borer Moth (*Papaipema aweme*)	50-75%	3
Invertebrates: Butterflies and Moths	Rattlesnake-master Borer Moth (*Papaipema eryngii*)	50-75%	6
Invertebrates: Butterflies and Moths	Tawny Crescent (*Phyciodes batesii*)	50-75%	8
Invertebrates: Butterflies and Moths	a pyralid moth (*Pyla arenaeola*)	75-100%	2
Invertebrates: Butterflies and Moths	Bina Flower Moth (*Schinia bina*)	50-75%	5
Invertebrates: Butterflies and Moths	Rosinweed Moth (*Tebenna silphiella*)	75-100%	3
Invertebrates: Butterflies and Moths	Marked Noctuid (*Tricholita notata*)	50-75%	8
Invertebrates: Caddisflies	a saddlecase caddisfly (*Agapetus illini*)	50-75%	5
Invertebrates: Caddisflies	a saddlecase caddisfly (*Agapetus tomus*)	50-75%	5
Invertebrates: Caddisflies	Beautiful Net-spinning Caddisfly (*Cheumatopsyche speciosa*)	50-75%	10
Invertebrates: Caddisflies	a hydropsychid caddisfly (*Homoplectra doringa*)	25-50%	4
Invertebrates: Caddisflies	Reisen's Hydropsyche Caddisfly (*Hydropsyche arinale*)	75-100%	7
Invertebrates: Caddisflies	Harping Northern Caddisfly (*Ironoquia lyrata*)	50-75%	7
Invertebrates: Caddisflies	Contorted Ochrotrichian Micro Caddisfly (*Ochrotrichia contorta*)	50-75%	1
Invertebrates: Crayfishes	Freckled Crayfish (*Cambarus maculatus*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Northern Clearwater Crayfish (*Faxonius propinquus*)	50-75%	7
Invertebrates: Dragonflies and Damselflies	Green-faced Clubtail (*Hylogomphus viridifrons*)	75-100%	6

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Dragonflies and Damselflies	Quebec Emerald (*Somatochlora brevicincta*)	25-50%	1
Invertebrates: Freshwater Mussels	Elktoe (*Alasmidonta marginata*)	75-100%	13
Invertebrates: Freshwater Mussels	Wartyback (*Cyclonaias nodulata*)	75-100%	9
Invertebrates: Freshwater Mussels	Purple Wartyback (*Cyclonaias tuberculata*)	75-100%	11
Invertebrates: Freshwater Mussels	Butterfly Mussel (*Ellipsaria lineolata*)	50-75%	9
Invertebrates: Freshwater Mussels	Yellow Sandshell (*Lampsilis teres*)	50-75%	11
Invertebrates: Freshwater Mussels	Creek Heelsplitter (*Lasmigona compressa*)	75-100%	11
Invertebrates: Freshwater Mussels	Black Sandshell (*Ligumia recta*)	75-100%	13
Invertebrates: Freshwater Mussels	Kidneyshell (*Ptychobranchus fasciolaris*)	75-100%	5
Invertebrates: Freshwater Mussels	Ellipse (*Venustaconcha ellipsiformis*)	75-100%	8
Invertebrates: Freshwater Mussels	Little Spectaclecase (*Villosa lienosa*)	50-75%	5
Invertebrates: Mayflies	Striped Comb Minnow Mayfly (*Ameletus lineatus*)	50-75%	7
Invertebrates: Mayflies	Fork-headed Armored Mayfly (*Baetisca obesa*)	50-75%	8
Invertebrates: Mayflies	White Small Minnow Mayfly (*Centroptilum album*)	25-50%	11
Invertebrates: Mayflies	Forky Small Minnow Mayfly (*Centroptilum* bifurcatum)	25-50%	7
Invertebrates: Mayflies	Simple Spiny Crawler Mayfly (*Dannella simplex*)	25-50%	6
Invertebrates: Mayflies	Brown Spiny Crawler Mayfly (*Eurylophella funeralis*)	50-75%	7
Invertebrates: Mayflies	Late Hex Burrowing Mayfly (*Hexagenia atrocaudata*)	50-75%	9
Invertebrates: Mayflies	a prongill mayfly (*Paraleptophlebia calcarica*)	50-75%	1
Invertebrates: Mayflies	Band-bellied Small Minnow Mayfly (*Plauditus cestus*)	50-75%	10
Invertebrates: Mayflies	a small minnow mayfly (*Plauditus veteris*)	50-75%	2
Invertebrates: Mayflies	Simple Small Minnow Mayfly (*Procloeon simplex*)	50-75%	6

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Mayflies	White Sand-river Mayfly (*Pseudiron centralis*)	50-75%	11
Invertebrates: Mayflies	a primitive minnow mayfly (*Siphlonurus minnoi*)	50-75%	4
Invertebrates: Mayflies	Flapped Cleft-footed Minnow Mayfly (*Siphloplecton basale*)	50-75%	4
Invertebrates: Mayflies	Flapless Cleft-footed Minnow Mayfly (*Siphloplecton interlineatum*)	50-75%	6
Invertebrates: Mayflies	Candid Flat-headed Mayfly (*Stenacron candidum*)	50-75%	6
Invertebrates: Mayflies	Gildersleeve's Stenacron Mayfly (*Stenacron gildersleevei*)	50-75%	6
Invertebrates: Stoneflies	Giant Stone (*Attaneuria ruralis*)	50-75%	10
Invertebrates: Stoneflies	Arkansas Stone (*Neoperla harpi*)	50-75%	2
Invertebrates: Stoneflies	Plains Stone (*Perlesta cinctipes*)	50-75%	5
Invertebrates: Stoneflies	Dakota Stone (*Perlesta dakota*)	100% (MAFWA Endemic)	2
Invertebrates: Stoneflies	Cloudy Stonefly (*Perlesta ephelida*)	50-75%	9
Invertebrates: Stoneflies	Two-lined Stone (*Perlesta golconda*)	100% (MAFWA Endemic)	8
Invertebrates: Stoneflies	Wabash Stone (*Perlesta ouabache*)	100% (MAFWA Endemic)	6
Mammals	Silver-haired Bat (*Lasionycteris noctivagans*)	25-50%	13
Mammals	White-tailed Jackrabbit (*Lepus townsendii*)	25-50%	7
Mammals	Kentucky Red-backed Vole (*Myodes* gappieri miaurus)	100% (MAFWA Endemic)	1
Mammals	Franklin's Ground Squirrel (*Poliocitellus franklinii*)	75-100%	10
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	25-50%	10
Reptiles	Plains Hog-nosed Snake (*Heterodon nasicus*)	50-75%	8
Reptiles	Lake Erie Watersnake (*Nerodia sipedon insularum*)	100% (MAFWA Endemic)	1
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	100% (MAFWA Endemic)	2
Reptiles	Red-bellied Snake (Black Hills pop.) (*Storeria occipitomaculata pahasapae*)	50-75%	1
Reptiles	Butler's Gartersnake (*Thamnophis butleri*)	75-100%	4

APPENDIX F. PROPOSED MIDWEST RSGCN

The taxa teams recommended 147 species for consideration as RSGCN that were not SGCN in any SWAP within the MAFWA region. The taxa teams reviewed each of these additional species during the review process described in Appendix A. Each met the criteria of selection as RSGCN with the exception of not currently being SGCN in the region.

Table F-1. Proposed RSGCN in the Midwest.

Taxa	Species	Concern Level	Regional Responsibility
Amphibians	Western Tiger Salamander (*Ambystoma mavortium*)	Moderate	25-50%
Fishes	Tonguetied Minnow (*Exoglossum laurae*)	High	25-50%
Invertebrates: Bees	Peckham's Miner Bee (*Andrena peckhami*)	Moderate	50-75%
Invertebrates: Bees	Planed Miner Bee (*Andrena runcinatae*)	Moderate	50-75%
Invertebrates: Bees	Black-and-gold Bumble Bee (*Bombus auricomus*)	Moderate	50-75%
Invertebrates: Bees	Macropis Cuckoo Bee (*Epeoloides pilosulus*)	High	50-75%
Invertebrates: Bees	Interrupted Cuckoo Nomad Bee (*Epeolus interruptus*)	Moderate	25-50%
Invertebrates: Bees	Yellow Loosestrife Bee (*Macropis ciliata*)	High	50-75%
Invertebrates: Bees	Nude Yellow Loosestrife Bee (*Macropis nuda*)	High	50-75%
Invertebrates: Butterflies and Moths	Marbleseed Leafminer (*Acrocercops pnosmodiella*)	High	75-100%
Invertebrates: Butterflies and Moths	a grass miner moth (*Agonopterix pergandeella*)	High	100% (MAFWA Endemic)
Invertebrates: Butterflies and Moths	Franclemont's Lithophane (*Lithophane franclemonti*)	Moderate	75-100%
Invertebrates: Butterflies and Moths	Dark-banded Flower Gem Moth (*Melaporphyria immortua*)	High	50-75%
Invertebrates: Butterflies and Moths	Mitchell's Satyr (*Neonympha mitchellii*)	Very High	50-75%
Invertebrates: Butterflies and Moths	a crambid snout moth (*Pyrausta pythialis*)	High	75-100%
Invertebrates: Caddisflies	a saddlecase caddisfly (*Agapetus stylifer*)	Moderate	50-75%
Invertebrates: Caddisflies	Ladoga Net-spinning Caddisfly (*Arctopsyche ladogensis*)	Very High	25-50%
Invertebrates: Caddisflies	Sooty Humpless Caddisfly (*Brachycentrus fuliginosus*)	Very High	75-100%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Caddisflies	Vulpine Long-horned Caddisfly (*Ceraclea alagma*)	Moderate	50-75%
Invertebrates: Caddisflies	White-spotted Long-horned Caddisfly (*Ceraclea albosticta*)	Very High	50-75%
Invertebrates: Caddisflies	Crooked Long-horned Caddisfly (*Ceraclea ancylus*)	Moderate	50-75%
Invertebrates: Caddisflies	Wandering Long-horned Caddisfly (*Ceraclea erratica*)	High	75-100%
Invertebrates: Caddisflies	a longhorned caddisfly (*Ceraclea erulla*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Carved Long-horned caddisfly (*Ceraclea excisa*)	Moderate	50-75%
Invertebrates: Caddisflies	a longhorned caddisfly (*Ceraclea maccalmonti*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	a longhorned caddisfly (*Ceraclea neffi*)	Moderate	50-75%
Invertebrates: Caddisflies	a longhorned caddisfly (*Ceraclea spongillovorax*)	Moderate	50-75%
Invertebrates: Caddisflies	a caddisfly (*Cernotina ohio*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Pale Trumpet-net Caddisfly (*Cernotina pallida*)	Moderate	50-75%
Invertebrates: Caddisflies	Gordon's Little Sister Sedge (*Cheumatopsyche gordonae*)	Moderate	50-75%
Invertebrates: Caddisflies	a hydropsychid caddisfly (*Cheumatopsyche rossi*)	Very High	50-75%
Invertebrates: Caddisflies	Simple Giant Caddisfly (*Fabria inornata*)	High	50-75%
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Holocentropus chellus*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Black River Trumpet-net Caddisfly (*Holocentropus melanae*)	High	50-75%
Invertebrates: Caddisflies	Black-horned Trumpet-net Caddisfly (*Holocentropus picicornis*)	High	50-75%
Invertebrates: Caddisflies	a hydropsychid caddisfly (*Hydropsyche aerata*)	High	75-100%
Invertebrates: Caddisflies	Harpeth Hydropsyche Caddisfly (*Hydropsyche patera*)	Moderate	50-75%
Invertebrates: Caddisflies	Spineless Net-spinning Caddisfly (*Hydropsyche piatrix*)	Very High	50-75%
Invertebrates: Caddisflies	Flat Net-spinning Caddisfly (*Hydropsyche placoda*)	High	50-75%
Invertebrates: Caddisflies	a net-spinning caddisfly (*Hydropsyche valanis*)	High	50-75%
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila danieli*)	Very High	100% (MAFWA Endemic)

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila howelli*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Jackman's Microcaddisfly (*Hydroptila jackmanni*)	Moderate	50-75%
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila kuehnei*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila paraxella*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Trout Microcaddisfly (*Hydroptila salmo*)	High	50-75%
Invertebrates: Caddisflies	Pointed Microcaddisfly (*Hydroptila scolops*)	Moderate	75-100%
Invertebrates: Caddisflies	Heavenly Microcaddisfly (*Hydroptila valhalla*)	Moderate	50-75%
Invertebrates: Caddisflies	Wyoming Microcaddisfly (*Hydroptila wyomia*)	Moderate	50-75%
Invertebrates: Caddisflies	a microcaddisfly (*Ithytrichia mazon*)	Moderate	75-100%
Invertebrates: Caddisflies	a lepidostomatid caddisfly (*Lepidostoma etnieri*)	Moderate	50-75%
Invertebrates: Caddisflies	Slender Northern Caddisfly (*Leptophylax gracilis*)	Very High	75-100%
Invertebrates: Caddisflies	Very Small Northern Caddisfly (*Limnephilus perpusillus*)	Moderate	50-75%
Invertebrates: Caddisflies	Sacken's Northern Caddisfly (*Limnephilus sackeni*)	High	75-100%
Invertebrates: Caddisflies	Icy Humpless Caddisfly (*Micrasema gelidum*)	High	50-75%
Invertebrates: Caddisflies	a brachycentrid caddisfly (*Micrasema ozarkanum*)	Moderate	50-75%
Invertebrates: Caddisflies	a uenoid caddisfly (*Neophylax ayanus*)	High	50-75%
Invertebrates: Caddisflies	a uenoid caddisfly (*Neophylax lewisae*)	High	50-75%
Invertebrates: Caddisflies	a microcaddisfly (*Neotrichia falca*)	High	75-100%
Invertebrates: Caddisflies	Kite's Neotrichian Caddisfly (*Neotrichia kitae*)	Moderate	50-75%
Invertebrates: Caddisflies	a microcaddisfly (*Neotrichia paraokopa*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	a microcaddisfly (*Neotrichia riegeli*)	Moderate	50-75%
Invertebrates: Caddisflies	a microcaddisfly (*Neotrichia staufferi*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	a caddisfly (*Neureclipsis piersoni*)	High	50-75%
Invertebrates: Caddisflies	Strong Trumpet-net Caddisfly (*Neureclipsis valida*)	Moderate	50-75%
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Ochrotrichia anisca*)	High	75-100%
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Ochrotrichia arva*)	High	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Ochrotrichia riesi*)	Very High	75-100%
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Ochrotrichia shawnee*)	Moderate	50-75%
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Ochrotrichia unio*)	High	75-100%
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Ochrotrichia xena*)	High	50-75%
Invertebrates: Caddisflies	Rusty Long-horned Caddisfly (*Oecetis ochracea*)	High	50-75%
Invertebrates: Caddisflies	a longhorned caddisfly (*Oecetis ozarkensis*)	Moderate	50-75%
Invertebrates: Caddisflies	Nearctic Paduniellan Caddisfly (*Paduniella nearctica*)	Very High	50-75%
Invertebrates: Caddisflies	Friendly Northern Caddisfly (*Platycentropus amicus*)	Moderate	50-75%
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Plectrocnemia sabulosa*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Central Trumpet-net Caddisfly (*Polycentropus centralis*)	Moderate	50-75%
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Polycentropus chelatus*)	Moderate	75-100%
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Polycentropus neiswanderi*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Narrow Giant Caddisfly (*Ptilostomis angustipennis*)	Moderate	25-50%
Invertebrates: Caddisflies	Algonquin Northern Caddisfly (*Pycnopsyche aglona*)	Moderate	50-75%
Invertebrates: Caddisflies	Hollow Free-living Caddisfly (*Rhyacophila parantra*)	High	50-75%
Invertebrates: Caddisflies	a leptocerid caddisfly (*Setodes truncatus*)	Very High	100% (MAFWA Endemic)
Invertebrates: Caddisflies	Aba's Long-horned Caddisfly (*Triaenodes aba*)	Moderate	25-50%
Invertebrates: Caddisflies	Athens Triaenodes Caddisfly (*Triaenodes phalacris*)	Very High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Dusky Mudbug (*Cambarus adustus*)	High	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Big Sandy Crayfish (*Cambarus callainus*)	Very High	50-75%
Invertebrates: Crayfishes	Brawny Crayfish (*Cambarus hazardi*)	Moderate	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Cutshin Crayfish (*Cambarus taylori*)	Moderate	100% (MAFWA Endemic)
Invertebrates: Crayfishes	Gap Ringed Crayfish (*Faxonius neglectus chaenodactylus*)	Moderate	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Crayfishes	Allegheny Crayfish (*Faxonius obscurus*)	Moderate	25-50%
Invertebrates: Crayfishes	Leopard Crayfish (*Faxonius pardalotus*)	High	100% (MAFWA Endemic)
Invertebrates: Dragonflies and Damselflies	Ozark Clubtail (*Gomphurus ozarkensis*)	High	25-50%
Invertebrates: Dragonflies and Damselflies	Acuminate Snaketail (*Ophiogomphus acuminatus*)	Moderate	50-75%
Invertebrates: Freshwater Mussels	Catspaw (*Epioblasma obliquata*)	Very High	75-100%
Invertebrates: Mayflies	Filtering Small Square-gilled Mayfly (*Amercaenis ridens*)	Moderate	75-100%
Invertebrates: Mayflies	Hudsonia Small Minnow Mayfly (*Baetis hudsonicus*)	High	50-75%
Invertebrates: Mayflies	Curtis's Small Square-gilled Mayfly (*Brachycercus harrisella*)	Moderate	50-75%
Invertebrates: Mayflies	Ojibwe Small Square-gilled Mayfly (*Brachycercus ojibwe*)	Very High	75-100%
Invertebrates: Mayflies	a small minnow mayfly (*Centroptilum ozarkensum*)	Moderate	50-75%
Invertebrates: Mayflies	Victoria's Small Minnow Mayfly (*Centroptilum victoriae*)	Moderate	50-75%
Invertebrates: Mayflies	Cree Small Square-gilled Mayfly (*Cercobrachys cree*)	Very High	50-75%
Invertebrates: Mayflies	a small square-gilled mayfly (*Cercobrachys etowah*)	High	50-75%
Invertebrates: Mayflies	a small square-gilled mayfly (*Cercobrachys serpentis*)	High	50-75%
Invertebrates: Mayflies	Pond Small Minnow Mayfly (*Cloeon* dipterum)	Moderate	50-75%
Invertebrates: Mayflies	a spiny crawler mayfly (*Ephemera traverae*)	High	50-75%
Invertebrates: Mayflies	a mayfly (*Heptagenia dalecarlica*)	Very High	75-100%
Invertebrates: Mayflies	Whiting's Flat-headed Mayfly (*Heptagenia whitingi*)	Very High	75-100%
Invertebrates: Mayflies	Frivolous Small Minnow Mayfly (*Heterocloeon frivolum*)	Moderate	50-75%
Invertebrates: Mayflies	a mayfly (*Heterocloeon grande*)	Moderate	50-75%
Invertebrates: Mayflies	Straight Hex Burrowing Mayfly (*Hexagenia rigida*)	Moderate	50-75%
Invertebrates: Mayflies	Butter Flat-headed Mayfly (*Maccaffertium luteum*)	Moderate	50-75%
Invertebrates: Mayflies	Nipawin Flat-headed Mayfly (*Macdunnoa nipawinia*)	High	50-75%
Invertebrates: Mayflies	a small minnow mayfly (*Neocloeon alamance*)	Moderate	50-75%

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Mayflies	a mayfly (*Nixe dorothae*)	Very High	75-100%
Invertebrates: Mayflies	a flat-headed mayfly (*Nixe flowersi*)	High	50-75%
Invertebrates: Mayflies	Eurasian Flat-headed Mayfly (*Nixe joernensis*)	Very High	75-100%
Invertebrates: Mayflies	a small minnow mayfly (*Paracloeodes fleeki*)	Moderate	50-75%
Invertebrates: Mayflies	Coon Rapids Small Minnow Mayfly (*Paracloeodes lotor*)	Very High	75-100%
Invertebrates: Mayflies	Boreal Primitive Minnow Mayfly (*Parameletus chelifer*)	High	50-75%
Invertebrates: Mayflies	Dark-winged Primitive Minnow Mayfly (*Parameletus croesus*)	Very High	75-100%
Invertebrates: Mayflies	Elliott's Small Minnow Mayfly (*Plauditus elliotti*)	Very High	75-100%
Invertebrates: Mayflies	Glover's Small Minnow Mayfly (*Plauditus gloveri*)	Moderate	50-75%
Invertebrates: Mayflies	Passive Small Minnow Mayfly (*Procloeon inanum*)	Very High	75-100%
Invertebrates: Mayflies	Insignificant Small Minnow Mayfly (*Procloeon insignificans*)	Very High	75-100%
Invertebrates: Mayflies	Faulty Small Minnow Mayfly (*Procloeon mendax*)	Moderate	50-75%
Invertebrates: Mayflies	Medicine Hat Small Minnow Mayfly (*Procloeon quaesitum*)	Moderate	50-75%
Invertebrates: Mayflies	Painted Small Minnow Mayfly (*Procloeon rubropictum*)	Moderate	50-75%
Invertebrates: Mayflies	Hobbs's Small Minnow Mayfly (*Procloeon rufostrigatum*)	Moderate	50-75%
Invertebrates: Mayflies	a baetid mayfly (*Pseudocentroptiloides morihari*)	Moderate	50-75%
Invertebrates: Mayflies	American Small Minnow Mayfly (*Pseudocentroptiloides usa*)	Moderate	50-75%
Invertebrates: Mayflies	Central Flat-headed Mayfly (*Rhithrogena manifesta*)	Moderate	50-75%
Invertebrates: Mayflies	Leafy Primitive Minnow Mayfly (*Siphlonurus phyllis*)	Moderate	50-75%
Invertebrates: Mayflies	Prudent Small Square-gilled Mayfly (*Susperatus prudens*)	Moderate	50-75%
Invertebrates: Mayflies	a leptophlebiid mayfly (*Traverella lewisi*)	Very High	75-100%
Invertebrates: Mayflies	Cobb's Stout Crawler Mayfly (*Tricorythodes cobbi*)	Moderate	50-75%
Invertebrates: Mayflies	a mayfly (*Waynokiops dentatogriphus*)	Moderate	50-75%
Invertebrates: Stoneflies	Shawnee Stone (*Acroneuria covelli*)	Very High	75-100%
Invertebrates: Stoneflies	Kentucky Stone (*Acroneuria hitchcocki*)	Very High	100% (MAFWA Endemic)

Taxa	Species	Concern Level	Regional Responsibility
Invertebrates: Stoneflies	Great Lakes Springfly (*Cultus decisus decisus*)	Very high	50-75%
Invertebrates: Stoneflies	Crescent Stripetail (*Isoperla emarginata*)	High	100% (MAFWA Endemic)
Invertebrates: Stoneflies	Plains Stripetail (*Isoperla longiseta*)	Very high	25-50%
Invertebrates: Stoneflies	Minnesota Stripetail (*Isoperla maxana*)	High	100% (MAFWA Endemic)
Invertebrates: Stoneflies	a needlefly (*Leuctra schusteri*)	Very High	100% (MAFWA Endemic)
Invertebrates: Stoneflies	Ohio Stone (*Neoperla gaufini*)	Very High	100% (MAFWA Endemic)
Invertebrates: Stoneflies	Maine Stone (*Neoperla mainensis*)	Very high	50-75%
Invertebrates: Stoneflies	Karst Forestfly (*Soyedina calcarea*)	Very High	100% (MAFWA Endemic)

APPENDIX G. MIDWEST RSGCN WATCHLISTS

Table G-1. RSGCN Watchlist [Assessment Priority] species.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Amphibians	Streamside Salamander (*Ambystoma barbouri*)	75-100%	3
Amphibians	Spotted Salamander (*Ambystoma maculatum*)	25-50%	8
Amphibians	American Toad (*Anaxyrus americanus*)	25-50%	13
Amphibians	Fowler's Toad (*Anaxyrus fowleri*)	25-50%	7
Amphibians	Kentucky Spring Salamander (*Gyrinophilus porphyriticus duryi*)	50-75%	2
Amphibians	Pickerel Frog (*Lithobates palustris*)	25-50%	10
Amphibians	Northern Leopard Frog (*Lithobates pipiens*)	25-50%	12
Amphibians	Mink Frog (*Lithobates septentrionalis*)	50-75%	3
Amphibians	Wood Frog (*Lithobates sylvaticus*)	25-50%	10
Amphibians	Eastern Newt (*Notophthalmus viridescens*)	25-50%	10
Birds	Chestnut-collared Longspur (*Calcarius ornatus*)	25-50%	7
Birds	Semipalmated Sandpiper (*Calidris pusilla*)	25-50%	13
Birds	Baird's Sparrow (*Centronyx bairdii*)	<25%	5
Birds	Wood Thrush (*Hylocichla mustelina*)	25-50%	13
Birds	King Rail (*Rallus elegans*)	25-50%	12
Birds	Bank Swallow (*Riparia riparia*)	<25%	13
Birds	Field Sparrow (*Spizella pusilla*)	25-50%	13
Birds	Willet (*Tringa semipalmata*)	<25%	13
Birds	Sharp-tailed Grouse (*Tympanuchus phasianellus*)	25-50%	7
Fishes	American Eel (*Anguilla rostrata*)	25-50%	12
Fishes	Northern Redbelly Dace (*Chrosomus eos*)	50-75%	7
Fishes	Nipigon Cisco (*Coregonus nipigon*)	100% (MAFWA Endemic)	1
Fishes	Gravel Chub (*Erimystax x-punctatus*)	75-100%	8
Fishes	Least Darter (*Etheostoma microperca*)	75-100%	9
Fishes	Cumberland Arrow Darter (*Etheostoma sagitta*)	75-100%	1
Fishes	Starhead Topminnow (*Fundulus dispar*)	50-75%	6
Fishes	Plains Minnow (*Hybognathus placitus*)	25-50%	8
Fishes	Northern Longear Sunfish (*Lepomis peltastes*)	75-100%	6

Taxa	Species	Regional Responsibility	Number of MAFWA States
Fishes	Northern Pearl Dace (*Margariscus nachtriebi*)	50-75%	7
Fishes	Mountain Madtom (*Noturus eleutherus*)	50-75%	5
Fishes	Channel Darter (*Percina copelandi*)	25-50%	6
Fishes	Gilt Darter (*Percina evides*)	50-75%	7
Fishes	Southern Cavefish (*Typhlichthys subterraneus*)	25-50%	1
Invertebrates: Butterflies and Moths	an aethes moth (*Aethes patricia*)	75-100%	6
Invertebrates: Butterflies and Moths	a grass miner moth (*Agonopterix lythrella*)	50-75%	3
Invertebrates: Butterflies and Moths	Aphrodite Fritillary (*Argynnis aphrodite*)	25-50%	12
Invertebrates: Butterflies and Moths	Southern Cloudywing (*Cecropterus bathyllus*)	25-50%	11
Invertebrates: Butterflies and Moths	Northern Cloudywing (*Cecropterus pylades*)	<25%	13
Invertebrates: Butterflies and Moths	Sand Dune Panic Grass Moth (*Coenochroa bipunctella*)	25-50%	3
Invertebrates: Butterflies and Moths	Imperial Moth (*Eacles imperialis pini*)	50-75%	2
Invertebrates: Butterflies and Moths	Taiga Alpine (*Erebia mancinus*)	<25%	1
Invertebrates: Butterflies and Moths	Columbine Duskywing (*Erynnis lucilius*)	50-75%	9
Invertebrates: Butterflies and Moths	a prairie sedge moth (*Neodactria murellus*)	50-75%	7
Invertebrates: Butterflies and Moths	Aralia Shoot Borer Moth (*Papaipema araliae*)	25-50%	3
Invertebrates: Butterflies and Moths	Turtle Head Borer Moth (*Papaipema nepheleptena*)	50-75%	7
Invertebrates: Butterflies and Moths	West Virginia White (*Pieris virginiensis*)	25-50%	6
Invertebrates: Butterflies and Moths	Clouded Veneer Moth (*Prionapteryx nebulifera*)	50-75%	3
Invertebrates: Butterflies and Moths	Byssus Skipper (*Problema byssus*)	25-50%	7
Invertebrates: Butterflies and Moths	Byssus Skipper (*Problema byssus kumskaka*)	100% (MAFWA Endemic)	1
Invertebrates: Butterflies and Moths	Edwards' Hairstreak (*Satyrium edwardsii*)	50-75%	13
Invertebrates: Butterflies and Moths	Leadplant Flower Moth (*Schinia lucens*)	50-75%	8

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Crayfishes	Belted Crayfish (*Faxonius harrisonii*)	100% (MAFWA Endemic)	1
Invertebrates: Crayfishes	Golden Crayfish (*Faxonius luteus*)	100% (MAFWA Endemic)	4
Invertebrates: Crayfishes	Ringed Crayfish (*Faxonius neglectus*)	25-50%	2
Invertebrates: Crayfishes	Norwood River Crayfish (*Faxonius raymondi*)	100% (MAFWA Endemic)	1
Invertebrates: Dragonflies and Damselflies	Zigzag Darner (*Aeshna sitchensis*)	25-50%	3
Invertebrates: Dragonflies and Damselflies	Subarctic Darner (*Aeshna subarctica*)	25-50%	3
Invertebrates: Dragonflies and Damselflies	Springwater Dancer (*Argia plana*)	25-50%	7
Invertebrates: Dragonflies and Damselflies	Horned Clubtail (*Arigomphus cornutus*)	75-100%	9
Invertebrates: Dragonflies and Damselflies	Splendid Clubtail (*Gomphurus lineatifrons*)	50-75%	7
Invertebrates: Dragonflies and Damselflies	Extra-striped Snaketail (*Ophiogomphus anomalus*)	25-50%	3
Invertebrates: Dragonflies and Damselflies	Westfall's Snaketail (*Ophiogomphus westfalli*)	75-100%	3
Invertebrates: Dragonflies and Damselflies	Ski-tipped Emerald (*Somatochlora elongata*)	25-50%	3
Invertebrates: Dragonflies and Damselflies	Forcipate Emerald (*Somatochlora forcipata*)	25-50%	3
Invertebrates: Dragonflies and Damselflies	Brush-tipped Emerald (*Somatochlora walshii*)	25-50%	4
Invertebrates: Dragonflies and Damselflies	Russet-tipped Clubtail (*Stylurus plagiatus*)	25-50%	12
Invertebrates: Dragonflies and Damselflies	Ringed Boghaunter (*Williamsonia lintneri*)	25-50%	2
Invertebrates: Freshwater Mussels	Slippershell Mussel (*Alasmidonta viridis*)	75-100%	9
Invertebrates: Freshwater Mussels	Rock Pocketbook (*Arcidens confragosus*)	50-75%	9
Invertebrates: Freshwater Mussels	Spike (*Eurynia dilatata*)	75-100%	12
Invertebrates: Freshwater Mussels	Wavy-rayed Lampmussel (*Lampsilis fasciola*)	75-100%	5
Invertebrates: Freshwater Mussels	Round Pigtoe (*Pleurobema sintoxia*)	75-100%	12
Invertebrates: Freshwater Mussels	Gulf Mapleleaf (*Quadrula nobilis*)	<25%	4

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Freshwater Mussels	Monkeyface (*Theliderma metanevra*)	75-100%	10
Invertebrates: Freshwater Mussels	Fawnsfoot (*Truncilla donaciformis*)	50-75%	12
Invertebrates: Freshwater Mussels	Flat Floater (*Utterbackiana suborbiculata*)	75-100%	11
Invertebrates: Freshwater Mussels	Rainbow Mussel (*Villosa iris*)	50-75%	7
Invertebrates: Stoneflies	Constricted Stone (*Acroneuria evoluta*)	25-50%	6
Invertebrates: Stoneflies	Banded Stripetail (*Isoperla burksi*)	25-50%	5
Invertebrates: Stoneflies	Brook Needlefly (*Leuctra sibleyi*)	25-50%	5
Invertebrates: Stoneflies	Narrow-lobed Needlefly (*Leuctra tenuis*)	25-50%	9
Invertebrates: Stoneflies	Slippery Stone (*Neoperla catharae*)	25-50%	6
Invertebrates: Stoneflies	Teays Stone (*Perlesta teaysia*)	25-50%	4
Invertebrates: Stoneflies	Ashcave Needlefly (*Zealeuctra fraxina*)	25-50%	4
Mammals	Elliot's Short-tailed Shrew (*Blarina hylophaga*)	50-75%	4
Mammals	North American Least Shrew (*Cryptotis parva*)	25-50%	12
Mammals	Plains Pocket Gopher (*Geomys bursarius*)	75-100%	10
Mammals	Prairie Vole (Microtus *ochrogaster*)	50-75%	13
Mammals	Woodland Vole (Microtus *pinetorum*)	25-50%	11
Mammals	Eastern Small-footed Myotis (*Myotis leibii*)	25-50%	6
Mammals	Plains Pocket Mouse (*Perognathus flavescens*)	25-50%	7
Mammals	Plains Pocket Mouse (*Perognathus flavescens perniger*)	100% (MAFWA Endemic)	5
Mammals	American Pygmy Shrew (*Sorex hoyi*)	25-50%	10
Mammals	Gray Fox (*Urocyon cinereoargenteus*)	<25%	13
Reptiles	Midland Smooth Softshell (*Apalone mutica mutica*)	50-75%	8
Reptiles	Blue Racer (*Coluber constrictor foxii*)	100% (MAFWA Endemic)	3
Reptiles	Ouachita Map Turtle (*Graptemys ouachitensis*)	25-50%	9
Reptiles	Eastern Hog-nosed Snake (*Heterodon* platirhinos)	25-50%	12
Reptiles	Slender Glass Lizard (*Ophisaurus attenuatus*)	25-50%	8
Reptiles	Western Foxsnake (*Pantherophis ramspotti*)	100% (MAFWA Endemic)	6
Reptiles	Gray Ratsnake (*Pantherophis spiloides*)	50-75%	6

Taxa	Species	Regional Responsibility	Number of MAFWA States
Reptiles	Eastern Foxsnake (*Pantherophis vulpinus*)	100% (MAFWA Endemic)	5
Reptiles	Bullsnake (*Pituophis catenifer sayi*)	25-50%	4
Reptiles	Northern Prairie Skink (*Plestiodon septentrionalis septentrionalis*)	100% (MAFWA Endemic)	6
Reptiles	Queen Snake (*Regina septemvittata*)	25-50%	6
Reptiles	Eastern Box Turtle (*Terrapene carolina*)	25-50%	7
Reptiles	Ornate Box Turtle (*Terrapene ornata*)	25-50%	8
Reptiles	Plains Gartersnake (*Thamnophis radix*)	50-75%	11

Table G-2. Proposed RSGCN Watchlist [Assessment Priority] species.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Bees	Aberrant Cellophane Bee (*Colletes aberrans*)	50-75%	6
Invertebrates: Bees	Susanna's Cellophane Bee (*Colletes susannae*)	75-100%	6
Invertebrates: Bees	Bald-spot Sweat Bee (*Lasioglossum paraforbesii*)	50-75%	8
Invertebrates: Bees	a callirhoe bee (*Melissodes intortus*)	75-100%	3
Invertebrates: Caddisflies	Intermediate Saddle-case Caddisfly (*Glossosoma intermedium*)	25-50%	9
Invertebrates: Crayfishes	Blue Crawfish (*Cambarus monongalensis*)	<25%	1
Invertebrates: Crayfishes	Neosho Midget Crayfish (*Faxonius macrus*)	25-50%	2
Invertebrates: Freshwater Mussels	Canary Kingshell (*Lampsilis sietmani*)	50-75%	8
Invertebrates: Stoneflies	Lobed Stone (*Acroneuria internata*)	50-75%	8
Invertebrates: Stoneflies	Enigmatic Stone (*Acroneuria perplexa*)	25-50%	5
Invertebrates: Stoneflies	Indiana Snowfly (*Allocapnia indianae*)	50-75%	3
Invertebrates: Stoneflies	Ohio Snowfly (*Allocapnia ohioensis*)	50-75%	3
Invertebrates: Stoneflies	Atlantic Sallfly (*Alloperla atlantica*)	<25%	3
Invertebrates: Stoneflies	Barbed Sallfly (*Alloperla hamata*)	50-75%	4
Invertebrates: Stoneflies	Truncate Sallfly (*Alloperla leonarda*)	25-50%	3
Invertebrates: Stoneflies	Vernal Snowfly (*Capnia vernalis*)	<25%	3
Invertebrates: Stoneflies	Manitoba Snowfly (*Capnura manitoba*)	50-75%	2
Invertebrates: Stoneflies	Splendid Stone (*Hansonoperla hokolesqua*)	50-75%	1
Invertebrates: Stoneflies	Quadrate Sallfly (*Haploperla orpha*)	50-75%	4
Invertebrates: Stoneflies	Sterling Stripetail (*Isoperla richardsoni*)	75-100%	9
Invertebrates: Stoneflies	Slender Stone (*Neoperla robisoni*)	50-75%	6
Invertebrates: Stoneflies	Canadian Willowfly (*Oemopteryx glacialis*)	50-75%	3
Invertebrates: Stoneflies	Northeastern Snowfly (*Paracapnia opis*)	25-50%	3
Invertebrates: Stoneflies	Hooked Willowfly (*Taeniopteryx parvula*)	25-50%	8

Table G-3. RSGCN Watchlist [Defer to NEAFWA] species.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Fishes	Diamond Darter (*Crystallaria cincotta*)	<25%	1
Fishes	Kentucky Arrow Darter (*Etheostoma spilotum*)	75-100%	1
Invertebrates: Butterflies and Moths	Early Hairstreak (*Erora laeta*)	<25%	4
Invertebrates: Butterflies and Moths	a geometrid moth (*Lytrosis permagnaria*)	25-50%	3
Invertebrates: Caddisflies	Ottawa Little Caddisfly (*Neophylax ottawa*)	50-75%	0
Invertebrates: Dragonflies and Damselflies	Northern Pygmy Clubtail (*Lanthus parvulus*)	<25%	2
Invertebrates: Dragonflies and Damselflies	Ebony Boghaunter (*Williamsonia fletcheri*)	25-50%	3
Invertebrates: Freshwater Mussels	Eastern Elliptio (*Elliptio complanata*)	25-50%	4
Invertebrates: Mayflies	a mayfly (*Acentrella rallatoma*)	25-50%	2
Invertebrates: Mayflies	Elusive Comb Minnow Mayfly (*Ameletus ludens*)	25-50%	3
Invertebrates: Mayflies	Walley's Comb Minnow Mayfly (*Ameletus walleyi*)	25-50%	0
Invertebrates: Mayflies	American Palp-headed Mayfly (*Arthroplea bipunctata*)	25-50%	4
Invertebrates: Mayflies	a mayfly (*Baetis phoebus*)	25-50%	5
Invertebrates: Mayflies	Minor Small Minnow Mayfly (*Centroptilum minor*)	25-50%	6
Invertebrates: Mayflies	Triangle Small Minnow Mayfly (*Centroptilum triangulifer*)	25-50%	9
Invertebrates: Mayflies	Dotted Flat-headed Mayfly (*Epeorus punctatus*)	25-50%	2
Invertebrates: Mayflies	Varied Burrowing Mayfly (*Ephemera varia*)	25-50%	6
Invertebrates: Mayflies	Eno River Spiny Crawler Mayfly (*Eurylophella enoensis*)	25-50%	4
Invertebrates: Mayflies	Curious Small Minnow Mayfly (*Heterocloeon curiosum*)	25-50%	5
Invertebrates: Mayflies	Brown Drake Mayfly (*Litobrancha recurvata*)	25-50%	5
Invertebrates: Mayflies	a flat-headed mayfly (*Maccaffertium pudicum*)	<25%	3
Invertebrates: Mayflies	Rough Flat-headed Mayfly (*Nixe horrida*)	25-50%	0
Invertebrates: Mayflies	Rusty Flat-headed Mayfly (*Nixe rusticalis*)	25-50%	2

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Mayflies	Midas Primitive Minnow Mayfly (*Parameletus midas*)	25-50%	0
Invertebrates: Mayflies	Aggressive Small Minnow Mayfly (*Procloeon bellum*)	25-50%	2
Invertebrates: Mayflies	Fragile Small Minnow Mayfly (*Procloeon fragile*)	25-50%	3
Invertebrates: Mayflies	Stream Small Minnow Mayfly (*Procloeon rivulare*)	25-50%	6
Invertebrates: Mayflies	Distant Flat-headed Mayfly (*Rhithrogena impersonata*)	25-50%	4
Invertebrates: Mayflies	Hungry Flat-headed Mayfly (*Rhithrogena jejuna*)	25-50%	6
Invertebrates: Stoneflies	Brook Snowfly (*Allocapnia nivicola*)	25-50%	5

Table G-4. RSGCN Watchlist [Defer to SEAFWA] species.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Amphibians	Black Mountain Salamander (*Desmognathus welteri*)	75-100%	1
Amphibians	Barking Treefrog (*Dryophytes* (*Hyla*) *gratiosus*)	<25%	1
Amphibians	Cumberland Plateau Salamander (*Plethodon kentucki*)	75-100%	1
Amphibians	Yellow-spotted Woodland Salamander (*Plethodon pauleyi*)	25-50%	1
Birds	Smith's Longspur (*Calcarius pictus*)	25-50%	10
Birds	Kentucky Warbler (*Geothlypis formosa*)	25-50%	12
Birds	Prothonotary Warbler (*Protonotaria citrea*)	25-50%	12
Birds	Prairie Warbler (*Setophaga discolor*)	<25%	10
Fishes	Grotto Sculpin (*Cottus specus*)	100% (MAFWA Endemic)	1
Fishes	Smallscale Darter (*Etheostoma microlepidum*)	25-50%	1
Fishes	Niangua Darter (*Etheostoma nianguae*)	100% (MAFWA Endemic)	1
Fishes	Cumberland Darter (*Etheostoma susanae*)	50-75%	1
Fishes	Ozark Shiner (*Notropis ozarcanus*)	50-75%	1
Fishes	Bluestripe Darter (*Percina cymatotaenia*)	100% (MAFWA Endemic)	1
Fishes	Longnose Darter (*Percina nasuta*)	<25%	1
Fishes	Ozark Cavefish (*Troglichthys rosae*)	50-75%	2
Invertebrates: Butterflies and Moths	Diana Fritillary (*Argynnis diana*)	25-50%	4
Invertebrates: Crayfishes	Swamp Dwarf Crayfish (*Cambarellus puer*)	<25%	3
Invertebrates: Crayfishes	Eleven Point River Crayfish (*Faxonius wagneri*)	<25%	1
Invertebrates: Crayfishes	Appalachian Cave Crayfish (*Orconectes packardi*)	75-100%	1
Invertebrates: Crayfishes	Vernal Crayfish (*Procambarus viaeviridis*)	<25%	3
Invertebrates: Dragonflies and Damselflies	Brown Spiketail (*Cordulegaster bilineata*)	<25%	5
Invertebrates: Freshwater Mussels	Louisiana Fatmucket (*Lampsilis hydiana*)	25-50%	2
Invertebrates: Freshwater Mussels	Bleufer (*Potamilus purpuratus*)	25-50%	5

Taxa	Species	Regional Responsibility	Number of MAFWA States
Invertebrates: Freshwater Mussels	Ouachita Kidneyshell (*Ptychobranchus occidentalis*)	25-50%	2
Invertebrates: Mayflies	an ephemerellid mayfly (*Dannella provonshai*)	<25%	1
Invertebrates: Mayflies	a mayfly (*Isonychia arida*)	25-50%	4
Invertebrates: Mayflies	Juno's Flat-headed Mayfly (*Leucrocuta juno*)	25-50%	5
Invertebrates: Mayflies	Carolina Flat-headed Mayfly (*Stenacron carolina*)	25-50%	5
Mammals	Allegheny Woodrat (*Neotoma magister*)	<25%	3
Mammals	Long-tailed or Rock Shrew (*Sorex dispar blitchi*)	75-100%	1
Mammals	Swamp Rabbit (*Sylvilagus aquaticus*)	<25%	5
Reptiles	Western Mudsnake (*Farancia abacura reinwardtii*)	<25%	4

Table G-5. RSGCN Watchlist [Defer to NEAFWA & SEAFWA] species.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Birds	Red Knot (*Calidris canutus rufa*)	25-50%	12
Birds	Black Rail (*Laterallus jamaicensis*)	<25%	6
Invertebrates: Mayflies	Big-horned Spiny Crawler Mayfly (*Drunella cornuta*)	<25%	4
Invertebrates: Mayflies	West Virginia Burrowing Mayfly (*Ephemera blanda*)	25-50%	2
Invertebrates: Mayflies	Sulphur Spiny Crawler Mayfly (*Ephemerella invaria*)	25-50%	9
Invertebrates: Mayflies	Summer Spiny Crawler Mayfly (*Eurylophella aestiva*)	25-50%	5
Invertebrates: Mayflies	Walsh's Flat-headed Mayfly (*Leucrocuta walshi*)	25-50%	2
Mammals	Virginia Big-eared Bat (*Corynorhinus townsendii virginianus*)	<25%	1

Table G-6. RSGCN Watchlist [Defer to WAFWA] species.

Taxa	Species	Regional Responsibility	Number of MAFWA States
Birds	Lark Bunting (*Calamospiza melanocorys*)	<25%	6
Fishes	Mountain Sucker (*Catostomus platyrhynchus*)	<25%	1
Fishes	Redlips Darter (*Etheostoma maydeni*)	25-50%	1
Invertebrates: Crayfishes	Shrimp Crayfish (*Faxonius lancifer*)	50-75%	3
Invertebrates: Mayflies	a mayfly (*Callibaetis pictus*)	25-50%	7
Invertebrates: Mayflies	Dusky Small Minnow Mayfly (*Centroptilum conturbatum*)	25-50%	2
Invertebrates: Mayflies	a leptophlebiid mayfly (*Habrophlebiodes annulata*)	25-50%	1
Invertebrates: Mayflies	Western Howdy Mayfly (*Isonychia campestris*)	25-50%	2
Invertebrates: Mayflies	Saskatchewan Brush-legged Mayfly (*Lachlania saskatchewanensis*)	25-50%	2
Invertebrates: Mayflies	a mayfly (*Neochoroterpes oklahoma*)	25-50%	4
Invertebrates: Mayflies	Gregarious Prong-gilled Mayfly (*Paraleptophlebia gregalis*)	<25%	1
Invertebrates: Mayflies	a small minnow mayfly (*Plauditus texanus*)	25-50%	1
Invertebrates: Mayflies	Wavy Flat-headed Mayfly (*Rhithrogena undulata*)	<25%	2
Invertebrates: Mayflies	a stout crawler mayfly (*Tricorythodes fictus*)	25-50%	2

APPENDIX H. RSGCN AND PROPOSED RSGCN THAT ARE MIDWEST ENDEMIC

Table H-1. Midwest RSGCN and Proposed RSGCN that are endemic to the MAFWA region, with their concern levels and RSGCN status, in alphabetical order of scientific name by taxa.

Taxa	Species	Concern Level	RSGCN Status
Fishes	Hoosier Cavefish (*Amblyopsis hoosieri*)	Very High	RSGCN
Fishes	Northern Cavefish (*Amblyopsis spelaea*)	High	RSGCN
Fishes	Ives Lake Cisco (*Coregonus hubbsi*)	Very High	RSGCN
Fishes	Shortjaw Cisco (*Coregonus zenithicus*)	Very High	RSGCN
Fishes	Siskiwit Lake Cisco (*Coregonus zenithicus bartletti*)	Very High	RSGCN
Fishes	Shawnee Darter (*Etheostoma tecumsehi*)	High	RSGCN
Fishes	Eastern Slim Minnow (*Pimephales tenellus parviceps*)	High	RSGCN
Invertebrates: Butterflies and Moths	a grass miner moth (*Agonopterix pergandeella*)	High	Proposed RSGCN
Invertebrates: Butterflies and Moths	a noctuid moth (*Bagisara gulnare*)	Very High	RSGCN
Invertebrates: Butterflies and Moths	Michigan Dune Dart Moth (*Copablepharon michiganensis*)	Very High	RSGCN
Invertebrates: Butterflies and Moths	Dakota Skipper (*Hesperia dacotae*)	Very High	RSGCN
Invertebrates: Butterflies and Moths	Poweshiek Skipperling (*Oarisma poweshiek*)	Very High	RSGCN
Invertebrates: Butterflies and Moths	Culvers Root Borer (*Papaipema sciata*)	High	RSGCN
Invertebrates: Caddisflies	Artesian Agapetus Caddisfly (*Agapetus artesus*)	Very High	RSGCN
Invertebrates: Caddisflies	a longhorned caddisfly (*Ceraclea erulla*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a longhorned caddisfly (*Ceraclea maccalmonti*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a caddisfly (*Cernotina ohio*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	Headwater Chilostigman Caddisfly (*Chilostigma itascae*)	Very High	RSGCN
Invertebrates: Caddisflies	Missouri Glyphopsyche Caddisfly (*Glyphopsyche missouri*)	Very High	RSGCN
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Holocentropus chellus*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Holocentropus milaca*)	Very High	RSGCN
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila danieli*)	Very High	Proposed RSGCN

Taxa	Species	Concern Level	RSGCN Status
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila howelli*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila kuehnei*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a purse casemaker caddisfly (*Hydroptila paraxella*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	Platte River Caddisfly (*Ironoquia plattensis*)	Very High	RSGCN
Invertebrates: Caddisflies	a microcaddisfly (*Neotrichia paraokopa*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a microcaddisfly (*Neotrichia staufferi*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	Unhorned Microcaddisfly (*Oxyethira ecornuta*)	Very High	RSGCN
Invertebrates: Caddisflies	an oxyethiran microcaddisfly (*Oxyethira itascae*)	Very High	RSGCN
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Plectrocnemia sabulosa*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a polycentropodid caddisfly (*Polycentropus neiswanderi*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	a leptocerid caddisfly (*Setodes truncatus*)	Very High	Proposed RSGCN
Invertebrates: Caddisflies	Athens Triaenodes Caddisfly (*Triaenodes phalacris*)	Very High	Proposed RSGCN
Invertebrates: Crayfishes	Bottlebrush Crayfish (*Barbicambarus cornutus*)	High	RSGCN
Invertebrates: Crayfishes	Dusky Mudbug (*Cambarus adustus*)	High	Proposed RSGCN
Invertebrates: Crayfishes	Brawny Crayfish (*Cambarus hazardi*)	Moderate	Proposed RSGCN
Invertebrates: Crayfishes	Freckled Crayfish (*Cambarus maculatus*)	Moderate	RSGCN
Invertebrates: Crayfishes	Cutshin Crayfish (*Cambarus taylori*)	Moderate	Proposed RSGCN
Invertebrates: Crayfishes	Crittenden Crayfish (*Faxonius bisectus*)	Very High	RSGCN
Invertebrates: Crayfishes	Indiana Crayfish (*Faxonius indianensis*)	High	RSGCN
Invertebrates: Crayfishes	Louisville Crayfish (*Faxonius jeffersoni*)	Very High	RSGCN
Invertebrates: Crayfishes	Kentucky Crayfish (*Faxonius kentuckiensis*)	High	RSGCN
Invertebrates: Crayfishes	Livingston Crayfish (*Faxonius margorectus*)	High	RSGCN
Invertebrates: Crayfishes	Leopard Crayfish (*Faxonius pardalotus*)	High	Proposed RSGCN
Invertebrates: Crayfishes	Big Creek Crayfish (*Faxonius peruncus*)	Very High	RSGCN
Invertebrates: Crayfishes	St. Francis River Crayfish (*Faxonius quadruncus*)	Very High	RSGCN

Taxa	Species	Concern Level	RSGCN Status
Invertebrates: Crayfishes	Little Wabash Crayfish (*Faxonius stannardi*)	High	RSGCN
Invertebrates: Crayfishes	Caney Mountain Cave Crayfish (*Faxonius stygocaneyi*)	Very High	RSGCN
Invertebrates: Dragonflies and Damselflies	Sioux Snaketail (*Ophiogomphus smithi*)	High	RSGCN
Invertebrates: Dragonflies and Damselflies	Hine's Emerald (*Somatochlora hineana*)	Very High	RSGCN
Invertebrates: Freshwater Mussels	White Catspaw (*Epioblasma perobliqua*)	Very High	RSGCN
Invertebrates: Freshwater Mussels	Higgins Eye (*Lampsilis higginsii*)	Very High	RSGCN
Invertebrates: Mayflies	a mayfly (*Apobaetis lakota*)	High	RSGCN
Invertebrates: Mayflies	Fox Small Square-gilled Mayfly (*Cercobrachys fox*)	High	RSGCN
Invertebrates: Mayflies	Wisconsin Small Square-gilled Mayfly (*Cercobrachys lilliei*)	Very High	RSGCN
Invertebrates: Mayflies	a sand-filtering mayfly (*Homoeoneuria ammophila*)	High	RSGCN
Invertebrates: Mayflies	Konza Prairie Mayfly (*Leptophlebia konza*)	Very High	RSGCN
Invertebrates: Mayflies	a prongill mayfly (*Paraleptophlebia sticta*)	Very High	RSGCN
Invertebrates: Mayflies	Robust Pentagenian Burrowing Mayfly (*Pentagenia robusta*)	Very High	RSGCN
Invertebrates: Stoneflies	Kentucky Stone (*Acroneuria hitchcocki*)	Very High	Proposed RSGCN
Invertebrates: Stoneflies	Crescent Stripetail (*Isoperla emarginata*)	High	Proposed RSGCN
Invertebrates: Stoneflies	Minnesota Stripetail (*Isoperla maxana*)	High	Proposed RSGCN
Invertebrates: Stoneflies	a needlefly (*Leuctra schusteri*)	Very High	Proposed RSGCN
Invertebrates: Stoneflies	Ohio Stone (*Neoperla gaufini*)	Very High	Proposed RSGCN
Invertebrates: Stoneflies	Dakota Stone (*Perlesta dakota*)	Moderate	RSGCN
Invertebrates: Stoneflies	Two-lined Stone (*Perlesta golconda*)	Moderate	RSGCN
Invertebrates: Stoneflies	Wabash Stone (*Perlesta ouabache*)	Moderate	RSGCN
Invertebrates: Stoneflies	Pawnee Stone (*Perlesta xube*)	High	RSGCN
Invertebrates: Stoneflies	Karst Forestfly (*Soyedina calcarea*)	Very High	Proposed RSGCN
Mammals	Kentucky Red-backed Vole (*Myodes gapperi maurus*)	Moderate	RSGCN
Mammals	Cheyenne Northern Pocket Gopher (*Thomomys talpoides cheyennensis*)	High	RSGCN

Taxa	Species	Concern Level	RSGCN Status
Mammals	Pierre Northern Pocket Gopher (*Thomomys talpoides pierreicolus*)	High	RSGCN
Reptiles	Plain-bellied Watersnake (Copperbelly pop.) (*Nerodia erythrogaster neglecta*)	Very High	RSGCN
Reptiles	Lake Erie Watersnake (*Nerodia sipedon insularum*)	Moderate	RSGCN
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	Moderate	RSGCN

APPENDIX I. SPECIES WITH OVERRIDING FACTORS

Midwest RSGCN taxa teams identified Responsibility Overriding Factors (ROF) and/or Concern Overriding Factors (COF) as justification to select RSGCN when the regional responsibility or conservation concern criteria, respectively, were not met. Appendix A (MAFWA RSGCN Selection Criteria and Methodology) describes the use of Overriding Factors in RSGCN selection by the taxa teams. Appendix C (Glossary) defines each of the Overriding Factors.

The ROF, with the table listing RSGCN and Proposed RSGCN with those factors, are:

- Highly Imperiled (Table I-1)
- Core Population (Table I-2)
- Migratory Species (Table I-3)
- Climate Change Range Shift (Table I-4)
- Disjunct Population (Table I-5)
- Stewardship Priority (Table I-6)

The COF, with the table listing RSGCN and Proposed RSGCN with those factors, are:

- Emerging Threats (Table I-7)
- Climate Vulnerable (Table I-8)
- Stronghold Species (Table I-9)
- Keystone Species (Table I-10)
- Genetic Distinctiveness (Table I-11)
- Cultural Values (no RSGCN or Proposed RSGCN identified)

Note that other RSGCN or Proposed RSGCN may also exhibit these factors but qualified as RSGCN or Proposed RSGCN based on both the regional responsibility and concern selection criteria, obviating the need for the taxa teams to identify ROF or COF in their selection as RSGCN or Proposed RSGCN. Species identified as RSGCN or Proposed RSGCN with Overriding Factors may have multiple Overriding Factors listed.

Table I-1. Seventy-four (74) species were identified as RSGCN or Proposed RSGCN with a Highly Imperiled ROF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*)	RSGCN	25-50%	High
Amphibians	Crawfish Frog (*Lithobates areolatus*)	RSGCN	25-50%	High
Bees	Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	RSGCN	25-50%	Very High
Bees	Interrupted Cuckoo Nomad Bee (*Epeolus interruptus*)	Proposed RSGCN	25-50%	Moderate
Bees	a leafcutter bee (*Megachile ingenua*)	RSGCN	75-100%	High
Birds	Grasshopper Sparrow (Ammodramus savannarum)	RSGCN	25-50%	Moderate
Birds	LeConte's Sparrow (*Ammospiza leconteii*)	RSGCN	25-50%	High
Birds	Sprague's Pipit (*Anthus spragueii*)	RSGCN	25-50%	High
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	RSGCN	25-50%	Moderate
Birds	Henslow's Sparrow (*Centronyx henslowii*)	RSGCN	25-50%	High
Birds	Chimney Swift (*Chaetura pelagica*)	RSGCN	25-50%	Moderate
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Birds	Black Tern (*Chlidonias niger*)	RSGCN	25-50%	High
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	RSGCN	25-50%	Moderate
Birds	Yellow Rail (*Coturnicops noveboracensis*)	RSGCN	25-50%	High
Birds	Bobolink (*Dolichonyx oryzivorus*)	RSGCN	25-50%	Moderate
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	25-50%	High
Birds	Whooping Crane (*Grus americana*)	RSGCN	25-50%	Very High
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	25-50%	High
Birds	Kirtland's Warbler (*Setophaga kirtlandii*)	RSGCN	50-75%	Very High
Birds	Eastern Meadowlark (*Sturnella magna*)	RSGCN	25-50%	High
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Butterflies and Moths	a tortricid moth (*Ancylis semiovana*)	RSGCN	25-50%	High
Butterflies and Moths	New Jersey Tea Inchworm (*Apodrepanulatrix liberaria*)	RSGCN	25-50%	Moderate

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Butterflies and Moths	Frosted Elfin (*Callophrys irus*)	RSGCN	25-50%	Very High
Butterflies and Moths	Mottled Duskywing (*Erynnis martialis*)	RSGCN	25-50%	High
Butterflies and Moths	The Starry Campion Moth (*Hadena ectypa*)	RSGCN	25-50%	High
Butterflies and Moths	Cobweb Skipper (*Hesperia metea*)	RSGCN	25-50%	High
Butterflies and Moths	Barrens Metarranthis Moth (*Metarranthis apiciaria*)	RSGCN	25-50%	Very High
Butterflies and Moths	Ozark Swallowtail (*Papilio joanae*)	RSGCN	50-75%	High
Butterflies and Moths	Appalachian Grizzled Skipper (*Pyrgus centaureae wyandot*)	RSGCN	25-50%	Very High
Crayfishes	Big South Fork Crayfish (*Cambarus bouchardi*)	RSGCN	25-50%	Very High
Crayfishes	Allegheny Crayfish (*Faxonius obscurus*)	Proposed RSGCN	25-50%	Moderate
Dragonflies and Damselflies	Ozark Clubtail (*Gomphurus ozarkensis*)	Proposed RSGCN	25-50%	High
Dragonflies and Damselflies	Elfin Skimmer (*Nannothemis bella*)	RSGCN	25-50%	High
Dragonflies and Damselflies	Pygmy Snaketail (*Ophiogomphus howei*)	RSGCN	50-75%	High
Dragonflies and Damselflies	Quebec Emerald (*Somatochlora brevicincta*)	RSGCN	25-50%	Moderate
Fishes	Crystal Darter (*Crystallaria asprella*)	RSGCN	25-50%	High
Fishes	Tuxedo Darter (*Etheostoma lemniscatum*)	RSGCN	25-50%	Very High
Fishes	Tonguetied Minnow (*Exoglossum laurae*)	Proposed RSGCN	25-50%	High
Fishes	Ohio Lamprey (*Ichthyomyzon bdellium*)	RSGCN	25-50%	High
Fishes	Peppered Chub (*Macrhybopsis tetranema*)	RSGCN	25-50%	Very High
Fishes	Longhead Darter (*Percina macrocephala*)	RSGCN	25-50%	Very High
Fishes	Flathead Chub (*Platygobio gracilis*)	RSGCN	25-50%	High
Freshwater Mussels	Cracking Pearlymussel (*Hemistena lata*)	RSGCN	25-50%	Very High
Freshwater Mussels	Pink Mucket (*Lampsilis abrupta*)	RSGCN	25-50%	Very High
Freshwater Mussels	Ring Pink (*Obovaria retusa*)	RSGCN	25-50%	Very High
Freshwater Mussels	Littlewing Pearlymussel (*Pegias fabula*)	RSGCN	25-50%	Very High

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Freshwater Mussels	Orangefoot Pimpleback (*Plethobasus cooperianus*)	RSGCN	25-50%	Very High
Freshwater Mussels	Fluted Kidneyshell (*Ptychobranchus subtentus*)	RSGCN	25-50%	Very High
Freshwater Mussels	Winged Mapleleaf (*Quadrula fragosa*)	RSGCN	25-50%	Very High
Freshwater Mussels	Rabbitsfoot (*Theliderma cylindrica*)	RSGCN	25-50%	Very High
Mammals	White-tailed Jackrabbit (*Lepus townsendii*)	RSGCN	25-50%	Moderate
Mammals	Gray Myotis (*Myotis grisescens*)	RSGCN	25-50%	High
Mammals	Little Brown Myotis (*Myotis lucifugus*)	RSGCN	25-50%	Very High
Mammals	Northern Long-eared Bat (*Myotis septentrionalis*)	RSGCN	25-50%	Very High
Mammals	Tricolored Bat (*Perimyotis subflavus*)	RSGCN	25-50%	Very High
Mammals	Eastern Spotted Skunk (*Spilogale putorius*)	RSGCN	25-50%	High
Mammals	Plains Spotted Skunk (*Spilogale putorius interrupta*)	RSGCN	25-50%	High
Mayflies	a small square-gilled mayfly (*Cercobrachys etowah*)	Proposed RSGCN	50-75%	High
Mayflies	American Prong-gilled Mayfly (*Habrophlebiodes americana*)	RSGCN	50-75%	High
Mayflies	Straight Hex Burrowing Mayfly (*Hexagenia rigida*)	Proposed RSGCN	50-75%	Moderate
Mayflies	Boreal Cleft-footed Minnow Mayfly (*Metretopus borealis*)	RSGCN	50-75%	Very High
Mayflies	Frison's Serratellan Mayfly (Serratella *frisoni*)	RSGCN	50-75%	Very High
Reptiles	Spotted Turtle (*Clemmys guttata*)	RSGCN	25-50%	High
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	25-50%	Moderate
Reptiles	Wood Turtle (*Glyptemys insculpta*)	RSGCN	25-50%	High
Reptiles	Dusty Hog-nosed Snake (*Heterodon gloydi*)	RSGCN	25-50%	Very High
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	RSGCN	50-75%	High
Stoneflies	Illinois Stone (*Acroneuria filicis*)	RSGCN	25-50%	Very High
Stoneflies	Holarctic Springfly (*Arcynopteryx dichroa*)	RSGCN	25-50%	Very High
Stoneflies	Rock Island Springfly (*Isogenoides varians*)	RSGCN	25-50%	Very High
Stoneflies	Plains Stripetail (*Isoperla longiseta*)	Proposed RSGCN	25-50%	Very High

Table I-2. Fifty-two (52) species were identified as RSGCN or Proposed RSGCN with a Core Population ROF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Western Tiger Salamander (*Ambystoma mavortium*)	Proposed RSGCN	25-50%	Moderate
Amphibians	Green Salamander (*Aneides aeneus*)	RSGCN	25-50%	Moderate
Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	RSGCN	25-50%	High
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	25-50%	Moderate
Birds	LeConte's Sparrow (*Ammospiza leconteii*)	RSGCN	25-50%	High
Birds	Nelson's Sparrow (*Ammospiza nelsoni*)	RSGCN	25-50%	High
Birds	Upland Sandpiper (*Bartramia longicauda*)	RSGCN	25-50%	Moderate
Birds	Henslow's Sparrow (*Centronyx henslowii*)	RSGCN	25-50%	High
Birds	Chimney Swift (*Chaetura pelagica*)	RSGCN	25-50%	Moderate
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Birds	Black Tern (*Chlidonias niger*)	RSGCN	25-50%	High
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	RSGCN	25-50%	Moderate
Birds	Northern Bobwhite (*Colinus virginianus*)	RSGCN	25-50%	Moderate
Birds	Yellow Rail (*Coturnicops noveboracensis*)	RSGCN	25-50%	High
Birds	Bobolink (*Dolichonyx oryzivorus*)	RSGCN	25-50%	Moderate
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	25-50%	High
Birds	Whooping Crane (*Grus americana*)	RSGCN	25-50%	Very High
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	25-50%	High
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	25-50%	High
Birds	Kirtland's Warbler (*Setophaga kirtlandii*)	RSGCN	50-75%	Very High
Birds	Western Meadowlark (*Sturnella neglecta*)	RSGCN	<25%	Moderate
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Butterflies and Moths	Doll's Dagger Moth (*Acronicta dolli*)	RSGCN	50-75%	Moderate

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Butterflies and Moths	Persius Duskywing (*Erynnis persius persius*)	RSGCN	25-50%	High
Crayfishes	Big South Fork Crayfish (*Cambarus bouchardi*)	RSGCN	25-50%	Very High
Crayfishes	Big Sandy Crayfish (*Cambarus callainus*)	Proposed RSGCN	50-75%	Very High
Dragonflies and Damselflies	Pygmy Snaketail (*Ophiogomphus howei*)	RSGCN	50-75%	High
Dragonflies and Damselflies	Spatterdock Darner (*Rhionaeschna mutata*)	RSGCN	50-75%	High
Dragonflies and Damselflies	Gray Petaltail (*Tachopteryx thoreyi*)	RSGCN	25-50%	High
Fishes	Ohio Lamprey (*Ichthyomyzon bdellium*)	RSGCN	25-50%	High
Fishes	Flathead Chub (*Platygobio gracilis*)	RSGCN	25-50%	High
Fishes	Blackfin Sucker (*Thoburnia atripinnis*)	RSGCN	25-50%	High
Freshwater Mussels	Pyramid Pigtoe (*Pleurobema rubrum*)	RSGCN	25-50%	Very High
Freshwater Mussels	Winged Mapleleaf (*Quadrula fragosa*)	RSGCN	25-50%	Very High
Mammals	Plains Spotted Skunk (*Spilogale putorius interrupta*)	RSGCN	25-50%	High
Mayflies	Striped Comb Minnow Mayfly (*Ameletus lineatus*)	RSGCN	50-75%	Moderate
Mayflies	Fork-headed Armored Mayfly (*Baetisca obesa*)	RSGCN	50-75%	Moderate
Mayflies	White Small Minnow Mayfly (*Centroptilum album*)	RSGCN	25-50%	Moderate
Mayflies	Forky Small Minnow Mayfly (*Centroptilum bifurcatum*)	RSGCN	25-50%	Moderate
Mayflies	Victoria's Small Minnow Mayfly (*Centroptilum victoriae*)	Proposed RSGCN	50-75%	Moderate
Mayflies	Simple Spiny Crawler Mayfly (*Dannella simplex*)	RSGCN	25-50%	Moderate
Mayflies	Brown Spiny Crawler Mayfly (*Eurylophella funeralis*)	RSGCN	50-75%	Moderate
Mayflies	a small minnow mayfly (*Plauditus veteris*)	RSGCN	50-75%	Moderate
Mayflies	Painted Small Minnow Mayfly (*Procloeon rubropictum*)	Proposed RSGCN	50-75%	Moderate
Mayflies	Hobbs's Small Minnow Mayfly (*Procloeon rufostrigatum*)	Proposed RSGCN	50-75%	Moderate
Mayflies	White Sand-river Mayfly (*Pseudiron centralis*)	RSGCN	50-75%	Moderate
Mayflies	Frison's Serratellan Mayfly (*Serratella frisoni*)	RSGCN	50-75%	Very High

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Mayflies	a primitive minnow mayfly (*Siphlonurus minnoi*)	RSGCN	50-75%	Moderate
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	RSGCN	50-75%	High
Reptiles	Western Massasauga (*Sistrurus tergeminus*)	RSGCN	25-50%	High

Table I-3. Twenty-six (26) species were identified as RSGCN or Proposed RSGCN with a Migratory Species ROF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	25-50%	Moderate
Birds	LeConte's Sparrow (*Ammospiza leconteii*)	RSGCN	25-50%	High
Birds	Nelson's Sparrow (*Ammospiza nelsoni*)	RSGCN	25-50%	High
Birds	Sprague's Pipit (*Anthus spragueii*)	RSGCN	25-50%	High
Birds	Short-eared Owl (*Asio flammeus*)	RSGCN	<25%	Moderate
Birds	Upland Sandpiper (*Bartramia longicauda*)	RSGCN	25-50%	Moderate
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	RSGCN	25-50%	Moderate
Birds	Henslow's Sparrow (*Centronyx henslowii*)	RSGCN	25-50%	High
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Birds	Black Tern (*Chlidonias niger*)	RSGCN	25-50%	High
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	RSGCN	25-50%	Moderate
Birds	Yellow Rail (*Coturnicops noveboracensis*)	RSGCN	25-50%	High
Birds	Bobolink (*Dolichonyx oryzivorus*)	RSGCN	25-50%	Moderate
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	25-50%	High
Birds	Whooping Crane (*Grus americana*)	RSGCN	25-50%	Very High
Birds	Marbled Godwit (*Limosa fedoa*)	RSGCN	<25%	Moderate
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	25-50%	High
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	25-50%	High
Birds	Kirtland's Warbler (*Setophaga kirtlandii*)	RSGCN	50-75%	Very High
Birds	Interior Least Tern (*Sternula antillarum athalassos*)	RSGCN	25-50%	High
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Butterflies and Moths	Monarch (*Danaus plexippus*)	RSGCN	25-50%	Moderate
Mammals	Silver-haired Bat (*Lasionycteris noctivagans*)	RSGCN	25-50%	Moderate
Mammals	Eastern Red Bat (*Lasiurus borealis*)	RSGCN	25-50%	High
Mammals	Hoary Bat (*Lasiurus cinereus*)	RSGCN	25-50%	High

Table I-4. Fifteen (15) species were identified as RSGCN or Proposed RSGCN with a Climate Change Range Shift ROF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Four-toed Salamander (*Hemidactylium scutatum*)	RSGCN	25-50%	Moderate
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	25-50%	Moderate
Caddisflies	Sideways Humpless Caddisfly (*Brachycentrus lateralis*)	RSGCN	25-50%	High
Caddisflies	Stalked Weighted-case Caddisfly (*Goera stylata*)	RSGCN	25-50%	High
Caddisflies	a hydropsychid caddisfly (*Homoplectra doringa*)	RSGCN	25-50%	Moderate
Crayfishes	Mammoth Spring Crayfish (*Faxonius marchandi*)	RSGCN	25-50%	Very High
Crayfishes	Williams' Crayfish (*Faxonius williamsi*)	RSGCN	25-50%	High
Dragonflies and Damselflies	Elfin Skimmer (*Nannothemis bella*)	RSGCN	25-50%	High
Dragonflies and Damselflies	Acuminate Snaketail (*Ophiogomphus acuminatus*)	Proposed RSGCN	50-75%	Moderate
Dragonflies and Damselflies	Spatterdock Darner (*Rhionaeschna mutata*)	RSGCN	50-75%	High
Dragonflies and Damselflies	Quebec Emerald (*Somatochlora brevicincta*)	RSGCN	25-50%	Moderate
Dragonflies and Damselflies	Ozark Emerald (*Somatochlora ozarkensis*)	RSGCN	25-50%	High
Mammals	White-tailed Jackrabbit (*Lepus townsendii*)	RSGCN	25-50%	Moderate
Mammals	Gray Myotis (*Myotis grisescens*)	RSGCN	25-50%	High
Mayflies	Central Flat-headed Mayfly (*Rhithrogena manifesta*)	Proposed RSGCN	50-75%	Moderate

Table I-5. Ten (10) species were identified as RSGCN or Proposed RSGCN with a Disjunct Population ROF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Butterflies and Moths	Dune Cutworm Moth (*Euxoa aurulenta*)	RSGCN	25-50%	Moderate
Butterflies and Moths	Chryxus Arctic (*Oeneis chryxus*)	RSGCN	25-50%	High
Caddisflies	Ladoga Net-spinning Caddisfly (*Arctopsyche ladogensis*)	Proposed RSGCN	25-50%	Very High
Mayflies	American Sand-burrowing Mayfly (*Dolania americana*)	RSGCN	50-75%	Very High
Reptiles	Spotted Turtle (*Clemmys guttata*)	RSGCN	25-50%	High
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (*Kinosternon flavescens*)	RSGCN	<25%	High
Reptiles	Lake Erie Watersnake (*Nerodia sipedon insularum*)	RSGCN	100% (MAFWA Endemic)	Moderate
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	RSGCN	100% (MAFWA Endemic)	Moderate
Reptiles	Red-bellied Snake (Black Hills pop.) (*Storeria occipitomaculata pahasapae*)	RSGCN	50-75%	Moderate
Stoneflies	Holarctic Springfly (*Arcynopteryx dichroa*)	RSGCN	25-50%	Very High

Table I-6. Thirteen (13) species were identified as RSGCN or Proposed RSGCN with a Stewardship Priority ROF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Bees	American Bumble Bee (*Bombus pensylvanicus*)	RSGCN	25-50%	High
Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	RSGCN	25-50%	High
Birds	Eastern Whip-poor-will (*Antrostomus vociferus*)	RSGCN	25-50%	High
Birds	Northern Bobwhite (*Colinus virginianus*)	RSGCN	25-50%	Moderate
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Butterflies and Moths	Dusted Skipper (*Atrytonopsis hianna*)	RSGCN	50-75%	Moderate
Butterflies and Moths	Mottled Duskywing (*Erynnis martialis*)	RSGCN	25-50%	High
Butterflies and Moths	Persius Duskywing (*Erynnis persius persius*)	RSGCN	25-50%	High
Butterflies and Moths	Appalachian Grizzled Skipper (*Pyrgus centaureae wyandot*)	RSGCN	25-50%	Very High
Caddisflies	Narrow Giant Caddisfly (*Ptilostomis angustipennis*)	Proposed RSGCN	25-50%	Moderate
Caddisflies	Aba's Long-horned Caddisfly (*Triaenodes aba*)	Proposed RSGCN	25-50%	Moderate
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (*Kinosternon flavescens*)	RSGCN	<25%	High
Stoneflies	Robust Springfly (*Diploperla robusta*)	RSGCN	25-50%	High

Table I-7. Fifty-four (54 species were identified as RSGCN or Proposed RSGCN with an Emerging Threats COF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Blanchard's Cricket Frog (*Acris blanchardi*)	RSGCN	50-75%	High
Amphibians	Ringed Salamander (*Ambystoma annulatum*)	RSGCN	50-75%	Moderate
Amphibians	Blue-spotted Salamander (*Ambystoma laterale*)	RSGCN	50-75%	Moderate
Amphibians	Green Salamander (*Aneides aeneus*)	RSGCN	25-50%	Moderate
Amphibians	Four-toed Salamander (*Hemidactylium scutatum*)	RSGCN	25-50%	Moderate
Amphibians	Crawfish Frog (*Lithobates areolatus*)	RSGCN	25-50%	High
Amphibians	Common Mudpuppy (*Necturus maculosus*)	RSGCN	50-75%	Moderate
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	25-50%	Moderate
Birds	Eastern Whip-poor-will (*Antrostomus vociferus*)	RSGCN	25-50%	High
Birds	Short-eared Owl (*Asio flammeus*)	RSGCN	<25%	Moderate
Birds	Upland Sandpiper (*Bartramia longicauda*)	RSGCN	25-50%	Moderate
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	RSGCN	25-50%	Moderate
Birds	Henslow's Sparrow (*Centronyx henslowii*)	RSGCN	25-50%	High
Birds	Chimney Swift (*Chaetura pelagica*)	RSGCN	25-50%	Moderate
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	RSGCN	25-50%	Moderate
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	25-50%	High
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	25-50%	High
Birds	Connecticut Warbler (*Oporornis agilis*)	RSGCN	50-75%	High
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	25-50%	High
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Butterflies and Moths	Regal Fritillary (*Argynnis idalia*)	RSGCN	75-100%	Very High
Butterflies and Moths	Blazing Star Stem Borer (*Papaipema beeriana*)	RSGCN	75-100%	High
Butterflies and Moths	Ozark Swallowtail (*Papilio joanae*)	RSGCN	50-75%	High

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Crayfishes	Freckled Crayfish (*Cambarus maculatus*)	RSGCN	100% (MAFWA Endemic)	Moderate
Crayfishes	Allegheny Crayfish (*Faxonius obscurus*)	Proposed RSGCN	25-50%	Moderate
Crayfishes	Northern Clearwater Crayfish (*Faxonius propinquus*)	RSGCN	50-75%	Moderate
Dragonflies and Damselflies	Green-faced Clubtail (*Hylogomphus viridifrons*)	RSGCN	75-100%	Moderate
Dragonflies and Damselflies	Acuminate Snaketail (*Ophiogomphus acuminatus*)	Proposed RSGCN	50-75%	Moderate
Dragonflies and Damselflies	Pygmy Snaketail (*Ophiogomphus howei*)	RSGCN	50-75%	High
Dragonflies and Damselflies	Gray Petaltail (*Tachopteryx thoreyi*)	RSGCN	25-50%	High
Fishes	Western Sand Darter (*Ammocrypta clara*)	RSGCN	75-100%	Moderate
Fishes	Finescale Dace (*Chrosomus neogaeus*)	RSGCN	75-100%	Moderate
Fishes	Redside Dace (*Clinostomus elongatus*)	RSGCN	50-75%	Moderate
Fishes	Plains Topminnow (*Fundulus sciadicus*)	RSGCN	75-100%	Moderate
Fishes	Western Silvery Minnow (*Hybognathus argyritis*)	RSGCN	50-75%	Moderate
Fishes	Blacknose Shiner (*Notropis heterolepis*)	RSGCN	75-100%	High
Freshwater Mussels	Elktoe (*Alasmidonta marginata*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Wartyback (*Cyclonaias nodulata*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Purple Wartyback (*Cyclonaias tuberculata*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Butterfly Mussel (*Ellipsaria lineolata*)	RSGCN	50-75%	Moderate
Freshwater Mussels	Yellow Sandshell (*Lampsilis teres*)	RSGCN	50-75%	Moderate
Freshwater Mussels	Creek Heelsplitter (*Lasmigona compressa*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Black Sandshell (*Ligumia recta*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Kidneyshell (*Ptychobranchus fasciolaris*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Ellipse (*Venustaconcha ellipsiformis*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Little Spectaclecase (*Villosa lienosa*)	RSGCN	50-75%	Moderate
Mammals	Silver-haired Bat (*Lasionycteris noctivagans*)	RSGCN	25-50%	Moderate

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Mammals	Eastern Red Bat (*Lasiurus borealis*)	RSGCN	25-50%	High
Mammals	Hoary Bat (*Lasiurus cinereus*)	RSGCN	25-50%	High
Mammals	Franklin's Ground Squirrel (*Poliocitellus franklinii*)	RSGCN	75-100%	Moderate
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	25-50%	Moderate
Reptiles	Plains Hog-nosed Snake (*Heterodon nasicus*)	RSGCN	50-75%	Moderate
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	RSGCN	50-75%	High
Reptiles	Butler's Gartersnake (*Thamnophis butleri*)	RSGCN	75-100%	Moderate

Table I-8. Twenty-one (21) species were identified as RSGCN or Proposed RSGCN with a Climate Vulnerable COF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Blanchard's Cricket Frog (*Acris blanchardi*)	RSGCN	50-75%	High
Amphibians	Blue-spotted Salamander (*Ambystoma laterale*)	RSGCN	50-75%	Moderate
Amphibians	Four-toed Salamander (*Hemidactylium scutatum*)	RSGCN	25-50%	Moderate
Birds	Bobolink (*Dolichonyx oryzivorus*)	RSGCN	25-50%	Moderate
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	RSGCN	25-50%	Moderate
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	25-50%	High
Birds	Connecticut Warbler (*Oporornis agilis*)	RSGCN	50-75%	High
Birds	Eastern Whip-poor-will (*Antrostomus vociferus*)	RSGCN	25-50%	High
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	RSGCN	25-50%	Very High
Butterflies and Moths	Tawny Crescent (*Phyciodes batesii*)	RSGCN	50-75%	Moderate
Caddisflies	a hydropsychid caddisfly (*Cheumatopsyche rossi*)	Proposed RSGCN	50-75%	Very High
Dragonflies and Damselflies	Acuminate Snaketail (*Ophiogomphus acuminatus*)	Proposed RSGCN	50-75%	Moderate
Fishes	Blacknose Shiner (*Notropis heterolepis*)	RSGCN	75-100%	High
Fishes	Redside Dace (*Clinostomus elongatus*)	RSGCN	50-75%	Moderate
Freshwater Mussels	Creek Heelsplitter (*Lasmigona compressa*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Ellipse (*Venustaconcha ellipsiformis*)	RSGCN	75-100%	Moderate
Mammals	Kentucky Red-backed Vole (*Myodes gapperi maurus*)	RSGCN	100% (MAFWA Endemic)	Moderate
Mammals	White-tailed Jackrabbit (*Lepus townsendii*)	RSGCN	25-50%	Moderate
Stoneflies	Holarctic Springfly (*Arcynopteryx dichroa*)	RSGCN	25-50%	Very High

Table I-9. Twenty-seven (27) species were identified as RSGCN or Proposed RSGCN with a Stronghold Species COF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Ringed Salamander (*Ambystoma annulatum*)	RSGCN	50-75%	Moderate
Amphibians	Blue-spotted Salamander (*Ambystoma laterale*)	RSGCN	50-75%	Moderate
Amphibians	Green Salamander (*Aneides aeneus*)	RSGCN	25-50%	Moderate
Amphibians	Crawfish Frog (*Lithobates areolatus*)	RSGCN	25-50%	High
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	25-50%	Moderate
Birds	Upland Sandpiper (*Bartramia longicauda*)	RSGCN	25-50%	Moderate
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	RSGCN	25-50%	Moderate
Birds	Henslow's Sparrow (*Centronyx henslowii*)	RSGCN	25-50%	High
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	RSGCN	25-50%	Moderate
Birds	Bobolink (*Dolichonyx oryzivorus*)	RSGCN	25-50%	Moderate
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	25-50%	High
Birds	Connecticut Warbler (*Oporornis agilis*)	RSGCN	50-75%	High
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	25-50%	High
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Butterflies and Moths	Regal Fritillary (*Argynnis idalia*)	RSGCN	75-100%	Very High
Butterflies and Moths	Quiet or Sweet Underwing (*Catocala dulciola*)	RSGCN	50-75%	Moderate
Butterflies and Moths	Monarch (*Danaus plexippus*)	RSGCN	25-50%	Moderate
Butterflies and Moths	a dart moth (*Dichagyris reliqua*)	RSGCN	50-75%	High
Butterflies and Moths	Mottled Duskywing (*Erynnis martialis*)	RSGCN	25-50%	High
Fishes	Plains Topminnow (*Fundulus sciadicus*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Black Sandshell (*Ligumia recta*)	RSGCN	75-100%	Moderate
Freshwater Mussels	Ellipse (*Venustaconcha ellipsiformis*)	RSGCN	75-100%	Moderate
Mammals	Franklin's Ground Squirrel (*Poliocitellus franklinii*)	RSGCN	75-100%	Moderate
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	25-50%	Moderate

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	RSGCN	50-75%	High
Reptiles	Red-bellied Snake (Black Hills pop.) (*Storeria occipitomaculata pahasapae*)	RSGCN	50-75%	Moderate
Reptiles	Butler's Gartersnake (*Thamnophis butleri*)	RSGCN	75-100%	Moderate

Table I-10. Five (5) species were identified as RSGCN or Proposed RSGCN with a Keystone Species COF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Common Mudpuppy (*Necturus maculosus*)	RSGCN	50-75%	Moderate
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	25-50%	High
Freshwater Mussels	Elktoe (*Alasmidonta marginata*)	RSGCN	75-100%	Moderate
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	25-50%	Moderate
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	RSGCN	50-75%	High

Table I-11. Fourteen (14) species were identified as RSGCN or Proposed RSGCN with a Genetic Distinctiveness COF.

Taxa	Species	RSGCN Status	Regional Responsibility	Concern Level
Amphibians	Unisexual Ambystoma Complex (*Ambystoma* sp.)	RSGCN	75-100%	Moderate
Birds	Upland Sandpiper (*Bartramia longicauda*)	RSGCN	25-50%	Moderate
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	25-50%	High
Butterflies and Moths	Dune Cutworm Moth (*Euxoa aurulenta*)	RSGCN	25-50%	Moderate
Butterflies and Moths	Chryxus Arctic (*Oeneis chryxus*)	RSGCN	25-50%	High
Butterflies and Moths	Appalachian Grizzled Skipper (*Pyrgus centaureae wyandot*)	RSGCN	25-50%	Very High
Caddisflies	Athens Triaenodes Caddisfly (*Triaenodes phalacris*)	Proposed RSGCN	100% (MAFWA Endemic)	Very High
Dragonflies and Damselflies	Green-faced Clubtail (*Hylogomphus viridifrons*)	RSGCN	75-100%	Moderate
Dragonflies and Damselflies	Pygmy Snaketail (*Ophiogomphus howei*)	RSGCN	50-75%	High
Dragonflies and Damselflies	Quebec Emerald (*Somatochlora brevicincta*)	RSGCN	25-50%	Moderate
Mammals	Eastern Spotted Skunk (*Spilogale putorius*)	RSGCN	25-50%	High
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	25-50%	Moderate
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (*Kinosternon flavescens*)	RSGCN	<25%	High
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	RSGCN	100% (MAFWA Endemic)	Moderate

APPENDIX J. MIDWEST RSGCN BIRDS THAT ARE FOCAL OR PRIORITY SPECIES

The Midwest Bird Taxa Team identified additional regional responsibilities for RSGCN Birds and RSGCN Watchlist Birds during the breeding, migration, and wintering seasons, using data from PIF (2016) and its associated ACAD (https://pif.birdconservancy.org/), range maps from Birds of the World (https://birdsoftheworld.org/bow/home), and extrapolations as needed from taxonomic experts. As a result, the RSGCN and RSGCN Watchlist Birds have four regional responsibility metrics:

1. Geographic regional responsibility – the portion of the species' North American geographic range that occurs within the 13 MAFWA states (U.S.) and 3 MAFWA provinces (Canada).
2. Breeding regional responsibility – the portion of the species' breeding range in North America that occurs within the 13 MAFWA states (U.S.) and 3 MAFWA provinces (Canada).
3. Migration regional responsibility – the portion of the species' migration / migratory stopover range in North America that occurs within the 13 MAFWA states (U.S.) and 3 MAFWA provinces (Canada).
4. Wintering regional responsibility – the portion of the species' wintering range in North America that occurs within the 13 MAFWA states (U.S.) and 3 MAFWA provinces (Canada).

These four regional responsibilities are listed in Table J-1 for each RSGCN Bird and RSGCN Watchlist Bird.

A number of RSGCN and RSGCN Watchlist Birds also are identified as focal or priority species in multiple bird Joint Ventures (JV; Appalachian Mountains JV 2021, Central Hardwoods JV 2021, Eastern Habitat JV 2017, Northern Great Plains JV 2021, Prairie Habitat JV 2013, Prairie Pothole JV 2017, Rainwater Basin JV 2013, Soulliere et al. 2020). The list of RSGCN, Proposed RSGCN, and RSGCN Watchlist Birds that are also focal or priority species in the Joint Ventures that overlap the MAFWA region are provided in Table J-2. The birds that are RSGCN, Proposed RSGCN, or RSGCN Watchlist and focal species in the Midcontinent Shorebird Conservation Initiative (MSCI) or are Birds of Conservation Concern (USFWS 2021) are listed in Table J-3.

Table J-1. The regional responsibilities (RR) of RSGCN Birds and RSGCN Watchlist Birds in the MAFWA region, including 13 states and 3 Canadian provinces.

Species	Geographic RR	Breeding RR	Migratory RR	Wintering RR	RSGCN Status
Grasshopper Sparrow (***Ammodramus savannarum***)	25-50%	50-75%	50-75%	0%	RSGCN
LeConte's Sparrow (***Ammospiza leconteii***)	25-50%	50-75%	75-100%	0%	RSGCN
Nelson's Sparrow (***Ammospiza nelsoni***)	25-50%	75-100%	50-75%	0%	RSGCN
Sprague's Pipit (***Anthus spragueii***)	25-50%	25-50%	50-75%	0%	RSGCN
Eastern Whip-poor-will (***Antrostomus vociferus***)	25-50%	25-50%	25-50%	0%	RSGCN
Short-eared Owl (***Asio flammeus***)	< 25%	1-25%	25-50%	25-50%	RSGCN
Upland Sandpiper (***Bartramia longicauda***)	25-50%	75-100%	75-100%	0%	RSGCN
Lark Bunting (***Calamospiza melanocorys***)	< 25%	25-50%	25-50%	1-25%	Watchlist [Defer to WAFWA]
Chestnut-collared Longspur (***Calcarius ornatus***)	25-50%	25-50%	50-75%	1-25%	Watchlist [Assessment Priority]
Smith's Longspur (***Calcarius pictus***)	25-50%	1-25%	75-100%	25-50%	Watchlist [Defer to SEAFWA]
Red Knot (***Calidris canutus rufa***)	1-25%	0%	1-25%	0%	Watchlist [Defer to NEAFWA/SEAFWA]
Semipalmated Sandpiper (***Calidris pusilla***)	25-50%	1-25%	25-50%	0%	Watchlist [Assessment Priority]
Buff-breasted Sandpiper (***Calidris subruficollis***)	25-50%	0%	50-75%	0%	RSGCN
Baird's Sparrow (***Centronyx bairdii***)	< 25%	25-50%	1-25%	0%	Watchlist [Assessment Priority]
Henslow's Sparrow (***Centronyx henslowii***)	25-50%	75-100%	75-100%	0%	RSGCN

Species	Geographic RR	Breeding RR	Migratory RR	Wintering RR	RSGCN Status
Chimney Swift (***Chaetura pelagica***)	25-50%	25-50%	25-50%	0%	RSGCN
Piping Plover (Great Lakes pop.) (***Charadrius melodus***)	50-75%	75-100%	50-75%	0%	RSGCN
Piping Plover (northern Great Plains pop.) (***Charadrius melodus***)	50-75%	75-100%	50-75%	0%	RSGCN
Black Tern (***Chlidonias niger***)	25-50%	50-75%		0%	RSGCN
Black-billed Cuckoo (***Coccyzus erythropthalmus***)	25-50%	50-75%	50-75%	0%	RSGCN
Northern Bobwhite (***Colinus virginianus***)	25-50%	25-50%	n/a	25-50%	RSGCN
Yellow Rail (***Coturnicops noveboracensis***)	25-50%	50-75%	50-75%	0%	RSGCN
Bobolink (***Dolichonyx oryzivorus***)	25-50%	75-100%	50-75%	0%	RSGCN
Rusty Blackbird (***Euphagus carolinus***)	25-50%	1-25%	50-75%	25-50%	RSGCN
Kentucky Warbler (***Geothlypis formosa***)	25-50%	1-25%	1-25%	0%	Watchlist [Defer to SEAFWA]
Whooping Crane (***Grus americana***)	25-50%	1-25%	75-100%	0%	RSGCN
Wood Thrush (***Hylocichla mustelina***)	25-50%	25-50%	25-50%	0%	Watchlist [Assessment Priority]
Migrant Loggerhead Shrike (***Lanius ludovicianus migrans***)	50-75%	50-75%	25-50%		RSGCN
Black Rail (***Laterallus jamaicensis***)	< 25%	1-25%	25-50%	0%	Watchlist [Defer to NEAFWA/SEAFWA]
Marbled Godwit (***Limosa fedoa***)	25-50%	25-50%	25-50%	0%	RSGCN
Red-headed Woodpecker (***Melanerpes erythrocephalus***)	25-50%	50-75%	<25%	<25%	RSGCN
Connecticut Warbler (***Oporornis agilis***)	25-50%	75-100%	75-100%	0%	RSGCN

Species	Geographic RR	Breeding RR	Migratory RR	Wintering RR	RSGCN Status
Prothonotary Warbler (***Protonotaria citrea***)	25-50%	<25%	<25%	0%	Watchlist [Defer to SEAFWA]
King Rail (***Rallus elegans***)	<25%	<25%	<25%	0%	Watchlist [Assessment Priority]
Bank Swallow (***Riparia riparia***)	<25%	25-50%	25-50%	0%	Watchlist [Assessment Priority]
Cerulean Warbler (***Setophaga cerulea***)	25-50%	25-50%	25-50%	0%	RSGCN
Prairie Warbler (***Setophaga discolor***)	<25%	<25%	<25%	0%	Watchlist [Defer to SEAFWA]
Kirtland's Warbler (***Setophaga kirtlandii***)	50-75%	100%	75-100%	0%	RSGCN
Field Sparrow (***Spizella pusilla***)	25-50%	25-50%	50-75%	<25%	Watchlist [Assessment Priority]
Interior Least Tern (***Sternula antillarum*** athalassos)	25-50%	75-100%		0%	RSGCN
Eastern Meadowlark (***Sturnella magna***)	25-50%	25-50%	25-50%	<25%	RSGCN
Western Meadowlark (***Sturnella neglecta***)	< 25%	25-50%	25-50%	<25%	RSGCN
Willet (***Tringa semipalmata***)	25-50%	25-50%	25-50%	0%	Watchlist [Assessment Priority]
Greater Prairie-Chicken (***Tympanuchus cupido***)	75-100%	75-100%		75-100%	RSGCN
Sharp-tailed Grouse (***Tympanuchus phasianellus***)	25-50%	50-75%		50-75%	Watchlist [Assessment Priority]
Golden-winged Warbler (***Vermivora chrysoptera***)	25-50%	75-100%	75-100%	0%	RSGCN

Table J-2. RSGCN and RSGCN Watchlist birds that also have been identified as priority or focal species by Joint Ventures in the Midwest region.

Species	RSGCN Status	Prairie Habitat JV	Eastern Habitat JV	Northern Great Plains JV	Prairie Pothole JV	Upper Miss-Great Lakes JV	Rainwater Basin JV	Central Hardwoods JV	Appalachian Mountains JV
Grasshopper Sparrow (***Ammodramus savannarum***)	RSGCN	Yes		Yes	Yes		Yes	Yes	Moderate
LeConte's Sparrow (***Ammospiza leconteii***)	RSGCN	Yes							
Nelson's Sharp-tailed Sparrow (***Ammospiza nelsoni***)	RSGCN	Yes							
Sprague's pipit (***Anthus spragueii***)	RSGCN	Yes		Yes	Yes				
Eastern Whip-poor-will (***Antrostomus vociferus***)	RSGCN					Yes		Yes	High
Short-eared Owl (***Asio flammeus***)	RSGCN	Yes		Yes		Yes	Yes	Yes	Moderate
Upland Sandpiper (***Bartramia longicauda***)	RSGCN	Yes		Yes	Yes	Yes			
Lark Bunting (***Calamospiza melanocorys***)	Watchlist [Defer to WAFWA]	Yes		Yes	Yes		Yes		
Chestnut-collared Longspur (***Calcarius ornatus***)	Watchlist [Assessment Priority]	Yes		Yes	Yes				
Smith's Longspur (***Calcarius pictus***)	Watchlist [Defer to SEAFWA]								
Red Knot (***Calidris canutus rufa***)	Watchlist [Defer to NEAFWA/SEAFWA]	Yes							

Species	RSGCN Status	Prairie Habitat JV	Eastern Habitat JV	Northern Great Plains JV	Prairie Pothole JV	Upper Miss-Great Lakes JV	Rainwater Basin JV	Central Hardwoods JV	Appalachian Mountains JV
Semipalmated Sandpiper (***Calidris pusilla***)	Watchlist [Assessment Priority]	Yes							
Buff-breasted Sandpiper (***Calidris subruficollis***)	RSGCN	Yes			Yes				
Baird's Sparrow (***Centronyx bairdii***)	Watchlist [Assessment Priority]	Yes		Yes	Yes				
Henslow's Sparrow (***Centronyx henslowii***)	RSGCN					Yes	Yes	Yes	Highest
Chimney Swift (***Chaetura pelagica***)	RSGCN					Yes			High
Black Tern (***Chlidonias niger***)	RSGCN	Yes				Yes			
Black-billed Cuckoo (***Coccyzus erythropthalmus***)	RSGCN	Yes		Yes					High
Northern Bobwhite (***Colinus virginianus***)	RSGCN						Yes	Yes	Moderate
Yellow Rail (***Coturnicops noveboracensis***)	RSGCN	Yes				Yes			
Bobolink (***Dolichonyx oryzivorus***)	RSGCN	Yes			Yes	Yes			
Rusty Blackbird (***Euphagus carolinus***)	RSGCN					Yes			
Kentucky Warbler (***Geothlypis formosa***)	Watchlist [Defer to SEAFWA]							Yes	Highest

Species	RSGCN Status	Prairie Habitat JV	Eastern Habitat JV	Northern Great Plains JV	Prairie Pothole JV	Upper Miss-Great Lakes JV	Rainwater Basin JV	Central Hardwoods JV	Appalachian Mountains JV
Whooping Crane (***Grus americana***)	RSGCN	Yes							
Wood Thrush (***Hylocichla mustelina***)	Watchlist [Assessment Priority]					Yes		Yes	Highest
Black Rail (***Laterallus jamaicensis***)	Watchlist [Defer to NEAFWA/SEAFWA]								
Marbled Godwit (***Limosa fedoa***)	RSGCN	Yes		Yes	Yes				
Red-headed Woodpecker (***Melanerpes erythrocephalus***)	RSGCN			Yes		Yes	Yes	Yes	Moderate
Connecticut Warbler (***Oporornis agilis***)	RSGCN								
Prothonotary Warbler (***Protonotaria citrea***)	Watchlist [Defer to SEAFWA]							Yes	Moderate
King Rail (***Rallus elegans***)	Watchlist [Assessment Priority]					Yes		Yes	
Bank Swallow (***Riparia riparia***)	Watchlist [Assessment Priority]								
Cerulean Warbler (***Setophaga cerulea***)	RSGCN					Yes		Yes	Highest
Prairie Warbler (***Setophaga discolor***)	Watchlist [Defer to SEAFWA]							Yes	Highest
Kirtland's Warbler (***Setophaga kirtlandii***)	RSGCN					Yes			

Species	RSGCN Status	Prairie Habitat JV	Eastern Habitat JV	Northern Great Plains JV	Prairie Pothole JV	Upper Miss-Great Lakes JV	Rainwater Basin JV	Central Hardwoods JV	Appalachian Mountains JV
Field Sparrow (***Spizella pusilla***)	Watchlist [Assessment Priority]						Yes	Yes	High
Eastern Meadowlark (***Sturnella magna***)	RSGCN					Yes	Yes	Yes	Moderate
Western Meadowlark (***Sturnella neglecta***)	RSGCN	Yes			Yes		Yes		
Willet (***Tringa semipalmata***)	Watchlist [Assessment Priority]	Yes			Yes				
Greater Prairie-Chicken (***Tympanuchus cupido***)	RSGCN				Yes		Yes	Yes	
Sharp-tailed Grouse (***Tympanuchus phasianellus***)	Watchlist [Assessment Priority]	Yes		Yes	Yes				
Golden-winged Warbler (***Vermivora chrysoptera***)	RSGCN					Yes			Highest

Table J-3. RSGCN and RSGCN Watchlist birds that also have been identified as focal species by the Midcontinent Shorebird Conservation Initiative (MSCI) or as Birds of Conservation Concern by USFWS (2021).

Species	RSGCN Status	MSCI Focal Species	Birds of Conservation Concern
Grasshopper Sparrow (***Ammodramus savannarum***)	RSGCN		Yes
Sprague's Pipit (***Anthus spragueii***)	RSGCN		Yes
Eastern Whip-poor-will (***Antrostomus vociferus***)	RSGCN		Yes
Short-eared Owl (***Asio flammeus***)	RSGCN	Yes	Yes
Upland Sandpiper (***Bartramia longicauda***)	RSGCN		Yes
Lark Bunting (***Calamospiza melanocorys***)	Watchlist [Defer to WAFWA]		Yes
Chestnut-collared Longspur (***Calcarius ornatus***)	Watchlist [Assessment Priority]		Yes
Semipalmated Sandpiper (***Calidris pusilla***)	Watchlist [Assessment Priority]		Yes
Buff-breasted Sandpiper (***Calidris subruficollis***)	RSGCN		Yes
Baird's Sparrow (***Centronyx bairdii***)	Watchlist [Assessment Priority]		Yes
Henslow's Sparrow (***Centronyx henslowii***)	RSGCN		Yes
Chimney Swift (***Chaetura pelagica***)	RSGCN		Yes
Black Tern (***Chlidonias niger***)	RSGCN		Yes
Black-billed Cuckoo (***Coccyzus erythropthalmus***)	RSGCN		Yes
Yellow Rail (***Coturnicops noveboracensis***)	RSGCN	Yes	Yes
Bobolink (***Dolichonyx oryzivorus***)	RSGCN	Yes	Yes
Rusty Blackbird (***Euphagus carolinus***)	RSGCN		Yes
Kentucky Warbler (***Geothlypis formosa***)	Watchlist [Defer to SEAFWA]		Yes
Wood Thrush (***Hylocichla mustelina***)	Watchlist [Assessment Priority]		Yes
Migrant Loggerhead Shrike (***Lanius*** ludovicianus ***migrans***)	RSGCN		Yes
Marbled Godwit (***Limosa fedoa***)	RSGCN		Yes

Species	RSGCN Status	MSCI Focal Species	Birds of Conservation Concern
Red-headed Woodpecker (***Melanerpes erythrocephalus***)	RSGCN		Yes
Connecticut Warbler (***Oporornis agilis***)	RSGCN		Yes
Prothonotary Warbler (***Protonotaria citrea***)	Watchlist [Defer to SEAFWA]		Yes
King Rail (***Rallus elegans***)	Watchlist [Assessment Priority]		Yes
Cerulean Warbler (***Setophaga cerulea***)	RSGCN		Yes
Prairie Warbler (***Setophaga discolor***)	Watchlist [Defer to SEAFWA]		Yes
Kirtland's Warbler (***Setophaga kirtlandii***)	RSGCN		Yes
Field Sparrow (***Spizella pusilla***)	Watchlist [Assessment Priority]		Yes
Interior Least Tern (***Sternula antillarum*** athalassos)	RSGCN		Yes
Eastern Meadowlark (***Sturnella magna***)	RSGCN		Yes
Willet (***Tringa semipalmata***)	Watchlist [Assessment Priority]		Yes
Sharp-tailed Grouse (***Tympanuchus phasianellus***)	Watchlist [Assessment Priority]	Yes	
Golden-winged Warbler (***Vermivora*** chrysoptera)	RSGCN		Yes

APPENDIX K. MIDWEST EPHEMEROPTERA (MAYFLY) REPORT

The Ephemperoptera (Mayfly) Taxa Team compiled a species inventory of the known mayfly species found in the MAFWA region (Table K-1). This list includes the distribution of each species (denoted by a 1) within the region, the number of MAFWA states and provinces in which it is known to occur (Freq), and the known species distribution in North America. These data provide the Midwest states and provinces with an inventory of the mayfly species known to occur in each state. The Mayfly Taxa Team evaluated each of these 332 species to identify RSGCN, Proposed RSGCN, and RSGCN Watchlist species.

Table K-1. Mayfly species known to occur within the MAFWA region, their distribution in each of the MAFWA states and provinces, the number of MAFWA states and provinces in which each species is known to occur, and the known North American distribution of each species.

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Acanthametropus pecatonica* (Burks, 1953)**		1											1				2	USA: GA, SC, IL, WI
***Acentrella insignificans* (McDunnough, 1926)**				1					1	1		1				1	5	CAN: AB, BC, NT, SK, YT. USA: AK, AZ, CA, CO, ID, KS, MT, ND, NE, NM, NV, OR, SD, TX, UT, WA, WY
***Acentrella nadineae* (McCafferty, Waltz & Webb, 2009)**					1	1	1				1						4	USA: CT, KY, MA, MI, MN, OH, NC, PA, TN, VA, WV
Acentrella parvula	1	1	1	1		1	1		1	1	1	1	1	1	1	1	14	CAN: AB, MB, NB, ON, QC, SK. USA: AL, AR, CO, FL, GA, IA, ID, IL, IN, KS, MA, ME, MI, MN, MS, MT, NC, ND, NE, NH, NY, OH, OK, PA, SC, SD, TX, VA, WI, WV, WY

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
(McDunnough, 1932)																		
***Acentrella rallatoma* (Burian & Myers, 2011)**							1				1						2	USA: CT, MA, NH, MN, NY, OH
***Acentrella turbida* (McDunnough, 1924)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, BC, MB, NB, NS, NT, ON, QC, SK. USA: AK, AL, AR, AZ, CA, CO, CT, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY
***Acerpenna macdunnoughi* (Ide, 1937)**	1	1	1		1	1	1				1	1	1		1		10	CAN: LB, NB, NF, NS, ON, QC. USA: AR, CT, IA, IL, IN, KY, LA, MA, ME, MI, MN, MS, NC, NH, NY, OH, OK, PA, SC, SD, TN, VA, WI
***Acerpenna pygmaea* (Hagen, 1861)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, BC, MB, NB, NF, NS, NU, ON, QC, SK. USA: AL, AR, AZ, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WI, WV, WY
***Ameletus cryptostimulus* (Carle, 1978)**					1										1		2	CAN: ON. USA: KY, ME, NC, NY, PA, SC, TN, VA, VT, WV
***Ameletus lineatus* (Traver, 1932)**		1	1		1	1		1			1		1		1		8	CAN: ON, QC. USA: AL, AR, IL, IN, KY, MD, ME, MI, MO, NC, NH, OH, PA, SC, TN, VA, WI, WV
***Ameletus ludens* (Needham, 1905)**			1		1						1				1	1	5	CAN: NS, ON, QC, SK. USA: CT, IN, KY, MA, ME, MO, NH, NY, OH, PA, WV
***Ameletus oregonensis* (McDunnough, 1933)**																1	1	CAN: AB, BC, SK USA: CO, ID, MT, NV, OR, UT, WA, WY
***Ameletus subnotatus* (Eaton, 1885)**							1						1	1	1	1	5	CAN: AB, BC, LB, MB, NB, NF, NS, ON, QC, SK. USA: AZ, CA, CO, MN, MT, UT, WI, WY
***Ameletus walleyi* (Harper, 1970)**															1		1	CAN: ON, QC. USA: NH?
***Amercaenis ridens* (McDunnoughi, 1931)**	1	1		1			1	1	1	1		1			1		9	CAN: ON, QC. USA: IA, IL, KS, MN, MO, ND, NE, SD, TX

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Ametropus fragilis* (Albarda, 1878)**						1			1							1	3	CAN: AB, MB, NT, SK. USA: AK, CO, MI, MT, ND, NM, UT, WY
***Anafroptilum album* (McDunnough, 1926)**	1	1	1	1	1	1	1			1	1	1	1	1	1	1	14	CAN: BC, MB, NB, NF, ON, QC, SK. USA: AZ, CA, CO, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MO, NC, NE, NH, NM, OH, OK, OR, PA, SC, SD, TN, TX, WI
***Anafroptilum bifurcatum* (McDunnough, 1924)**	1	1	1	1	1					1			1	1	1	1	10	CAN: AB, BC, MB, ON, SK. USA: CA, CO, IA, ID, IL, IN, KS, KY, MT, NE, NV, OR, UT, WA, WI, WY
***Anafroptilum conturbatum* (McDunnough, 1929)**									1				1	1	1	1	5	CAN: AB, BC, MB, ON, SK. USA: AZ, CA, CO, ID, MT, ND, NM, OR, UT, WA, WI, WY
***Anafroptilum minor* (McDunnough, 1926)**			1	1		1		1			1		1		1		7	CAN: ON, QC. USA: AL, IN, KS, ME, MI, MO, NC, NH, NY, OH, OK, PA, SC, TX, WI
***Anafroptilum ozarkense* (Wiersema & Burian, 2000)**								1									1	USA: MO, TN
***Anafroptilum semirufum* (Wiersema & Burian, 2000)**				1											1		2	CAN: NB, ON, QC USA: KS, NH, PA
***Anafroptilum victoriae* (McDunnough, 1938)**	1		1			1					1	1	1	1	1	1	9	CAN: AB, MB, NB, NS, ON, QC, SK, USA: IA, ID, IN, ME, MI, MT, NY, OH, SD, UT, VT, WI, WY
***Analetris eximia* (Edmunds, 1972)**									1							1	2	CAN: SK. USA: MT, ND, UT, WY
Anepeorus rusticus																1	1	CAN: SK. USA: CO, MT, UT

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
(McDunnough, 1925)																		
***Anthopotamus distinctus* (Traver, 1935)**											1						1	CAN: NB, QC. USA: AL, AR, CT, GA, MA, ME, NC, NH, NY, OH, PA, SC, TN, VA, VT, WV
***Anthopotamus myops* (Walsh, 1863)**	1	1	1	1	1	1	1	1	1		1	1	1	1	1		14	CAN: MB, ON. USA: AL, AR, GA, IA, IL, IN, KS, KY, MD, ME, MI, MN, MO, NC, ND, NY, OH, OK, PA, SD, TN, VA, WI, WV
***Anthopotamus neglectus* (Traver, 1935)**								1							1		2	CAN: ON. USA: AL, AR, GA, MD, MO, MS, NY, OK, PA, TN, VA, WV
***Anthopotamus verticis* (Say, 1839)**	1	1	1		1	1	1	1			1		1		1		10	CAN: ON. USA: AR, CA, CT, DC, GA, IA, IL, IN, KY, MD, MI, MN, MO, MS, NY, OH, OK, PA, TN, VA, WI
***Apobaetis etowah* (Traver, 1935)**		1		1		1		1	1							1	6	CAN: SK. USA: CA, CO, GA, ID, IL, KS, MI, MO, MT, ND, OR, SC, TX, UT
***Apobaetis lakota* (McCafferty, 2000)**				1					1	1							3	USA: KS, ND, NE
***Arthroplea bipunctata* (McDunnough, 1924)**						1	1				1		1	1	1	1	7	CAN: MB, NB, NS, NT, ON, QC, SK. USA: CT, MA, ME, MI, MN, NH, NY, OH, PA, SC, WI
***Asioplax edmundsi* (Allen)**																1	1	CAN: AB, SK. USA: CA, CO, ID, MI, MN, MT, NM, OR, TX, UT, WI, WY
***Attenella attenuata* (McDunnough, 1925)**			1		1	1	1	1					1		1		7	CAN: NB, NS, ON, QC. USA: AL, AR, CA, CT, DE, FL, GA, ID, IN, KY, MA, ME, MI, MN, MO, NC, NH, NY, PA, SC, TN, VA, WI
***Attenella margarita* (Needham, 1927)**						1	1										2	CAN: AB, BC, NB, NS. USA: CA, CO, CT, ID, ME, MI, MN, MT, NC, NH, NM, NY, OR, PA, UT, WA, WY
***Baetis bicaudatus* (Dodds, 1923)**										1		1				1	3	CAN: AB, BC, NT, SK, YT. USA: AK, AZ, CA, CO, ID, MT, NE, NM, NV, OK, OR, SD, UT, WA, WY

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Baetis brunneicolor* (McDunnough, 1925)**	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	15	CAN: AB, MB, NB, NS, ON, PE, QC, SK. USA: AL, CO, CT, IA, ID, IL, IN, KY, MA, ME, MI, MN, MO, MT, NC, ND, NE, NH, NY, OH, PA, SC, SD, TN, VA, WA, WI, WV, WY
***Baetis bundyae* (Lehmkuhl, 1973)**						1	1							1		1	4	CAN: BC, LB, MB, NF, NT, NU, QC, SK, YT. USA: AK, CA, IL, MI, MN, WY
***Baetis flavistriga* (McDunnough, 1921 species complex)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, MB, NB, NF, NS, NT, NU, ON, PE, QC, SK, YT. USA: AK, AL, AR, CA, CO, CT, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY
***Baetis hudsonicus* (Ide, 1937)**														1	1	1	3	CAN: MB, NU, ON, SK
***Baetis intercalaris* (McDunnough, 1921)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: MB, NB, NS, ON, QC, SK. USA: AL, AR, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV, WY
***Baetis magnus* (McCafferty & Waltz, 1986)**										1		1					2	USA: AZ, CA, CO, NE, NM, NV, SD, TX, UT
***Baetis phoebus* (McDunnough, 1923)**	1	1			1	1	1							1	1	1	8	CAN: MB, NS, ON, SK, YT. USA: CO, IA, IL, KY, MA, MI, MN, NE, NH, NY, PA, TN, VT, WV
***Baetis pluto* (McDunnough, 1925)**					1	1							1	1	1		5	CAN: MB, NB, NS, ON, QC. USA: AL, FL, KY, MA, ME, MI, NC, NH, NY, PA, SC, TN, VA, WI
***Baetis rusticans* (McDunnough, 1925)**											1				1		2	CAN: AB, NB, NS, ON, QC. USA: MA, NY, OH, PA
***Baetis tricaudatus* (Dodds, 1923)**	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	15	CAN: BC, LB, MB, NB, NF, NS, NT, NU, ON, PE, QC, SK, YT. USA: AK, AL, AR, AZ, CA, CO, CT, GA, IA, ID, IL, IN, KY, ME, MI, MN, MO, MT, NC, NE, NH, NM, NV, NY, OH, OR, PA, SC, SD, TN, UT, VA, WA, WI, WV, WY
***Baetisca berneri* (Tarter & Kirchner, 1978)**					1												1	USA: KY, ME, NC, NH, PA, TN, VA, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Baetisca carolina* (Traver)**					1												1	CAN: QC. USA: GA, KY, ME, NC, NH, NY, PA, SC, TN, VA, VT, WV
***Baetisca columbiana* (Edmunds, 1960)**																1	1	CAN: AB, SK. USA: MT, WA
***Baetisca lacustris* (McDunnough, 1932)**	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	15	CAN: AB, MB, ON, QC, SK. USA: AR, CT, GA, IA, ID, IL, IN, KY, MI, ME, MN, MO, MT, ND, NE, NV, NY, OH, OK, PA, SD, TN, VA, WI, WV, WY
***Baetisca laurentina* (McDunnough, 1932)**	1	1	1			1	1	1			1		1	1	1	1	11	CAN: AB, LB, MB, NB, NF, NS, NT, ON, QC, SK. USA: AL, CT, IA, IL, IN, LA, MA, ME, MI, MN, MO, MS, NC, NH, NY, OH, PA, WI, WV
***Baetisca obesa* (Say, 1839)**	1	1	1			1	1	1			1		1	1	1		10	CAN: AB, MB, NB, NT, ON, SK. USA: AL, AR, CT, FL, GA, IA, IL, IN, LA, MA, ME, MI, MN, MO, MS, NC, NH, NY, OH, PA, SC, TX, WI
***Baetisca rubescens* (Provancher, 1978)**															1		1	CAN: LB, NF, ON, QC. USA: ME, NH, PA, VA, VT, WV
***Baetopus* sp.**					1												1	KY
***Brachycercus harrisellus* (Curtis, 1834)**				1		1	1			1		1	1		1	1	8	CAN: AB, ON, SK. USA: AK, CO, ID, KS, MI, MN, MT, NE, SD, UT, WI, WY
***Brachycercus ojibwe* (Sun & McCafferty, 2008)**							1						1		1		3	CAN: ON. USA: MN, WI
***Caenis amica* (Hagen, 1861)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, BC, MB, NB, NF, ON, PE, QC, SK. USA: AK, AL, AR, AZ, CA, CO, CT, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY
***Caenis anceps* (Traver, 1935)**	1	1	1		1	1	1	1			1		1		1		10	CAN: ON, QC. USA: AL, AR, CT, IA, IL, IN, KY, MD, ME, MI, MN, MO, NC, NY, OH, OK, PA, TN, VA, WI, WV
***Caenis bajaensis* (Allen & Murvosh, 1983)**										1							1	USA: AZ, CA, CO, NE, NM, TX, WY

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Caenis diminuta* (Walker, 1853)**	1	1		1	1	1	1		1		1		1		1	1	11	CAN: NB, NS, ON, QC, SK. USA: AL, FL, GA, IA, IL, KS, KY, LA, ME, MI, MN, MS, NC, ND, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV
***Caenis hilaris* (Say, 1839)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: MB, ON, QC, SK. USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV
***Caenis latipennis* (Banks, 1907)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, MB, NB, ON, QC, SK. USA: AL, AR, AZ, CA, CO, CT, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, WA, WI, WV, WY
***Caenis punctata* (McDunnough, 1931)**	1	1	1	1	1	1	1	1		1	1		1		1		12	CAN: NB, ON, PE, QC. USA: AL, AR, AZ, CA, CO, CT, FL, GA, IA, IL, IN, KS, KY, ME, MI, MN, MO, MS, NC, NE, NY, OH, OK, PA, SC, TN, TX, VA, WI
***Caenis tardata* (McDunnough, 1931)**	1		1		1	1	1	1	1	1		1	1	1	1	1	13	CAN: AB, MB, ON, SK. USA: AR, CA, CO, IA, ID, IN, KY, ME, MI, MN, MO, MT, ND, NE, NY, SD, VA, WI, WV
***Caenis youngi* (Roemhild, 1984)**	1	1				1	1		1	1		1	1	1	1	1	11	CAN: AB, BC, MB, NB, NT, ON, QC, SK, YT. USA: AK, CA, CO, IA, ID, IL, MI, MN, MT, ND, NE, OR, PA, SD, WA, WI, WY
***Callibaetis ferrugineus ferrugineus* (Walsh, 1862)**	1	1	1			1	1	1	1	1	1	1	1	1	1	1	14	CAN: MB, ON, SK. USA: IA, IL, IN, MI, MN, MO, ND, NE, NY, OH, PA, SD, WI
***Callibaetis ferrugineus hageni* (Eaton, 1885)**					1										1		2	
***Callibaetis floridanus* (Banks, 1900)**	1		1		1			1			1						5	USA: AL, AR, FL, GA, IA, IN, KY, LA, MD, MO, MS, NC, OK, PA, SC, SD, TN, TX, VA
***Callibaetis fluctuans* (Walsh, 1862)**	1	1	1	1	1	1	1	1		1	1	1	1	1	1		14	CAN: MB, ON, QC. USA: AK, AL, AR, CA, CO, CT, DC, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MT, NC, NE, NM, NV, NY, OH, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY
***Callibaetis montanus* (Eaton, 1885)**				1													1	USA: AZ, CA, KS, NM, OK, TX, UT

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Callibaetis pallidus* (Banks, 1900)**	1		1			1	1		1	1		1	1	1		1	10	CAN: AB, MB, NF, ON, SK, YT. USA: AZ, CA, CO, CT, IA, IN, ME, MI, MN, MT, ND, NE, NY, PA, SD, UT, WI, WY
***Callibaetis pictus* (Eaton, 1871)**	1			1			1		1	1		1	1				7	USA: AZ, CA, CO, IA, ID, KS, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WI, WY
***Callibaetis pretiosus* (Banks, 1914)**			1			1	1						1		1		5	CAN: ON. USA: AL, AR, CT, FL, GA, IN, LA, ME, MI, MN, NC, NH, NY, PA, SC, TN, TX, VA, WI
***Callibaetis skokianus* (Needham, 1903)**	1	1				1	1	1	1			1	1		1	1	10	CAN: NF, ON, QC, SK. USA: IA, IL, MI, MN, MO, ND, NY, PA, SD, WI
***Camelobaetidius mexicanus* (Traver & Edmunds, 1968)**				1													1	USA: AZ, ID, KS, OK, OR, TX
***Camelobaetidius variabilis* (Wiersema, 1998)**										1							1	USA: ID, NE, OK, TX
***Camelobaetidius waltzi* (McCafferty, 1994)**	1	1	1	1						1							5	USA: IA, IL, IN, KS, NE, TX
***Camelobaetidius warreni* (Traver & Edmunds, 1968)**									1	1		1				1	4	CAN: SK. USA: AZ, CA, CO, ID, MT, ND, NE, NM, NV, OR, SD, UT, WA, WY
***Cercobrachys cree* (Sun, Webb & McCafferty, 2002)**									1			1				1	3	CAN: AB, SK USA: MT, ND, SD
***Cercobrachys etowah* (Soldan, 1986)**			1				1						1				3	USA: FL, GA, IN, MN, NC, SC, WI
***Cercobrachys fox* (Sun &**	1		1	1				1	1	1		1	1				8	USA: IA, IN, KS, MO, ND, NE, SD, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
McCafferty, 2008)																		
***Cercobrachys lilliei* (Sun & McCafferty, 2008)**							1			1			1				3	USA: MN, NE, WI
***Cercobrachys serpentis* (Soldan, 1986)**								1		1			1				3	USA: ID, MT, NE, WI, WY
***Cercobrachys winnebago* (Sun & McCafferty, 2008)**	1			1						1			1				4	USA: IA, KS, NE, TX, WI
***Choroterpes albiannulata* (McDunnough, 1924)**									1						1	1	3	CAN: AB, ON, SK. USA: CA, CO, ID, MT, ND, NV, OR, UT, WY
***Choroterpes basalis* (Banks, 1900)**		1	1		1	1	1	1			1		1		1		9	CAN: ON, QC. USA: AL, AR, CT, FL, GA, IL, IN, KY, ME, MI, MN, MO, NC, NY, OH, OK, PA, SC, TN, TX, VA, WI
***Cinygmula mimus* (Eaton, 1885)**																1	1	CAN: AB, BC, MB, SK, YT. USA: AK, CA, CO, ID, MT, NV, OR, UT, WA, WY
***Cinygmula subaequalis* (Banks, 1914)**					1										1		2	CAN: NB, NS, ON, PE, QC. USA: AK, AL, CT, GA, KY, ME, NC, NH, NY, PA, SC, TN, VA
***Cloeon dipterum* (Linnaeus, 1761)**		1	1		1	1					1		1		1	1	8	CAN: ON, QC, SK. USA: AK, CT, IL, IN, KY, ME, MI, NY, OH, PA, VA, WI
***Dannella lita* (Burks, 1949)**	1	1	1				1	1			1		1	1	1	1	10	CAN: MB, ON, SK. USA: AR, CA, IA, IL, IN, MN, MO, NC, NY, OH, PA, SC, WI
***Dannella provonshai* (McCafferty, 1977)**					1												1	USA: AL, AR, KY, NC, NY, TN

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Dannella simplex* (McDunnough, 1925)**		1			1	1	1				1		1	1	1	1	9	CAN: AB, MB, NB, NS, NT, ON, QC, SK. USA: AL, AR, CT, FL, GA, IL, KY, LA, MA, ME, MI, MN, NC, NH, NY, OH, OK, PA, SC, TN, VA, VT, WI, WV
***Dentatella coxalis* (McDunnough, 1926)**			1			1									1		3	CAN: NS, ON, QC. USA: GA, IN, ME, MI, NC, NH, PA, SC, TN
***Diphetor hageni* (Eaton, 1885)**	1	1	1	1	1		1	1		1	1	1	1	1	1	1	14	CAN: AB, BC, MB, NB, NS, NT, NU, ON, QC, SK. USA: AK, AR, AZ, CA, CO, DC, FL, GA, IA, ID, IL, IN, KY, ME, MN, MO, MT, NC, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, UT, VA, WA, WI, WV, WY
***Dolania americana* (Edmunds & Traver, 1959)**							1						1				2	USA: AL, FL, GA, LA, MN, NC, SC, WI
***Drunella cornuta* (Morgan, 1911)**					1	1	1						1		1		5	CAN: NB, NF, NS, ON, QC. USA: CT, GA, KY, ME, MI, MN, NC, NH, NY, PA, TN, VA, VT, WI, WV
***Drunella cornutella* (McDunnough, 1931)**					1	1					1		1		1		5	CAN: LB, NB, NF, NS, ON, QC. USA: GA, KY, ME, MI, NC, NH, NY, OH, PA, TN, VA, VT, WI, WV
***Drunella doddsii* (Needham, 1927)**												1					1	CAN: AB, BC, NT, YT. USA: AK, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY
***Drunella grandis* (Eaton, 1884**																1	1	CAN: AB, BC, SK, YT .USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY
***Drunella lata* (Morgan, 1911)**					1	1									1		3	CAN: NB, NS, ON, PE, QC. USA: CT, GA, KY, MA, ME, MI, NC, NH, NJ, NY, PA, SC, TN, VA, VT, WV
***Drunella tuberculata* (Morgan, 1911)**															1		1	CAN: NB, NS, ON, QC. USA: AL, CT, GA, MD, ME, NC, NH, NY, PA, SC, TN, VA
***Drunella walkeri* (Eaton, 1884)**			1			1	1								1		4	CAN: NB, NS, ON, QC. USA: CT, GA, IN, MA, ME, MI, MN, NC, NH, NJ, NY, PA, SC, TN, VA, WV
***Ecdyonurus criddlei* (McDunnough, 1927)**												1		1	1		3	CAN: AB, MB, ON. USA: AZ, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
Ecdyonurus simplicioides **(McDunnough, 1924)**														1		1	2	CAN: AB, BC, MB, SK. USA: AK, AZ, CO, ID, MT, NM, NV, OR, UT, WA, WY
Epeorus albertae **(McDunnough, 1924)**														1	1		2	CAN: AB, BC, MB, NT, ON. USA: AK, AZ, CA, CO, ID, MT, NM, OR, UT, WA, WY
Epeorus dispar **(Traver, 1933)**					1												1	USA: GA, KY, NC, PA, SC, TN, VA, WV
Epeorus fragilis **(Morgan, 1911)**															1		1	CAN: NB, NS, ON, PE, QC. USA: CT, ME, NC, NH, NY, PA, SC, TN, VA, VT, WV
Epeorus frisoni **(Burks, 1946)**					1												1	USA: KY, ME, PA, VT
Epeorus longimanus **(Eaton, 1885)**												1		1		1	3	CAN: AB, BC, MB, NT, SK, YT. USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY
Epeorus namatus **(Burks, 1946)**			1		1						1						3	USA: AR, IN, KY, OH, VA
Epeorus pleuralis **(Banks, 1910)**			1		1						1				1		4	CAN: LB, NB, NF, NS, ON, PE, QC. USA: CT, DE, GA, IN, KY, MA, MD, ME, NC, NH, NJ, NY, OH, PA, SC, TN, VA, WV
Epeorus punctatus **(McDunnough, 1925)**					1						1				1		3	CAN: ON, QC. USA: AR, KY, NC, NY, OH, PA, VA, WV
Epeorus suffusus **(McDunnough, 1925)**															1		1	CAN: ON. USA: NY (ME, MI? from natureserve)
Epeorus vitreus **(*Walker*, 1853)**					1	1	1						1	1	1		6	CAN: MB, NB, NS, ON, QC. USA: AL, CT, GA, KY, MA, ME, MI, MN, NC, NH, NY, PA, SC, TN, VA, VT, WI, WV
Ephemera *blanda* **(Traver, 1932)**					1						1				1		3	CAN: ON. USA: GA, KY, NC, OH, PA, SC, TN, VA, WV
Ephemera guttulata **(Pictet, 1843)**					1						1				1		3	CAN: LB, NB, NF, NS, ON, QC. USA: AL, AR, CT, GA, KY, ME, NC, NH, NY, OH, PA, SC, TN, VA, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Ephemera simulans* (Walker, 1853)**	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	15	CAN: AB, BC, MB, NB, NS, NT, ON, QC, SK. USA: AR, CO, CT, FL, IA, ID, IL, IN, KS, KY, ME, MI, MN, MO, MT, NC, ND, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, UT, VA, WA, WI, WV, WY
***Ephemera traverae* (Spieth, 1938)**				1				1									2	USA: KS, MO, OK
***Ephemera varia* (Eaton, 1883)**			1		1	1	1	1			1				1		7	CAN: NB, NS, ON, QC. USA: AL, CT, GA, IN, KY, ME, MI, MN, MO, NC, NH, NY, OH, PA, SC, TN, VA, WI, WV
***Ephemerella aurivillii* (Bengtsson, 1908)**	1					1	1			1			1		1		6	CAN: AB, BC, LB, NB, NF, NS, NT, NU, ON, PE, QC. USA: AK, CA, IA, ID, MA, ME, MI, MN, MT, NE, NH, NV, NY, OR, PA, UT, WA, WI, WY
***Ephemerella dorothea dorothea* (Needham, 1908)**		1	1		1	1	1	1			1		1		1		9	CAN: NB, NS, ON, PE, QC. USA: AL, AR, CT, DE, GA, IL, IN, KY, MA, MD, ME, MI, MN, MO, NC, NH, NY, OH, PA, SC, SD, TN, TX, VA, VT, WI, WV
***Ephemerella dorothea infrequens* (McDunnough, 1924)**												1					1	CAN: AB, BC, NT. USA: AK, CA, CO, ID, MT, NV, OR, SD, UT, WA, WY
***Ephemerella excrucians* (Walsh, 1862)**	1	1	1	1	1	1	1			1	1	1	1	1	1	1	14	CAN: AB, BC, MB, NB, NS, NT, ON, QC, SK. USA: AK, AL, AR, AZ, CA, CO, FL, GA, IA, ID, IL, IN, KS, KY, LA, MI, MN, MT, NC, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY
***Ephemerella hispida* (Allen & Edmunds, 1965)**					1												1	USA: KY, NC, SC, TN, VA
***Ephemerella invaria* (Walker, 1853)**	1	1	1		1	1	1	1			1		1	1	1	1	12	CAN: AB, LB, MB, NB, NF, NS, NT, ON, PE, QC, SK. USA: AL, AR, CT, FL, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, NC, NJ, NY, OH, OK, PA, SC, TN, VA, VT, WI, WV
***Ephemerella needhami* (McDunnough, 1925)**	1	1	1		1	1	1	1			1		1	1	1	1	12	CAN: MB, NB, NS, ON, QC, SK. USA: AL, AR, CT, IA, IL, IN, KY, ME, MI, MN, MO, NC, NH, NY, OH, PA, SC, TN, VA, WI, WV
Ephemerella subvaria	1		1		1	1	1	1			1		1		1		9	CAN: LB, NB, NF, NS, ON, QC. USA: CT, IA, IN, KY, MA, MD, ME, MI, MN, MO, NC, NH, NY, OH, PA, SC, TN, VA, WI, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
(McDunnough, 1931)																		
***Ephemerella tibialis* (McDunnough, 1924)**																1	1	CAN: AB, BC, NT, SK. USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY
***Ephoron album* (Say, 1824)**	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	15	CAN: AB, MB, ON, QC, SK. USA: AR, CA, CO, IA, ID, IL, IN, KS, KY, MI, MN, MO, MT, ND, NE, NJ, NV, NY, OH, OK, OR, PA, SD, TX, UT, WA, WI, WY
***Ephoron leukon* (Williamson, 1802)**	1	1	1		1	1	1	1	1		1		1	1	1		12	CAN: MB, ON, QC. USA: AL, AR, CT, FL, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, ND, NJ, NY, OH, PA, SC, TN, TX, VA, WI, WV
***Eurylophella aestiva* (McDunnough, 1931)**			1		1	1		1					1		1	1	7	CAN: NB, NS, ON, QC, SK. USA: DE, FL, GA, IN, KY, ME, MI, MO, NC, NH, NY, PA, TN, VA, WI, WV
***Eurylophella bicolor* (Clemens, 1913)**			1		1	1	1	1			1		1	1	1	1	10	CAN: LB, MB, NB, NS, NT, ON, QC, SK. USA: AL, AR, IN, KY, ME, MI, MN, MO, NC, NH, NY, OH, OK, PA, SC, TN, VA, VT, WI, WV
***Eurylophella bicoloroides* (McDunnough, 1938)**							1										1	CAN: NS. USA: MN, NY, PA, VT
***Eurylophella doris* (Traver, 1934)**			1		1												2	USA: AL, DE, FL, GA, IN, KS, KY, LA, MD, MS, NC, SC, TN, TX, VA
***Eurylophella enoensis* (Funk, 1994)**			1		1			1			1				1		5	CAN: ON. USA: AR, GA, IN, KY, ME, MO, NC, OH, OK, SC, TN, WV
***Eurylophella funeralis* (McDunnough, 1925)**		1	1		1	1	1				1		1		1		8	CAN: LB, NB, NF, NS, ON, QC. USA: AL, AR, CT, DE, GA, IL, IN, KY, MA, MD, ME, MI, MN, NC, NH, NY, OH, OK, PA, SC, TN, VA, VT, WI, WV
***Eurylophella lutulenta* (Clemens, 1913)**		1	1			1	1	1			1		1		1		8	CAN: NB, ON, QC. USA: AR, CT, GA, IL, IN, ME, MI, MN, MO, NC, NY, OH, PA, TN, VT, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Eurylophella macdunnoughi* (Funk, 1994)**			1		1	1					1						4	CAN: NB. USA: AL, AR, IN, KY, ME, MI, NH, NY, OH, OK, PA, TN, VA, VT, WV
***Eurylophella minimella* (McDunnough, 1931)**						1	1				1				1		4	CAN: NB, NS, ON, QC. USA: CT, MA, ME, MI, MN, NC, NH, NY, OH, PA, SC, TN, WV
***Eurylophella prudentalis* (McDunnough, 1931)**					1		1								1		3	CAN: NB, NF, NS, ON, QC. USA: CT, DE, KY, MA, ME, MN, NC, NH, NY, PA, SC, VA, VT
***Eurylophella temporalis* (McDunnough, 1924)**		1	1		1	1	1	1			1		1	1	1	1	11	CAN: MB, NB, NF, NS, NT, ON, QC, SK. USA: AL, AR, CT, DE, GA, IL, IN, KY, MA, ME, MI, MN, MO, NC, NH, NY, OH, OK, PA, SC, TN, VA, VT, WI, WV
***Eurylophella verisimilis* (McDunnough, 1930)**					1	1	1				1				1		5	CAN: NB, NS, ON, QC. USA: AR, CT, DE, GA, KS, KY, MA, MD, ME, MI, MN, NC, NH, NY, OH, PA, SC, TN, VA, VT
***Fallceon quilleri* (Dodds, 1923)**	1	1		1			1	1	1	1	1	1	1	1		1	12	CAN: AB, MB, ON, SK. USA: AZ, CA, CO, IA, ID, IL, KS, KY, LA, MN, MO, MT, ND, NE, NM, NV, OH, OK, OR, SD, TX, UT, WA, WI, WY
***Habrophlebia vibrans* (Needham, 1907)**					1						1				1		3	CAN: NB, NF, NS, ON, QC. USA: AL, CT, FL, GA, KY, MA, ME, NC, NH, NY, OH, PA, SC, TN, VA, VT, WV
***Habrophlebiodes americana* (Banks, 1903)**		1	1		1			1			1		1		1		7	CAN: NB, NS, ON, QC. USA: AL, AR, CT, GA, IL, IN, KY, MD, ME, MI, MO, NC, NH, NY, OH, PA, SC, TN, VA, WI, WV
***Habrophlebiodes annulata* (Traver, 1934)**		1															1	USA: AR, IL, OK
***Habrophlebiodes celeteria* (Berner, 1975)**					1												1	USA: KY, PA, TN, VA
Heptagenia adaequata									1							1	2	CAN: AB, SK. USA: AZ, CO, ID, MT, ND, NM, NV, OR, UT, WY

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
(McDunnough, 1924)																		
***Heptagenia dalecarlica* (Bengtsson, 1912)**														1			1	CAN: MB.
***Heptagenia elegantula* (Eaton, 1885)**	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	15	CAN: AB, BC, MB, ON, QC, SK. USA: AZ, CA, CO, IA, ID, IL, IN, KS, MI, MN, MO, MT, ND, NE, NM, NV, OH, OK, OR, SD, TX, UT, WA, WI, WV, WY
***Heptagenia flavescens* (Walsh, 1862)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, BC, MB, NT, ON, QC, SK. USA: AL, AR, CO, FL, GA, IA, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, ND, NE, NH, NY, OH, PA, SC, SD, TX, VA, WI, WV
***Heptagenia marginalis* (Banks, 1910)**					1						1				1		3	CAN: ON, QC. USA: AL, CT, GA, KY, ME, NC, NY, OH, PA, SC, TN, TX, VA, WV
***Heptagenia pulla* (Clemens, 1913)**	1		1			1	1				1	1	1	1	1	1	10	CAN: AB, LB, MB, NB, NF, NS, NT, ON, QC, SK, YT. USA: AK, AL, CT, IA, IN, ME, MI, MN, NC, NH, NY, OH, PA, SC, SD, TN, VA, WI
***Heptagenia whitingi* (Webb & McCafferty, 2007)**				1			1	1		1						1	5	CAN: SK. USA: KS, MO, MN, MT, NE
***Heterocloeon* (*Jubilatum*) sp. B sensu (McCafferty et al., 2017)**										1							1	Unspecified
***Heterocloeon* (*Jubilatum*) sp. D sensu (McCafferty et al., 2017)**		1								1							2	USA: IN, OH.
***Heterocloeon amplum* (Traver, 1932)**	1	1	1		1					1	1		1				7	USA: AL, CT, GA, IA, IL, IN, KY, MA, ME, MS, NC, NE, NH, NY, OH, PA, SC, TN, TX, VA, WI, WV
Heterocloeon curiosum			1		1		1				1		1		1		6	CAN: NB, ON, QC. USA: AL, CT, GA, IN, KY, MD, ME, MN, NC, NH, NY, OH, OK, PA, SC, TN, VA, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
(McDunnough, 1923)																		
***Heterocloeon frivolum* (McDunnough, 1925)**	1	1	1	1							1				1		6	CAN: ON. USA: CO, IA, IL, IN, KS, NY, OH, TN
***Heterocloeon grande* (Wiersema & Long, 2000)**				1													1	USA: KS, TN
***Hexagenia atrocaudata* (McDunnough, 1924)**	1	1	1		1	1		1	1		1		1		1		10	CAN: ON. USA: AR, CT, GA, IA, IL, IN, KY, MD, MI, MO, NC, ND, NY, OH, PA, SC, TN, VA, WI, WV
***Hexagenia bilineata* (Say, 1824)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		15	CAN: MB, NB, ON, QC. USA: AL, AR, DC, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, ND, NE, NM, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI.
***Hexagenia limbata* (Serville, 1829)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, BC, MB, NB, NS, NT, ON, QC, SK. USA: AL, AR, CA, CO, CT, DC, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY
***Hexagenia rigida* (McDunnough, 1924)**	1	1	1	1		1	1	1	1		1		1	1	1		12	CAN: MB, NB, NS, ON, QC. USA: AR, GA, IA, IL, IN, KS, MD, ME, MI, MN, MO, ND, NY, OH, OK, PA, SD, TN, VA, VT, WI
***Homoeoneuria alleni* (Pescador & Peters, 1980)**	1											1					2	USA: CO, IA, MT, NE, NM, SD, UT
***Homoeoneuria ammophila* (Spieth, 1938)**	1	1	1	1				1		1			1				7	USA: IA, IL, IN, KS, MO, NE, WI
***Isonychia arida* (Say, 1839)**		1	1	1			1										4	USA: AL, DC, FL, GA, IL, IN, KS, LA, MN, MS, NC, NY, PA, SC, TX, VA
***Isonychia bicolor* (Walker, 1853)**	1	1	1		1	1	1	1	1	1	1	1	1	1	1		14	CAN: LB, MB, NB, NF, NS, ON, QC. USA: AL, AR, CT, GA, IA, IL, IN, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NJ, NY, OH, OK, PA, SC, SD, TN, VA, VT, WI, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Isonychia campestris* (McDunnough, 1931)**							1		1					1		1	4	CAN: AB, MB, SK. USA: CO, MN, MT, ND, UT, WY
***Isonychia georgiae* (McDunnough, 1931)**					1												1	USA: AL, FL, GA, KY, NC, SC, VA
***Isonychia obscura* (Traver, 1932)**															1		1	CAN: ON. USA: CT, GA, ME, NC, NH, NY, PA, TN, VA
***Isonychia rufa* (McDunnough, 1931)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: MB, ON, SK. USA: AL, AR, CO, IA, IL, IN, KS, KY, MD, MI, MN, MO, MS, MT, ND, NE, OH, OK, PA, SD, TX. WI
***Isonychia sayi* (Burks, 1953)**		1	1		1			1					1		1		6	CAN: ON. USA: AL, AR, FL, GA, IL, IN, KY, MO, MS, NC, SC, TX, WI
***Isonychia sicca* (Walsh, 1862)**	1	1	1	1	1	1	1	1		1	1	1	1	1	1		14	CAN: MB, ON. USA: AL, AR, FL, GA, IA, IL, IN, KS, KY, MI, MN, MO, MT, NC, NE, NM, OH, OK, SC, SD, TX, UT, WI
***Isonychia tusculanensis* (Berner, 1948)**					1												1	USA: AL, KY, NC, PA, TN, VA
***Iswaeon anoka* (Daggy, 1945)**	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	15	CAN: AB, MB, NB, ON, SK. USA: AR, GA, IA, IL, ID, IN, KY, MA, ME, MI, MN, MO, MT, NC, ND, NE, NH, OH, OK, OR, PA, SC, SD, TN, UT, VA, WA, WI, WV, WY
***Labiobaetis dardanus* (McDunnough, 1923)**	1	1	1	1			1		1	1	1	1	1	1	1	1	13	CAN: AB, MB, NS, ON, QC, SK. USA: AK, CA, CO, IA, ID, IL, IN, KS, MN, MT, NC, ND, NE, NM, OH, OK, SC, SD, TX, UT, VA, WA, WI, WY
***Labiobaetis ephippiatus* (Traver, 1935)**	1	1	1	1	1	1	1	1	1				1	1	1		12	CAN: MB, ON, QC. USA: AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, MI, MN, MO, MS, NC, ND, OK, PA, SC, SD, TN, TX, VA
***Labiobaetis frondalis* (McDunnough, 1925)**	1	1	1			1	1	1		1	1	1	1		1		11	CAN: NS, ON, QC. USA: AL, AR, FL, GA, IA, IL, IN, LA, ME, MI, MN, MO, MS, NC, NE, NH, OH, PA, SC, SD, TN, TX, VA, WI, WV
Labiobaetis longipalpus	1	1	1	1			1	1		1	1		1		1		10	CAN: ON. USA: IA, IL, IN, KS, LA, MN, MO, NE, OH, TX, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
(Morihara & McCafferty, 1979)																		
***Labiobaetis propinquus* (Walsh, 1863)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: MB, NB, NS, NT, ON, QC, SK, YT. USA: AL, AR, CA, CO, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MS, MT, NC, ND, NE, NM, NY, OH, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV
***Lachlania saskatchewanensis* (Ide, 1941)**									1	1						1	3	CAN: AB, SK. USA: AZ, CO, MT, ND, NE, NM, UT, WY
***Leptophlebia bradleyi* (Needham, 1932)**							1								1		2	CAN: ON. USA: AL, CT, DE, FL, GA, LA, MN, NC, NM, NY, OK, PA, SC, TN, TX, VA
***Leptophlebia cupida* (Say, 1823)**	1	1	1		1	1	1	1		1	1		1	1	1	1	13	CAN: AB, BC, LB, MB, NB, NF, NS, ON, PE, QC, SK. USA: AL, AR, CA, CO, CT, DE, FL, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, NC, NE, NH, NJ, NY, OH, OK, OR, PA, SC, TN, TX, UT, VA, VT, WA, WI, WV, WY
***Leptophlebia intermedia* (Traver, 1932)**	1	1	1	1	1	1	1	1							1		9	CAN: ON, QC. USA: AL, AR, CT, DE, FL, GA, IA, IL, KS, KY, MA, MD, ME, MI, MN, MO, NC, NH, OK, PA, SC, TN, TX, VA
***Leptophlebia johnsoni* (McDunnough, 1924)**											1				1		2	CAN: NB, NF, NS, ON, QC. USA: CT, MA, ME, NH, NJ, NY, OH, PA, SC, VA
***Leptophlebia konza* (Burian, 2001)**				1													1	USA: KS
***Leptophlebia nebulosa* (Walker, 1853)**	1	1	1			1	1	1	1	1	1	1	1	1	1	1	14	CAN: AB, BC, MB, NB, NF, NS, NT, NU, ON, QC, SK, YT. USA: AR, CO, CT, IA, IL, IN, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NY, OH, OK, OR, PA, SD, TN, UT, VA, VT, WI, WY
***Leucrocuta aphrodite* (McDunnough, 1926)**		1	1		1		1	1			1		1	1	1		9	CAN: MB, NB, NF, ON, QC. USA: AL, AR, GA, IL, IN, KY, ME, MI, MN, MO, NC, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Leucrocuta hebe* (McDunnough, 1924)**	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	15	CAN: AB, MB, NB, NF, NS, NT, ON, QC, SK. USA: AL, AR, CT, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NY, OH, OK, PA, SC, SD, TN, VA, VT, WI, WV
***Leucrocuta jewetti* (Allen, 1966)**														1			1	CAN: MB. USA: OR
***Leucrocuta juno* (McDunnough, 1924)**	1	1	1		1		1								1		6	CAN: ON, QC. USA: AL, GA, IA, IL, IN, KY, MN, NC, NY, OK, PA, SC, TN, WV
***Leucrocuta maculipennis* (Walsh, 1863)**	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	15	CAN: AB, MB, NB, NT, ON, SK. USA: AL, AR, CT, GA, IA, IL, IN, KS, KY, MD, ME, MN, MO, MS, MT, NC, ND, NE, NH, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV, WY
***Leucrocuta minerva* (McDunnough, 1924)**					1										1		2	CAN: NB, ON, QC. USA: AL, AR, KY, MD, ME, NH, OK, PA, SC, TN, VA
***Leucrocuta thetis* (Traver, 1935)**					1												1	USA: GA, KY, NC, NY, PA, SC, TN, VA
***Leucrocuta umbratica* (McDunnough, 1931)**														1			1	CAN: MB, QC. USA: AR, NY, PA, WV
***Leucrocuta walshi* (McDunnough, 1926)**			1								1				1		3	CAN: ON, QC. USA: IN, ME, OH, PA, TN
***Litobrancha recurvata* (Morgan, 1913)**					1	1	1				1		1		1		6	CAN: LB, NF, ON, QC. USA: CT, KY, MA, MD, ME, MI, MN, NC, NH, NY, OH, PA, SC, TN, VA, WI, WV
***Maccaffertium bednariki* (McCafferty, 1981)**					1			1									2	USA: KY, MO, OK
***Maccaffertium carlsoni* (Lewis, 1974)**					1												1	USA: AL, GA, KY, NC, SC, TN, VA

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Maccaffertium exiguum* (Traver, 1933)**	1	1	1	1	1	1	1	1	1	1	1	1	1		1		14	CAN: ON. USA: AL, AR, FL, GA, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NC, ND, NE, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV
***Maccaffertium ithaca* (Clemens & Leonard, 1924)**					1	1	1				1				1		5	CAN: NB, NF, ON, QC. USA: AL, CT, GA, KY, MA, ME, MI, MN, NC, NH, NJ, NY, OH, PA, SC, TN, VA, VT, WV
***Maccaffertium luteum* (Clemens, 1913)**	1	1	1			1	1	1			1		1	1	1		10	CAN: MB, NB, NS, ON, QC. USA: AR, IA, IL, IN, LA, ME, MI, MN, MO, NH, NY, OH, OK, PA, WI
***Maccaffertium mediopunctatum* (McDunnough, 1926)**	1	1	1	1	1	1	1	1			1	1	1	1	1		13	CAN: MB, NB, ON, QC. USA: AL, AR, CT, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, NH, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV
***Maccaffertium meririvulanum* (Carle & Lewis, 1978)**			1		1										1		3	CAN: ON. USA: AL, GA, IN, KY, NC, NY, PA, SC, TN, VA, WV
***Maccaffertium mexicanum integrum* (McDunnough, 1924)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		15	CAN: MB, ON, QC. USA: AL, AR, CT, FL, GA, IA, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, NC, ND, NE, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV
***Maccaffertium modestum* (Banks, 1910)**	1	1	1		1	1	1	1		1	1		1	1	1		12	CAN: MB, NB, NS, ON, PE, QC. USA: AL, AR, CT, DC, GA, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NY, OH, OK, PA, SC, TN, TX, VA, VT, WI, WV
***Maccaffertium pudicum* (Hagen, 1861)**		1	1		1												3	USA: AL, CT, DC, GA, IL, IN, KY, MA, MD, NC, NH, NY, PA, SC, TN, VA, VT, WV
***Maccaffertium pulchellum* (Walsh, 1862)**	1	1	1	1	1	1	1	1	1	1	1		1		1		13	CAN: NT, ON, QC USA: AR, GA, IA, IL, IN, KS, KY, MD, MI, MN, MO, NC, ND, NE, NY, OH, OK, PA, SC, TN, VA, WI, WV
***Maccaffertium terminatum terminatum* (Walsh, 1862)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, BC, LB, MB, NB, NS, ON, PE, QC, SK. USA: AL, AR, CA, CO, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Maccaffertium vicarium* (Walker, 1853)**	1	1	1	1	1	1	1	1		1	1		1	1	1	1	14	CAN: AB, LB, MB, NB, NF, NS, NT, ON, PE, QC, SK. USA: AL, AR, CT, DC, GA, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, NC, NE, NH, NY, OH, OK, PA, SC, TN, VA, VT, WI, WV
***Macdunnoa nipawinia* (Lehmkuhl, 1979)**															1	1	2	CAN: MB, SK. USA: MT
***Macdunnoa persimplex* (McDunnough, 1929)**	1	1	1		1		1	1		1	1		1	1			10	CAN: MB. USA: AL, CO, GA, IA, IL, KY, LA, MN, MO, MT, NE, OH, TN, WI
***Metretopus borealis* (Eaton, 1871)**						1							1	1	1	1	5	CAN: AB, BC, MB, NB, NT, NU, ON, QC, SK, YT. USA: ME, MI, WI
***Neochoroterpes oklahoma* (Traver, 1934)**								1	1	1		1					4	USA: CO, MO, MT, ND, NE, NM, OK, SD, TX, WY
***Neocloeon alamance* (Traver, 1932)**		1	1		1	1		1			1		1		1		8	CAN: ON. USA: AL, GA, IL, IN, KY, MI, MO, NC, OH, OK, PA, SC, TN, VA, WI
***Neocloeon triangulifer* (McDunnough, 1931)**	1		1	1	1	1	1	1			1		1		1		10	CAN: NB, ON, QC. USA: AR, CT, FL, IA, IN, KS, KY, MA, ME, MI, MN, MO, NC, NH, NY, OH, OK, PA, SC, TN, TX, WI
***Neoephemera bicolor* (McDunnough, 1925)**						1	1						1		1		4	CAN: ON, QC. USA: MI, MN, WI
***Neoephemera purpurea* (Traver, 1931)**					1												1	USA: GA, KY, NC, PA, SC, TN, VA, WV
***Neoleptophlebia adoptiva* (McDonnough, 1929)**			1		1	1	1				1	1	1		1	1	9	CAN: BC, LB, NB, NF, NS, ON, QC, SK. USA: CT, GA, IN, KY, MA, ME, MI, MN, MT, NC, NH, NY, OH, OK, PA, SC, SD, VA, WI, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Neoleptophlebia assimilis* (Banks, 1914)**					1										1		2	CAN: ON. USA: CT, GA, KY, MD, NC, PA, SC, TN, VA
***Neoleptophlebia memorialis* (Eaton, 1884)**												1					1	CAN: AB, BC. USA: AZ, CA, CO, ID, MT, NM, OR, SD, UT, WA, WY
***Neoleptophlebia mollis* (Eaton, 1871)**			1			1	1	1			1	1	1	1	1		9	CAN: LB, MB, NB, NF, NS, ON, PE, QC. USA: AL, AR, CT, IN, MA, ME, MI, MN, MO, NC, NH, NY, OH, OK, PA, SC, SD, TN, VA, WI, WV
***Nixe dorothae* (Webb & McCafferty, 2001)**		1	1														2	USA: IL, IN.
***Nixe flowersi* (McCafferty, 1982)**			1		1												2	USA: IN, KY, OK
***Nixe horrida* (McDunnough, 1926)**															1		1	CAN: ON. USA: ME, PA.
***Nixe inconspicua* (McDunnough, 1924)**	1	1	1		1	1	1		1		1		1	1	1	1	12	CAN: MB, NB, NS, ON, QC, SK. USA: AR, IA, IL, IN, KY, MI, MN, ND, NY, OH, OK, PA, WI
***Nixe joernensis* (Bengtsson, 1909)**														1			1	CAN: MB.
***Nixe lucidipennis* (Clemens, 1913)**			1			1	1		1		1		1	1	1	1	9	CAN: MB, ON, QC, SK. USA: AR, CT, IN, MA, MD, ME, MI, MN, ND, NH, NY, OH, PA, WI, WV
***Nixe perfida* (McDunnough, 1926)**	1	1	1		1			1			1				1		7	CAN: ON. USA: AR, IA, IL, IN, KY, ME, MO, NC, NH, OH, OK, PA, WV
***Nixe rusticalis* (McDunnough, 1931)**	1										1			1		1	4	CAN: MB, NB, QC, SK. USA: AL, IA, ME, NY, OH, PA
***Paracloeodes fleeki* (McCafferty & Lenat, 2004)**											1				1		2	CAN: ON, QC. USA: NC, OH

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Paracloeodes lotor* (Cruz, Usher, & Jacobus, 2017)**							1										1	USA: MN
***Paracloeodes minutus* (Daggy, 1945)**	1	1	1	1	1		1	1	1	1	1	1	1				12	USA: AL, AZ, CA, CO, GA, IA, ID, IL, IN, KS, KY, LA, MN, MO, MS, MT, NC, ND, NE, NY, OH, OR, SC, SD, TX, WI, WY
***Paraleptophlebia aquilina* (Harper & Harper, 1986)**														1			1	CAN: MB. USA: OR
***Paraleptophlebia calcarica* (Rowbotham & Allen, 1988)**				1													1	USA: AR, KS
***Paraleptophlebia debilis* (Walker, 1853)**	1		1	1	1	1	1		1	1	1	1	1	1	1	1	14	CAN: AB, BC, MB, NB, NF, NS, ON, PE, QC, SK, YT. USA: AK, AL, CA, CO, CT, GA, IA, ID, IN, KS, KY, MA, ME, MI, MN, MT, NC, ND, NE, NH, NM, NV, NY, OH, OK, OR, PA, SC, SD, TN, UT, VA, WA, WI, WV, WY
***Paraleptophlebia gregalis* (Eaton, 1884)**										1							1	CAN: BC. USA: CA, ID, NE, OR
***Paraleptophlebia guttata* (McDunnough, 1924)**			1		1	1	1	1			1		1		1		8	CAN: NB, NS, NT, ON, QC. USA: AR, GA, IN, KY, ME, MI, MN, MO, NC, NH, NY, OH, OK, PA, SC, TN, VA, WI, WV
***Paraleptophlebia jeanae* (Berner, 1955)**			1		1												2	USA: AL, IN, KY, OK, PA, SC, TN, VA
***Paraleptophlebia moerens* (McDunnough, 1924)**		1	1		1						1				1	1	6	CAN: MB, NS, NT, ON, QC, SK. USA: AL, CT, GA, IL, IN, KY, ME, NC, NY, OH, OK, PA, SC, TN, VA
***Paraleptophlebia ontario* (McDunnough, 1926)**		1	1	1	1		1	1			1		1		1		9	CAN: NB, ON, QC. USA: AL, CT, IL, IN, KS, KY, MN, MO, NY, OH, PA, VA, WI, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Paraleptophlebia praepedita* (Eaton, 1884)**	1	1	1			1	1	1			1		1	1	1	1	11	CAN: AB, MB, NS, ON, QC, SK. USA: AL, AR, CO, IA, IL, IN, MA, MI, MN, MO, NY, OH, PA, WI, WV, WY
***Paraleptophlebia sticta* (Burks, 1953)**		1	1														2	USA: IL, IN
***Paraleptophlebia strigula* (McDunnough, 1932)**			1	1		1					1				1		5	CAN: NS, ON, QC. USA: CT, IN, KS, MA, ME, MI, OH, PA
***Paraleptophlebia volitans* (McDunnough, 1924)**						1	1								1		3	CAN: NB, NS, ON, PE, QC. USA: AL, CT, FL, GA, LA, MA, ME, MI, MN, MS, NC, NY, OK, PA, SC, TX, VA, WV
***Parameletus chelifer* (Bengtsson, 1908)**														1	1	1	3	CAN: MB, NT, NU, ON, SK. USA: AK
***Parameletus croesus* (McDunnough, 1923)**						1	1						1		1		4	CAN: ON. MI, MN, WI.
***Parameletus midas* (McDunnough, 1923)**														1	1		2	CAN: MB, NB, ON, QC. USA: ME
***Penelomax septentrionalis* (McDunnough, 1925)**					1										1		2	CAN: NB, NS, ON, QC. USA: AL, CT, GA, KY, MA, ME, NC, NH, NY, PA, SC, TN, VA
***Pentagenia robusta* (McDunnough, 1926)**					1						1						2	USA: OH, KY
***Pentagenia vittigera* (Walsh, 1862)**	1	1	1	1	1		1	1		1		1	1	1	1		12	CAN: MB, ON. USA: AL, AR, FL, GA, IA, IL, IN, KS, LA, MN, MO, MS, NE, SD, TN, TX, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Plauditus cestus* (Provonsha & McCafferty, 1982)**	1	1	1	1	1	1		1	1		1		1	1	1	1	13	CAN: MB, ON, SK USA: AR, CO, GA, IA, ID, IL, IN, KS, KY, MA, MI, MO, NC, ND, NH, NY, OH, SC, VT, WI, WY
***Plauditus cingulatus* (McDunnough, 1931)**	1					1	1						1		1		5	CAN: NB, ON, QC. USA: AR, IA, MA, ME, MI, MN, NC, NH, NY, PA, SC, SD, TN, WI, WV
***Plauditus dubius* (Walsh, 1862)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, MB, NB, NS, ON, QC, SK. USA: AK, AL, AR, CT, GA, IA, ID, IL, IN, KS, KY, LA, MA, ME, MI, MN, MO, MT, NC, ND, NE, NH, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV
***Plauditus elliotti* (Daggy, 1945)**							1							1			2	CAN: MB. USA: MN.
***Plauditus gloveri* (McCafferty & Waltz, 1998)**			1	1					1			1		1		1	6	CAN: MB, SK. USA: IN, KS, MT, NC, ND, NH, NY, SC, SD, TX
***Plauditus punctiventris* (McDunnough, 1923)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: MB, NB, NS, ON, QC, SK. USA: AL, AR, CT, FL, GA, IA, ID, IL, IN, KS, KY, MA, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, WI, WV, WY
***Plauditus texanus* (Wiersema, 1999)**				1													1	USA: KS, OK, TX
***Plauditus veteris* (McDunnough, 1924)**		1									1						2	USA: IL, ME, OH, PA, TN, TX
***Plauditus virilis* (McDunnough, 1923)**	1		1	1			1		1		1	1		1	1	1	10	CAN: AB, MB, ON, QC, SK. USA: AL, CO, GA, IA, ID, IN, KS, ME, MN, MT, NC, ND, NH, NY, OH, PA, SC, SD, TN, TX, WY
***Procloeon bellum* (McDunnough, 1924)**						1	1							1	1		4	CAN: AB, BC, MB, NB, NS, ON, QC. USA: CT, ME, MI, MN, PA, SC, WI
***Procloeon fragile* (McDunnough, 1923)**						1		1					1	1	1		5	CAN: MB, ON, QC. USA: AL, CT, GA, ME, MI, MO, NC, NY, PA, VA, WI
Procloeon inanum														1			1	CAN: MB.

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
(McDunnough, 1924)																		
***Procloeon ingens* (McDunnough, 1923)**						1								1	1	1	4	CAN: BC, MB, ON, QC, SK, YT. USA: CO, ID, ME, MI, PA
***Procloeon insignificans* (McDunnough, 1925)**											1				1		2	CAN: ON. USA: NE
***Procloeon intermediale* (McDunnough, 1931)**														1	1		2	CAN: MB, ON, QC. USA: GA, ME, NC, NY, PA
***Procloeon mendax* (Walsh, 1862)**		1				1								1	1	1	5	CAN: MB, ON, SK. USA: IL, MA, ME, MI, NY, PA
***Procloeon ozburni* (McDunnough, 1924)**															1		1	CAN: NS, ON, QC. USA: ME, NY, PA
***Procloeon pennulatum* (Eaton, 1870)**		1	1				1		1				1	1	1	1	8	CAN: AB, MB, NB, NT, ON, QC, SK. USA: AK, AR, CA, CO, ID, IL, IN, MN, MT, NC, ND, NV, OK, OR, SC, TN, WA, WI
***Procloeon quaesitum* (McDunnough, 1931)**		1	1						1					1	1	1	6	CAN: BC, MB, NB, NS, ON, SK. USA: IL, IN, NC, ND, SC
***Procloeon rivulare* (Traver, 1935)**	1		1		1	1					1		1		1	1	8	CAN: NB, NS, ON, SK. USA: CA, CT, GA, IA, IN, KY, MA, ME, MI, MS, NC, NH, NY, OH, PA, SC, TN, VA, VT, WI, WV
***Procloeon rubropictum* (McDunnough, 1923)**	1	1	1	1	1	1	1	1	1		1		1	1	1	1	14	CAN: MB, NB, NS, ON, QC, SK. USA: AL, AR, FL, GA, IA, IL, IN, KS, KY, ME, MI, MN, MO, MS, NC, ND, NH, NY, OH, OK, PA, SC, TN, VA, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Procloeon rufostrigatum* (McDunnough, 1924)**	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	15	CAN: MB, NB, NS, ON, QC, SK. USA: AL, AR, FL, GA, IA, IL, IN, KS, KY, MD, ME, MI, MN, MO, MS, NC, ND, NE, NH, NY, OH, PA, SC, TX, VA, VT, WI
***Procloeon simile* (McDunnough, 1924)**															1		1	CAN: NB, NS, ON, QC. USA: NC, NY, PA
***Procloeon simplex* (McDunnough, 1925)**		1	1			1	1	1					1	1	1	1	9	CAN: MB, NB, ON, QC, SK. USA: AR, GA, IL, IN, LA, ME, MI, MN, MO, NH, PA, WI
***Procloeon* sp. A (McCafferty et al., 2010)**					1												1	USA: KY
***Procloeon* sp. B (McCafferty et al., 2010)**	1			1													2	USA: IA, KS
***Procloeon texanum* (McCafferty & Provonsha, 1993)**				1													1	USA: AZ, KS, OK, TX
***Procloeon vicinum* (Hagen, 1861)**															1		1	CAN: ON, QC. USA: DC, NY, PA, WV
***Procloeon viridoculare* (Berner, 1940)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: MB, ON, SK. USA: AL, AR, FL, GA, IA, ID, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, MT, NC, ND, NE, NY, OH, OK, PA, SC, SD, TN, TX, WI
***Pseudiron centralis* (McDunnough, 1931)**	1	1	1	1		1		1	1	1	1	1	1	1	1	1	14	CAN: AB, MB, ON, SK. USA: AL, CA, CO, FL, GA, IA, IL, IN, KS, LA, MI, MO, MS, MT, NC, ND, NE, OH, PA, SC, SD, TN, TX, UT, VA, WI, WY
***Pseudocentroptiloides morihari* (Wiersema & McCafferty, 1998)**						1						1					2	USA: MN, TX, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
Pseudocentroptiloides usa **(Waltz & McCafferty, 1989)**		1	1		1	1	1	1			1		1		1		9	CAN: ON. USA: AL, FL, GA, IN, IL, KY, MI, MN, MO, MS, NC, OH, TN, WI
Raptoheptagenia cruentata **(Walsh, 1863)**	1	1	1				1	1	1	1	1			1		1	10	CAN: MB, SK. USA: AR, IA, IL, IN, MN, MO, MS, MT, NC, ND, NE, OH, TN, WY
Rhithrogena impersonata **(McDunnough, 1925)**					1	1	1						1		1		5	CAN: NB, NS, ON, QC. USA: IN, KY, ME, MI, MN, NH, NY, OK, PA, WI
Rhithrogena jejuna **(Eaton, 1885)**	1		1			1	1		1				1	1	1	1	9	CAN: AB, BC, LB, MB, NB, NF, NS, NT, NU, ON, QC, SK. USA: AK, CT, IA, IN, ME, MI, MN, ND, NH, NY, OK, PA, WI
Rhithrogena manifesta **(Eaton, 1885)**	1	1	1			1	1	1	1		1		1	1	1		11	CAN: MB, NB, ON, QC. USA: AL, AR, CO, IA, IL, IN, ME, MI, MN, MO, ND, NH, NY, OH, PA, SC, TN, VA, WI
Rhithrogena undulata **(Banks, 1924)**						1							1	1	1	1	5	CAN: MB, NB, NF, NT, ON, SK, YT. USA: AZ, CA, CO, ID, ME, MI, MT, NM, NV, OR, UT, WA, WI, WY
Serratella frisoni **(McDunnough, 1927)**		1	1		1			1			1						5	USA: AL, AR, CT, IL, IN, KY, MO, OH, OK, VA, WV
Serratella serrata **(Morgan, 1911)**		1	1			1	1	1			1		1		1	1	9	CAN: NB, NS, ON, QC, SK. USA: AL, AR, CT, IL, IN, MA, MD, ME, MI, MN, MO, NC, NH, NY, OH, PA, SC, TN, VA, WI, WV
Serratella serratoides **(McDunnough, 1931)**	1		1			1	1	1							1		6	CAN: NB, NS, ON, QC. USA: AL, AR, CT, GA, IA, IN, MD, ME, MI, MO, NC, NH, NY, PA, SC, TN, VA, WV
Siphlonisca aerodromia **(Needham, 1909)**															1		1	CAN: LB, NF, ON, QC. USA: ME, NY, PA
Siphlonurus alternatus **(Say, 1824)**	1	1	1			1	1						1	1	1	1	9	CAN: AB, MB, NB, NF, NS, NT, ON, QC, SK, YT. USA: AK, CT, IA, IL, IN, ME, MI, MN, NH, NY, PA, WI

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Siphlonurus columbianus* (McDunnough, 1925)**										1		1					2	CAN: BC. USA: AZ, CA, CO, ID, MT, NE, OR, SD, UT, WA, WY
***Siphlonurus marshalli* (Traver, 1934)**	1	1		1				1		1					1		6	CAN: ON. USA: AR, IA, IL, KS, ME, MO, NE, OK, PA, WV
***Siphlonurus minnoi* (Provonsha & McCafferty, 1982)**			1	1	1			1									4	AL, AR, IN, KS, KY, MO, OK
***Siphlonurus mirus* (Eaton, 1885)**															1		1	CAN: NS, ON, QC. USA: AL, CT, GA, MA, ME, NC, NH, NY, PA, SC, TN, VA
***Siphlonurus occidentalis* (Eaton, 1885)**				1						1		1					3	CAN: AB, BC, NT, YT. USA: AK, AZ, CA, CO, ID, KS, MT, NE, NM, NV, OR, SD, UT, WA, WY
***Siphlonurus phyllis* (McDunnough, 1923)**						1	1						1	1	1	1	6	CAN: AB, BC, MB, NT, ON, QC, SK. YT. USA: MI, MN, MT, WI
***Siphlonurus quebecensis* (Provancher, 1878)**		1	1			1	1			1			1		1		7	CAN: LB, NB, NF, NS, ON, PE, QC USA: AL, AR, CT, IL, IN, MA, MD, ME, MI, MN, NC, NE, NH, NY, PA, SC, TN, VA, WI
***Siphlonurus rapidus* (McDunnough, 1924)**						1							1		1		3	CAN: LB, NB, NF, NS, ON, QC. USA: CT, MA, ME, MI, NH, NY, PA, WI
***Siphlonurus securifer* (McDunnough, 1926)**															1		1	CAN: ON, QC. USA: CT, MA, ME, PA

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Siphlonurus typicus* (Eaton, 1885)**		1	1			1					1				1		5	CAN: LB, NF, NS, ON, QC. USA: AR, CT, IL, IN, MA, ME, MI, NC, NH, NY, OH, PA, TN
***Siphloplecton basale* (Walker, 1853)**			1			1	1						1	1	1	1	7	CAN: AB, LB, MB, NB, NF, ON, QC, SK USA: AL, CT, GA, IN, MA, ME, MI, NC, NH, NY, PA, SC, VA, WI
***Siphloplecton interlineatum* (Walsh, 1863)**	1	1	1			1	1						1	1	1	1	9	CAN: AB, BC, MB, NT, ON, SK. USA: IA, IL, IN, MI, MN, MT, WI
***Sparbarus flavus* (Traver, 1935)**			1					1									2	nomen dubium
***Sparbarus lacustris* (Needham, 1918)**	1	1	1	1		1	1	1	1	1	1		1		1		12	CAN: NS, ON, QC. USA: AL, IA, IL, IN, KS, MD, ME, MI, MN, MO, NC, ND, NE, NY, OH, OK, PA, TX, WI
***Sparbarus maculatus* (Berner, 1946)**			1				1						1		1		4	CAN: ON. USA: AL, FL, GA, IN, MD, ME, MN, NC, NY, OH, SC, TN, TX, VA, WI
***Sparbarus nasutus* (Soldan, 1986)**	1	1	1				1			1		1	1				7	USA: AL, FL, IA, IL, IN, MN, NE, SD, WI
***Spinadis simplex* (Walsh, 1863)**	1	1	1	1	1								1		1		7	CAN: ON. USA: AR, GA, IA, IL, IN, KY, KS, LA, MS, PA, SC, WI
***Stenacron candidum* (Traver, 1935)**	1	1	1		1		1				1			1	1		8	CAN: MB, ON, QC. USA: IA, IL, IN, KY, ME, MN, NY, OH, PA
***Stenacron carolina* (Banks, 1914)**	1		1		1		1				1				1		6	CAN: ON, QC. USA: AL, GA, IA, IN, KY, MN, MS, NC, NY, OH, PA, SC, TN, VA, WV
***Stenacron gildersleevei* (Traver, 1935)**		1	1		1		1	1			1			1	1		8	CAN: MB, ON. USA: AR, IL, IN, KY, MN, MO, NY, OH, PA, VA, WV
***Stenacron interpunctatum* (Say, 1839)**	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	CAN: AB, LB, MB, NB, NS, ON, PE, QC, SK. USA: AL, AR, CO, CT, FL, GA, IA, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, NC, ND, NE, NH, NY, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Stenacron minnetonka* (Daggy, 1945)**	1	1	1		1	1	1		1	1	1		1				10	CAN: QC. USA: IA, IL, IN, KY, MI, MN, ND, NE, OH, PA, WI
***Stenacron pallidum* (Traver, 1933)**					1						1						2	USA: KY, LA, ME, NC, NY, OH, PA, SC, TN
***Stenonema femoratum* (Say, 1823)**	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	15	CAN: MB, NB, NF, NS, NT, ON, QC, SK. USA: AL, AR, CT, GA, IA, IL, IN, KS, KY, LA, ME, MI, MN, MO, MS, NC, ND, NE, NH, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV
***Susperatus prudens* (McDunnough, 1931)**		1	1	1					1	1		1	1			1	8	CAN: AB, MB, SK. USA: AL, CO, ID, IL, IN, KS, MT, ND, NE, SD, TX, UT, WI, WY
***Teloganopsis deficiens* (Morgan, 1911)**		1	1		1	1	1	1			1		1		1		9	CAN: LB, NB, NF, NS, ON, QC. USA: AL, AR, CT, FL, GA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NH, NY, OH, PA, SC, TN, VA, WI, WV
***Tortopsis primus* (McDunnough, 1924)**	1	1	1	1	1		1	1		1			1	1		1	11	CAN: MB, SK. USA: AR, IA, IL, IN, KS, KY, MN, LA, MO, NE, TX, WI
***Traverella albertana* (McDunnough, 1931)**									1			1				1	3	CAN: AB, SK. USA: AZ, CO, ID, MT, ND, NM, NV, SD, UT, WA, WY
***Traverella lewisi* (Allen, 1973)**			1		1				1								3	USA: IN, KY, ND
***Tricorythodes albilineatus* (Berner, 1946)**						1	1						1				3	USA: AL, FL, GA, LA, MI, MN, SC, TX, WI
***Tricorythodes allectus* (Needham, 1905)**	1	1	1			1	1		1	1	1		1	1	1		11	CAN: MB, NB, NF, ON, QC. USA: AR, IA, IL, IN, LA, MD, ME, MI, MN, NC, ND, NE, NY, OH, OK, PA, SC, TN, VA, WI, WV
***Tricorythodes cobbi* (Alba-Tercedor & Flannagan, 1995)**							1	1		1				1			4	CAN: MB. USA: CT, MN, MO, NE, NH

Species	IA	IL	IN	KS	KY	MI	MN	MO	ND	NE	OH	SD	WI	MB	ON	SK	Freq	North America Distribution
***Tricorythodes explicatus* (Eaton, 1892)**			1			1			1	1		1	1		1	1	8	CAN: AB, BC, ON, QC, SK. USA: AR, AZ, CA, CO, ID, IN, ME, MI, MT, ND, NE, NM, NV, NY, OR, PA, SD, TX, UT, WA, WI, WY
***Tricorythodes fictus* (Traver, 1935)**										1		1					2	USA: AZ, CA, NE, NM, OK, SD, TX
***Tricorythodes mosegus* (Alba-Tercedor & Flannagan, 1995)**			1			1								1	1		4	CAN: MB, ON. USA: CT, IN, ME, MI, NH, PA
***Tricorythodes robacki* (Allen, 1967)**						1	1						1				3	USA: GA, MD, MI, MN, NC, OK, PA, SC, WI
***Tricorythodes stygiatus* (McDunnough, 1931)**	1	1	1			1			1				1				6	CAN: QC. USA: IA, ID, IL, IN, LA, ME, MI, NC, ND, NY, PA, VA, WI, WV
***Waynokiops dentatogriphus* (Hill et al., 2010)**			1		1						1						3	USA: AR, IN, KY, OH, VA

Preliminary Report on Plecoptera of Midwest (Midwest Association of Fish and Wildlife Agencies)

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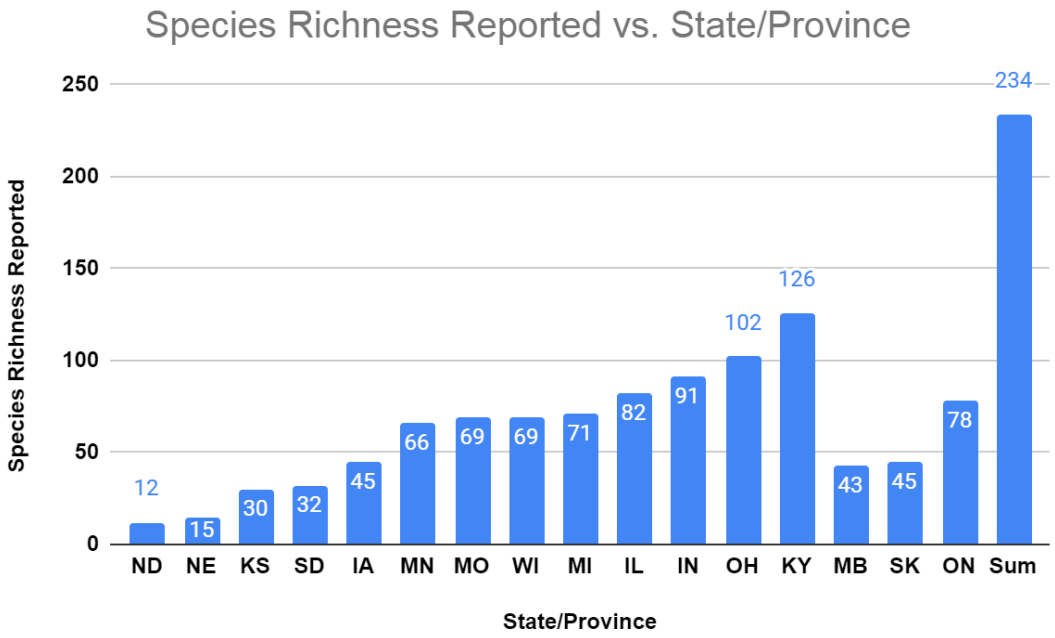
Target area: States and provinces contained within Midwest Association of Fish and Wildlife Agencies (MAFWA) region: USA: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin. Canada: Manitoba, Ontario, Saskatchewan.

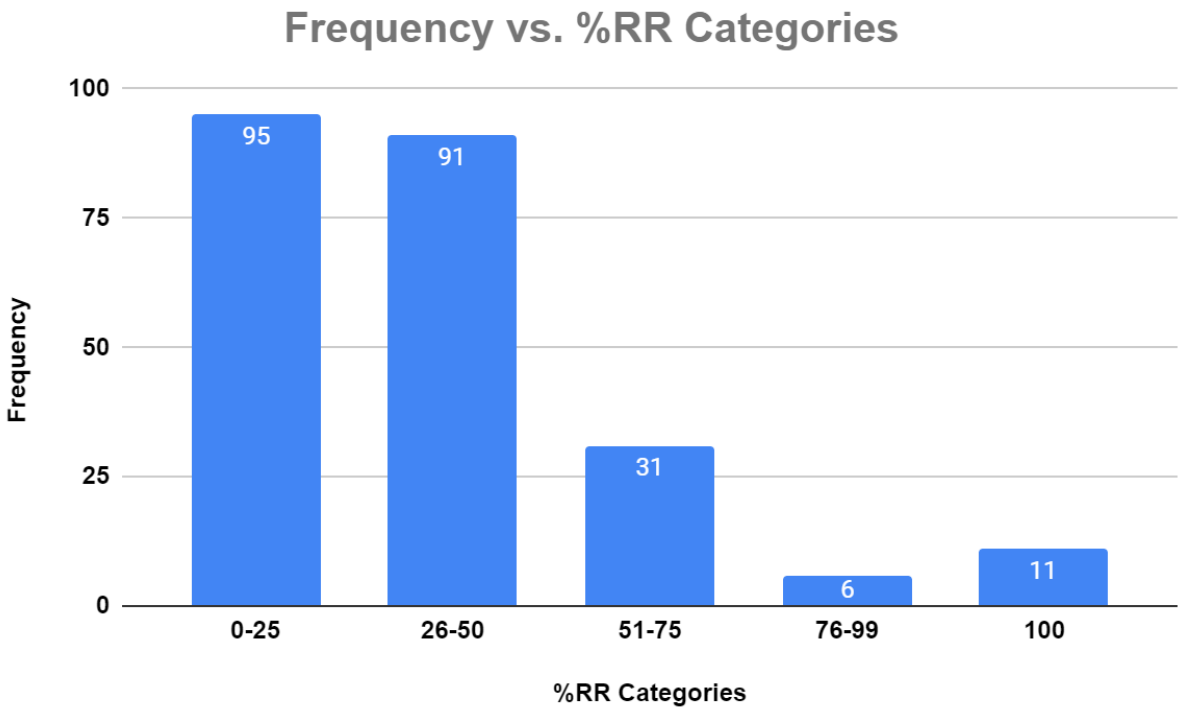
Data Sources: Plecoptera Species Files (http://plecoptera.speciesfile.org/), trusted literature, and specimen databases at the Illinois Natural History Survey compiled by DeWalt.

Regional and State Species Richness: This region is large with a variety of biomes represented. At least 234 species occur in the region (Table 1). There are not likely to be many more species recorded from this region, but tallies are incomplete for some individual states and provinces, especially those in the west of the region. Eastern states and provinces were richest with Ohio and Kentucky having over 100 species. Northern states and provinces (Michigan, Minnesota, Ontario, and Wisconsin) still associated with hardwood and mixed coniferous forest have similar species richness. Missouri has similar numbers of species and shares many species with the east and north, most of which are now separated by glacial till plains of Iowa, Illinois, and Indiana. States and provinces with predominant prairie landscapes support many fewer species.



Percentage Regional Responsibility (%RR): We prepared a presence/absence data matrix of all 234 species by states and provinces. A prevalence score was tallied from the number of positive occurrences across states and provinces. Total North American presence was tallied across all states and provides. The quotient %RR is the result of (prevalence/N American distribution) X 100.

Prevalence varied greatly. Mean prevalence for a species was 4.2 with range being 1–16. The number of North American states/provinces occupied by species averaged 13.2 units with the range being 1–42. The continuous measure of % RR averaged 35.9 units. Range spanned 5–100 (endemics to the region). Converting continuous measures of %RR to management ranges demonstrated that 0-25 and 26-50 range contained 186 of the 234 species. Only 37 species fell into ranges of 51-75 and 76-99. There were another 11 species that occurred only within a 5th grouping of 100% RR--the endemics of the region.



RSGCN Species. Our team was presented with 41 species for initial review. Of these the concern level was downgraded at least one level for 17. We upgraded the concern level for 5 species, and we left the concern level unchanged for 19 species. The distribution of concern level after our review was 7 very high, 8 high, 13 moderate, and 13 low concern.

RSGCN (not SGCNs). In our review, we found that 11 additional species were found to be endemic to the MAFWA region (Table 1, those species with 100% RR). They are the responsibility of the states and region to protect MAFWA. Distributions are difficult to know precisely, so these species may eventually be found in adjacent regions. The inclusion of Kentucky in the region added two endemics, *Leuctra schusteri* and *Soyedina calcarea*, both requiring small springs and spring runs in karst habitat. They are known from nowhere else in the world. Two additional stoneflies are currently known only from Minnesota. *Isoperla emarginata* and *I. maxana* are only known from their holotypes collected in the first half of the 20th century. Despite much effort, these species have not been recollected. They may be extinct. Other endemics have wider distributions within the region.

We have also identified another 26 stonefly species that may or may not meet all the requirements for entering into RSGCN status. Some have low %RR scores, but they exhibit a circum-Lake Superior distribution, being tied closely to the shoreline of the lake or the shores of islands such as Lake Superior. One, *Arcynopteryx dichroa*, is Holartic in distribution with

tremendous disjunctions from mountain tops of Europe to Arctic rivers of Siberia and Alaska, to Saskatchewan. Then 1000 miles east it shows up in Lake Superior and another 1000 miles to Mount Washington in New Hampshire. Many other disjunctions are among these species. Other instances include species once common in lower MW states in unglaciated terrain being lost that still remain in the Missouri Ozarks, and possibly even in the Driftless Area of Wisconsin, Minnesota, and Iowa. They should certainly be considered by some states for SGCN and some for RSGCN for the region. The original review species, endemics, and other potential RSGCN species are contained within the spreadsheet under the worksheet “Initial Review”.

Table 1. Species of stoneflies (Plecoptera) known to occur in USA states and Canada provinces of the Midwest Association of Fish and Wildlife Association region.

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
Capniidae	*Allocapnia cunninghami*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, TN	2	50
Capniidae	*Allocapnia curiosa*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, MD, NY, PA, VA, WV	6	17
Capniidae	*Allocapnia forbesi*	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**4**	USA: IL, IN, KY, OH, PA, TN, WV	7	57
Capniidae	*Allocapnia frisoni*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	USA: KY, MD, NY, OH, PA, TN, VA, WV	8	25
Capniidae	*Allocapnia granulata*	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	**12**	CAN: MB, ON, PQ. USA: AL, AR, DC, IA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, NJ, NY, OH, OK, PA, TN, TX, VA, WI, WV	27	44
Capniidae	*Allocapnia illinoensis*	0	1	1	0	0	0	1	0	1	0	0	0	1	1	0	0	**6**	CAN: ON, PQ, USA: IL, IN, MD, ME, MN, NY, OH, VA, WI, WV	12	50
Capniidae	*Allocapnia indianae*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: IN, KY, NY, OH, WV	5	60
Capniidae	*Allocapnia jeanae*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR, MO, OK	3	33
Capniidae	*Allocapnia minima*	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	**4**	CAN: NB, NF, NS, ON, PQ. USA: CT, MA, ME, MI, MN, NH, NY, VT, WI	9	44
Capniidae	*Allocapnia mystica*	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	**5**	USA: AL, AR, GA, IL, IN, KY, MO, MS, OH, TN, VA, WV	12	42
Capniidae	*Allocapnia nivicola*	0	1	1	0	1	0	0	0	1	0	0	0	1	0	0	0	**5**	CAN: NB, NS, PQ. USA: AL, CT, DC, DE, IL, IN, KY, MA,	19	26

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
																			MD, NC, NJ, NY, OH, PA, RI, TN, VA, VT, WI, WV		
Capniidae	*Allocapnia ohioensis*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: IN, KY, NY, OH, WV	5	60
Capniidae	*Allocapnia pechumani*	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**1**	CAN: NB, PQ. USA: NY, OH, PA	3	33
Capniidae	*Allocapnia pygmaea*	1	0	1	0	1	1	1	1	1	1	0	0	1	1	0	0	**10**	CAN: NB, NS, ON, PQ. USA: CT, DC, IA, KY, MA, MD, ME, MI, MN, MO, ND, NH, NJ, NY, OH, PA, RI, TN, VA, VT, WI, WV	21	48
Capniidae	*Allocapnia recta*	0	1	1	0	1	0	0	0	1	0	0	0	1	1	0	0	**6**	CAN: NS, ON, PQ. USA: AL, CT, DC, DE, GA, IL, IN, KY, LA, MA, MD, ME, MS, NC, NH, NY, OH, PA, SC, TN, VA, VT, WI, WV	23	26
Capniidae	*Allocapnia rickeri*	1	1	1	1	1	0	1	1	1	0	0	0	1	1	0	0	**10**	CAN: ON. USA: AL, AR, DC, DE, GA, IA, IL, IN, KS, KY, MD, MN, MO, MS, NC, NJ, NY, OH, OK, PA, TN, VA, WI, WV	23	43
Capniidae	*Allocapnia sandersoni*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR, MO, OK	3	33
Capniidae	*Allocapnia smithi*	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**4**	USA: AL, IL, IN, KY, OH	5	80
Capniidae	*Allocapnia vivipara*	1	1	1	1	1	1	0	1	1	0	1	0	1	1	0	0	**11**	CAN: ON, PQ. USA: AR, DC, IA, IL, IN, KS, KY, MD, MI, MN, MO, NE, NY, OH, OK, PA, TN, VA, WI, WV	21	52
Capniidae	*Allocapnia zola*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	CAN: NB. USA: CT, KY, MD, ME, NY, OH, PA, TN, VA, WV	11	18

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
Capniidae	*Capnia coloradensis*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: BC, MB, SK, YK. USA: AK, CO, ID, MT, NM, NV, WY.	11	18
Capniidae	*Capnia confusa*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	**3**	CAN: AB, BC, MB, NT, SK, YK. USA: AK, AZ, CA, CO, ID, MT, NM, NV, SD, UT, WA, WY	18	17
Capniidae	*Capnia gracilaria*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	**3**	CAN: AB, BC, MB, SK, YK. Mexico: BC. USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	19	16
Capniidae	*Capnia nearctica*	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	**3**	CAN: BC, MB, NT, NU, ON, SK, YK. USA: AK.	8	38
Capniidae	*Capnia vernalis*	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	1	**5**	CAN: AB, BC, LB, MB, NB, NF, NT, NU, ON, PQ, SK. USA: AK, CO, ID, MI, MN, MT, NM, NV, UT, WI, WY	22	23
Capniidae	*Capnura manitoba*	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	**4**	CAN: MB, NB, ON, PQ. USA: CT, MA, ME, MI, NY, VT, WI	7	57
Capniidae	*Capnura wanica*	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	**1**	USA: AZ, CA, CO, NE, NM, NV, UT, WY	8	13
Capniidae	*Eucapnopsis brevicauda*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	CAN: AB, BC, YK. USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	16	6
Capniidae	*Isocapnia crinita*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	CAN: AB, BC, SK, YK. USA: AK, CO, ID, MT, NM, UT, WY.	11	9
Capniidae	*Isocapnia integra*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**2**	CAN: AB, BC, SK, YK. USA: AK, ID, MT, SD, WY	9	22

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Capniidae	*Mesocapnia frisoni*	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0		**1**	Mexico: BC, CH, MX, SN. USA: AZ, CA, CO, KS, NM, NV, TX, UT.	12	8
Capniidae	*Nemocapnia carolina*	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	CAN: PQ. USA: AL, AR, FL, GA, IL, IN, MS, NC, SC, VA	11	18
Capniidae	*Paracapnia angulata*	0	1	1	0	1	1	1	1	1	0	0	1	1	1	1	1	**12**	CAN: LB, MB, NF, PQ, ON, SK. USA: AR, CO, CT, DE, GA, IL, KY, MA, MD, ME, MI, MN, MO, NC, NH, NJ, NY, OH, OK, PA, SD, TN, VA, WI, WV, WY	32	38
Capniidae	*Paracapnia opis*	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	**4**	CAN: LB, NB, NF, ON, PQ. USA: CT, ME, MI, MN, NJ, NY, WI, WV	13	31
Capniidae	*Utacapnia lemoniana*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	USA: CO, ID, NV, SD, UT, WY	6	17
Capniidae	*Utacapnia trava*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: AB, BC, MB, SK. USA: ID, MT.	6	33
Chloroperlidae	*Alloperla aracoma*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, MD, PA, VA, WV	5	20
Chloroperlidae	*Alloperla atlantica*	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	**4**	CAN: NB, NS, ON, PE, PQ. USA: AL, CT, GA, MA, MD, ME, MI, MN, NC, NH, NY, PA, SC, TN, VA, VT, WI	22	18
Chloroperlidae	*Alloperla banksi*	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	**2**	CAN: NB, NS, ON, PQ. USA: ME, MI, NY, VA	8	25
Chloroperlidae	*Alloperla caudata*	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	**5**	USA: AL, AR, IL, IN, KY, MA, MO, MS, OH, OK, TN, VA	12	42

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Chloroperlidae	*Alloperla chloris*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	CAN: NB, NS, PQ. USA: AL, CT, GA, KY, MA, MD, ME, NC, NH, NY, OH, PA, SC, TN, VA, WV	19	11
Chloroperlidae	*Alloperla concolor*	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**1**	CAN: NB, NF, NS, ON, PQ. USA: CT, MA, ME, NH, NY, PA, VA, VT, WV.	14	7
Chloroperlidae	*Alloperla hamata*	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	**4**	USA: AL, AR, IL, IN, KY, MO	6	67
Chloroperlidae	*Alloperla idei*	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	**3**	CAN: NB, ON, PQ. USA: AL, GA, KY, ME, MS, NY, OH, PA, VA, WV	13	23
Chloroperlidae	*Alloperla imbecilla*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	USA: KY, MD, NY, OH, PA, VA, WV	7	29
Chloroperlidae	*Alloperla leonarda*	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	**3**	CAN: NB, NS, PQ. USA: ME, MI, MN, MO	7	43
Chloroperlidae	*Alloperla petasata*	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	**3**	CAN: NB, NF, NS, ON, PQ. USA: GA, KY, MA, MD, ME, NC, NH, NY, OH, PA, SC, TN, VA, VT, WV	20	15
Chloroperlidae	*Alloperla usa*	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	**3**	USA: AL, GA, KY, MD, NC, OH, PA, SC, TN, VA, WV	11	27
Chloroperlidae	*Haploperla brevis*	0	1	1	0	1	1	1	1	1	0	0	0	1	1	1	1	**11**	CAN: AB, BC, MB, NB, NS, NT, ON, PE, PQ, SK. USA: AL, AR, CT, DE, FL, GA, IL, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, TN, VA, VT, WI, WV	39	28

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
Chloroperlidae	*Haploperla orpha*	0	0	0	0	0	1	1	0	0	1	0	0	1	1	0	0	**5**	CAN: NB, ON, PQ. USA: ME, MI, MN, ND, NY, WI	9	56
Chloroperlidae	*Paraperla frontalis*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	CAN: AB, BC, YK. USA: AK, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	15	7
Chloroperlidae	*Suwallia lineosa*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**2**	CAN: AB, BC, SK, YK. USA: AK, CO, ID, MT, OR, SD, UT, WA, WY	13	15
Chloroperlidae	*Suwallia marginata*	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**1**	CAN: LB, NB, ON, PQ. USA: GA, MA, MD, ME, NC, NH, NY, TN, PA, VA, VT, WV.	16	6
Chloroperlidae	*Suwallia pallidula*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: AB, BC, MB, SK. USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY.	16	13
Chloroperlidae	*Sweltsa borealis*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	CAN: AB, BC, YK. USA: AK, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	15	7
Chloroperlidae	*Sweltsa coloradensis*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	CAN: AB, BC, YK. USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	16	6
Chloroperlidae	*Sweltsa hoffmani*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: AL, IN, KY, MD, NY, OH, PA, WV, TN	8	38
Chloroperlidae	*Sweltsa lateralis*	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	**3**	CAN: NB, ON, PQ. USA: CT, GA, KY, MA, MD, ME, NC, NH, NY, OH, PA, SC, TN, VA, VT, WV	19	16
Chloroperlidae	*Sweltsa onkos*	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	**2**	CAN: LB, NB, NF, NS, ON, PE, PQ. USA: CT, DE, KY, MA, MD, ME, NC, NH, NY, PA, VA, VT, WV	20	10

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
Chloroperlidae	*Triznaka pintada*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	USA: AZ, CA, CO, ID, NM, NV, OR, SD, UT, WA, WY	11	9
Chloroperlidae	*Triznaka signata*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**2**	CAN: AB, BC, SK, YK. USA: AK, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	15	13
Leuctridae	*Leuctra alexanderi*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	USA: GA, KY, MD, OH, PA, TN, VA, WV	8	25
Leuctridae	*Leuctra alta*	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	**3**	USA: AL, IL, IN, KY, TN	5	60
Leuctridae	*Leuctra duplicata*	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	**2**	CAN: NB, NS, ON, PE, PQ. USA: CT, MA, MD, ME, NJ, NY, OH, PA, VA, WV	15	13
Leuctridae	*Leuctra ferruginea*	0	1	0	0	1	1	1	0	1	0	0	0	1	1	0	1	**8**	CAN: NB, NF, NS, ON, PQ, SK. USA: AL, CT, DE, FL, GA, KY, LA, MA, MD, ME, MI, MN, MS, NC, NJ, NY, OH, PA, SC, TN, VA, WI, WV	29	28
Leuctridae	*Leuctra maria*	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	**1**	CAN: ON, PQ. USA: CT, ME, NH, NY, PA, VT, WV	9	11
Leuctridae	*Leuctra rickeri*	1	1	1	0	1	1	0	0	1	0	0	0	1	0	0	0	**7**	USA: AL, IA, IL, IN, KY, MD, MI, MS, OH, VA, TN, WI, WV	12	58
Leuctridae	*Leuctra schusteri*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY.	1	100
Leuctridae	*Leuctra sibleyi*	0	1	1	0	1	0	1	0	1	0	0	0	0	1	0	0	**6**	CAN: NB, ON, PQ. USA: AL, CT, DE, GA, IL, IN, KY, MA, MD, ME, NC, NY, OH, PA, TN, VA, WI, WV	21	29
Leuctridae	*Leuctra tenella*	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	**2**	CAN: LB, NB, NS, ON, PQ. USA: CT, GA, MA, MD, ME,	21	10

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
																			MN, NC, NH, NJ, NY, OH, PA, VA, VT, WI, WV		
Leuctridae	*Leuctra tenuis*	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	0	**10**	CAN: NB, NS, ON, PQ. USA: AL, AR, CT, DE, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, NC, NJ, NY, OH, OK, PA, RI, VA, WI, WV	28	36
Leuctridae	*Leuctra truncata*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	CAN: NF, NS, PQ. USA: CT, KY, ME, NC, NY, PA, VA, WV	11	9
Leuctridae	*Leuctra variabilis*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, MA, MD, ME, NC, NH, NJ, NY, PA, TN, VA, VT	12	8
Leuctridae	*Megaleuctra stigmata*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	**1**	CAN: AB, BC, MB. USA: CA, MT, WA	6	17
Leuctridae	*Paraleuctra sara*	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	**4**	CAN: NB, NS, ON, PQ. USA: AL, CT, DE, GA, IN, KY, MA, MD, ME, NC, NY, OH, PA, SC, TN, VA, WV	17	24
Leuctridae	*Paraleuctra vershina*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**2**	CAN: AB, BC, SK, YK. USA: AK, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	16	13
Leuctridae	*Zealeuctra claasseni*	0	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	**6**	USA: AL, AR, IL, IN, KS, KY, MO, OK, OH, TN, TX, WV	12	50
Leuctridae	*Zealeuctra fraxina*	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**4**	USA: GA, IL, IN, KY, NJ, OH, PA, TN, VA, WV	10	40
Leuctridae	*Zealeuctra narfi*	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	**3**	USA: AR, IL, MO, OK, WI	5	60
Leuctridae	*Zealeuctra warreni*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR, MO, OK	3	33
Nemouridae	*Amphinemura alabama*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: AL, KY, MS, TN	4	25

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Nemouridae	*Amphinemura banksi*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	CAN: AB. USA: AZ, CO, ID, MT, NM, SD, UT, WY	9	11
Nemouridae	*Amphinemura delosa*	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	0	**11**	CAN: ON, QB. USA: AL, AR, GA, IA, IL, IN, KS, KY, MD, MI, MN, MO, MS, OH, OK, PA, TN, VA, WI, WV	22	50
Nemouridae	*Amphinemura nigritta*	0	0	0	0	1	1	0	1	1	0	0	0		1	0	0	**5**	CAN: LB, NB, NS, ON, PE, PQ. USA: AR, CT, DE, GA, KY, MD, ME, MI?, MO, MS, NC, NY, OH, PA, SC, TN, VA, WV	24	21
Nemouridae	*Amphinemura palmeni*	1	0	0	0	0	1	1	0	0	0	0	1	1	1	1	1	**8**	CAN: AB, BC, LB, MB, NS, NT, ON, PQ, SK, YK. USA: AK, IA, MI, MN, PA, SD, WI.	17	47
Nemouridae	*Amphinemura varshava*	1	1	1	0	1	1	0	0	1	0	0	0	1	0	0	0	**7**	USA: GA, IA, IL, IN, KY, MI, OH, WI	8	88
Nemouridae	*Amphinemura wui*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	CAN: NB, NS, PE, PQ. USA: AL, CT, DE, GA, KY, MA, MD, ME, NC, NJ, NY, PA, SC, TN, VA, WV	20	5
Nemouridae	*Malenka californica*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: AB, BC, MB, SK. USA: CA, CO, ID, MT, NM, NV, OR, UT, WA, WY.	14	14
Nemouridae	*Malenka coloradensis*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	USA: AZ, CO, NM, NV, SD, UT, WY	7	14
Nemouridae	*Nemoura arctica*	1	1	0	0	0	1	1	0	1	0	0	1	1	1	1	1	**10**	CAN: AB, BC, LB, MB, NB, NF, NS, NT, NU, ON, PEI, PQ, SK, YK. USA: AK, IA, IL, ME, MI, MN, NH, NY, OH, PA, SD, WI, WV, WY	29	34

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Nemouridae	*Nemoura sahlbergi*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: MB, NT, NU, SK, YK. USA: AK.	6	33
Nemouridae	*Ostrocerca albidipennis*	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	**3**	CAN: NS, ON, PQ. USA: CT, MA, MD, ME, MI, NH, NY, OH, PA, VA, WV	11	27
Nemouridae	*Ostrocerca truncata*	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	**4**	CAN: ON, PQ. USA: CT, IN, KY, MA, MD, ME, NY, OH, PA, VA, WV	11	36
Nemouridae	*Paranemoura perfecta*	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	**3**	CAN: NB, NS, ON, PE, PQ. USA: CT, MA, MD, ME, MI, MN, NC, NH, NY, PA, TN, VA, VT, WV	14	21
Nemouridae	*Podmosta delicatula*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	CAN: AB, BC, SK, YK. USA: AK, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY.	15	7
Nemouridae	*Podmosta macdunnoughi*	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**	CAN: LB, NB, NF, NS, PE, PQ. USA: ME, MN, NY	3	33
Nemouridae	*Prostoia besametsa*	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	**2**	CAN: AB, BC, NT, YK. USA: AK, AZ, CA, CO, ID, MT, NE, NM, NV, OR, SD, UT, WA, WY	18	11
Nemouridae	*Prostoia completa*	1	1	1	0	1	1	1	0	1	0	0	0	1	1	0	0	**9**	CAN: NB, NS, NF, ON, PE, PQ. USA: AL, DE, GA, IA, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NY, OH, PA, SC, TN, VA, WI, WV	28	32
Nemouridae	*Prostoia hallasi*	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: CT, GA, IL, MA, NC, VA	6	17
Nemouridae	*Prostoia ozarkensis*	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**2**	USA: AR, IL, MO, OK	4	50

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
Nemouridae	*Prostoia similis*	0	1	1	0	1	1	1	1	1	0	0	0	1	1	0	0	**9**	CAN: ON, PQ. USA: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, MO, NY, OH, PA, SC, TN, VA, WI, WV	21	43
Nemouridae	*Shipsa rotunda*	1	1	0	0	0	1	1	0	0	0	1	0	1	1	1	1	**9**	CAN: AB, LB, MB, NB, NS, NT, NU, ON, PQ, SK. USA: AK, AL, AR, GA, IA, IL, MA, MD, ME, MI, MN, MS, NC, NE, NH, NY, SC, VA, VT, WI	30	30
Nemouridae	*Soyedina calcarea*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY.	1	100
Nemouridae	*Soyedina vallicularia*	1	1	1	0	1	1	0	0	1	0	0	0	1	1	0	0	**8**	CAN: LB, NS, ON, PQ. USA; CT, IA, IL, IN, KY, MA, MD, ME, MI, NC, NH, NY, OH, PA, TN, VA, WI, WV	22	36
Nemouridae	*Zapada cinctipes*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	**3**	CAN: AB, BC, MB, NT, SK, YK. USA: AK, CA, CO, ID, MT, NM, NV, SD, UT, WA, WY	17	18
Peltoperlidae	*Peltoperla arcuata*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	CAN: PQ. USA: KY, MD, NY, OH, PA, TN, VA, WV	9	22
Peltoperlidae	*Pteronarcella badia*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	CAN: AB, BC, NT, SK, YK. USA: AK, AZ, CO, ID, MT, NM, NV, OR, UT, WY.	15	7
Peltoperlidae	*Tallaperla maria*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: AL, CT, DE, GA, KY, MA, MD, ME, NC, NH, NY, PA, SC, TN, VA, WV	16	6
Perlidae	*Acroneuria abnormis*	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	**15**	CAN: AB, MB, NB, NF, ON, PQ, SK, USA: AL, CO, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI,	42	36

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
																			MN, MS, MT, NC, ND, NE, NM, NV, NY, OH, PA, SC, SD, TN, UT, VA, WI, WV, WY		
Perlidae	*Acroneuria carolinensis*	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	**2**	CAN: MB, ON, PQ, USA: AL, CT, GA, KY, MA, MD, ME, MS, NC, NH, NJ, NY, OH, PA, SC, TN, VA, WV	21	10
Perlidae	*Acroneuria covelli*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: IN, KY, OH, TN	4	75
Perlidae	*Acroneuria evoluta*	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	**6**	USA: AL, AR, FL, GA, IL, IN, KS, LA, MO, MS, OH, OK, PA, TN, TX, VA, WV	17	35
Perlidae	*Acroneuria filicis*	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	**5**	USA: AL, AR, GA, IL, IN, KY, MD, MO, OH, PA, SC, TN, VA, WV	14	36
Perlidae	*Acroneuria frisoni*	0	1	1	1	1	1	0	1	1	0	0	0	1	0	0	0	**8**	CAN: ON. USA: AL, AR, IL, IN, KS, KY, MA, MD, MI, MO, NC, OH, OK, PA, TN, TX, WI, WV	19	42
Perlidae	*Acroneuria hitchcocki*	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	**2**	USA: IN, KY	2	100
Perlidae	*Acroneuria internata*	0	1	1	0	1	1	1	1	1	0	0	0	1	0	0	0	**8**	USA: AR, IL, IN, KY, MI, MN, MO, OH, OK, VA, WI, WV	12	67
Perlidae	*Acroneuria kirchneri*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	USA: KY, OH, PA, VA, WV	5	40
Perlidae	*Acroneuria lycorias*	1	0	1	0	1	1	1	0	1	1	0	0	1	1	1	1	**11**	CAN: MB, NB, NS, ON, PQ, SK. USA: CT, FL, KY, IA, MD, ME, MI, MN, NC, ND, NJ, NY, OH, PA, TN, VA, WI, WV	18	61

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlidae	*Acroneuria ozarkensis*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR, MO	2	50
Perlidae	*Acroneuria perplexa*	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	**5**	USA: AL, AR, DC, GA, IL, IN, KY, MO, OH, OK, PA, TN, WV	12	42
Perlidae	*Agnetina annulipes*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: AL, DC, FL, GA, IN, KY, LA, MD, MS, OH, PA, SC, VA, WV	13	23
Perlidae	*Agnetina capitata*	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	0	**10**	CAN: NB, NS, ON, PE, PQ. USA: AR, CT, DE, IA, IL, IN, KY, MA, MD, ME, MI, MN, MO, NH, NY, OH, PA, VA, WI, WV	24	42
Perlidae	*Agnetina flavescens*	0	1	1	0	1	1	1	1	1	0	0	0	1	1	0	0	**9**	USA: AL, AR, GA, IL, IN, KY, MD, MI, MN, MO, NC, NY, OH, OK, PA, SC, TN, VA, WI, WV	20	45
Perlidae	*Attaneuria ruralis*	1	1	1	1	0	1	1	1	1	0	1	0	1	0	1	0	**11**	CAN: MB. USA: AL, AR, DC, FL, GA, IA, IL, IN, KS, MD, MI, MN, MO, MS, NC, NE, NY, OH, PA, SC, TN, VA, WI.	23	48
Perlidae	*Claassenia sabulosa*	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	**4**	CAN: AB, BC, MB, NT, NU, ON, PQ, SK, YK. USA: AZ, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	22	18
Perlidae	*Eccoptura xanthenes*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	USA: AL, CT, DE, FL, GA, KY, MD, MS, NC, NY, OH, PA, SC, TN, VA, WV	16	13
Perlidae	*Hansonoperla hokolesqua*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, WV	2	50

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlidae	*Hesperoperla pacifica*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**2**	CAN: AB, BC, SK, YK. USA: AK, AZ, CA, CO, ID, MT, NM, NV, OR, SD, UT, WA, WY	17	12
Perlidae	*Neoperla carlsoni*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AL, AR, FL, LA, MO, MS, SC, TX, VA	9	11
Perlidae	*Neoperla catharae*	0	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	**6**	USA: AL, AR, IL, IN, KY, MD, MI, MO, NC, OH, OK, PA, TN, TX, VA	15	40
Perlidae	*Neoperla choctaw*	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	**2**	USA: AR, KY, MO, OK, PA, WV	6	33
Perlidae	*Neoperla clymene*	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	**8**	USA: FL, GA, IA, IL, IN, KS, KY, LA, MN, MS, NC, OK, PA, SC, TX, VA, WV	17	47
Perlidae	*Neoperla coosa*	0	0	1	0	1	0	0	0	1	0	0	0	1	1	0	0	**5**	CAN: ON. USA: AL, GA, IN, KY, NC, NY, OH, TN, VA, WI	10	50
Perlidae	*Neoperla falaya*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR: AR, MO, OK	3	33
Perlidae	*Neoperla gaufini*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: IN, KY, OH	3	100
Perlidae	*Neoperla harpi*	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**2**	USA: AR, IL, MO, OK	4	50
Perlidae	*Neoperla mainensis*	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	**3**	CAN: ON. USA: CT, IL, ME, OH	5	60
Perlidae	*Neoperla occipitalis*	0	1	1	0	1	1	0	0	1	0	0	0	1	1	0	0	**7**	CAN: NS, ON. USA: AL, IL, IN, KY, ME, MI, MS, NY, OH, PA, SC, TN, VA, WI	15	47
Perlidae	*Neoperla osage*	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	**3**	USA: AR, IA, IN, MO, OK	5	60

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlidae	*Neoperla robisoni*	0	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0	**6**	USA: AR, IL, IN, MD, MO, MS, OH, OK, PA, TN, WI, WV	12	50
Perlidae	*Neoperla stewarti*	0	1	1	0	1	1	1	0	1	0	0	0	1	0	0	0	**7**	USA: AL, GA, IL, IN, KY, MA, MD, ME, MI, MN, MS, NC, OH, PA, TN, VA, WI, WV	18	39
Perlidae	*Paragnetina immarginata*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	CAN: PQ. USA: CT, DE, GA, KY, MA, MD, ME, NC, NH, NY, PA, SC, TN, VA, WV	15	7
Perlidae	*Paragnetina kansensis*	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	**5**	USA: AL, AR, FL, GA, IL, IN, KS, KY, LA, MO, MS, NC, SC	13	38
Perlidae	*Paragnetina media*	0	1	1	0	1	1	1	1	1	0	0	0	1	1	1	1	**11**	CAN: MB, NB, ON, PQ, SK. USA: AR, CT, DE, IA, IL, IN, KY, MD, ME, MI, MN, MO, NH, NY, OH, PA, VA, WI, WV	24	46
Perlidae	*Perlesta adena*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: IN, KY, OH, TN	4	75
Perlidae	*Perlesta armitagei*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: IN, KY, OH, PA.	4	75
Perlidae	*Perlesta bolukta*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: MO, OK, TX	3	33
Perlidae	*Perlesta browni*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR, MO, OK	3	33
Perlidae	*Perlesta cinctipes*	1	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	**5**	USA: AR, IA, IL, KS, MO, NE, OK	7	71
Perlidae	*Perlesta dakota*	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	**3**	CAN: SK. USA: ND, SD.	3	100
Perlidae	*Perlesta decipiens*	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	**13**	USA: AL, AR, AZ, CO, GA, IA, IL, IN, KY, MI, MO, ND,	24	54

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
																			NE, NM, OH, OK, PA, SD, TN, TX, VA, WI, WV, WY		
Perlidae	*Perlesta ephelida*	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	0	**10**	CAN: ON. USA: AL, AR, CT, GA, IA, IL, IN, KY, MA, MD, MI, MO, OH, TN, WI, WV	17	59
Perlidae	*Perlesta fusca*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR, MO, OK	3	33
Perlidae	*Perlesta golconda*	1	1	1	0	0	1	1	1	0	0	1	0	1	0	0	0	**8**	USA: IA, IL, IN, MI, MN, MO, NE, WI	8	100
Perlidae	*Perlesta lagoi*	1	1	1	0	1	1	1	0	1	0	0	0	1	0	0	0	**8**	USA: AL, GA, IA, IL, IN, KY, MI, MS, OH, TN	10	80
Perlidae	*Perlesta ouabache*	1	1	1	0	1	0	1	0	0	0	0	0	1	0	0	0	**6**	USA: IA, IN, IL, KY, MN, WI	6	100
Perlidae	*Perlesta placida*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: AL, DC, DE, FL, GA, KS, KY, LA, MA, MD, ME, MN, MS, NC, PA, TN, TX, VA, WV.	16	6
Perlidae	*Perlesta shawnee*	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	**3**	USA: AL, GA, IL, IN, KY, NC, VA	7	43
Perlidae	*Perlesta teaysia*	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**4**	USA: IL, IN, KY, MD, OH, PA, TN, VA, WV	9	44
Perlidae	*Perlesta WI-1*	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	**3**	USA: MI, MN, WI	3	100
Perlidae	*Perlesta xube*	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	**6**	USA: IA, IL, IN, ND, NE, OH	6	100
Perlidae	*Perlinella drymo*	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	**10**	CAN: NS, PQ. USA: AL, AR, CT, DC, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NH, NJ, NY, OH, OK, PA, SC, TN, TX, VA, WI, WV	33	30

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlidae	*Perlinella ephyre*	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	**10**	USA: AL, AR, CT, FL, GA, IA, IN, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NJ, NY, OH, OK, PA, RI, SC, TN, VA, WI, WV	31	32
Perlodidae	*Arcynopteryx dichroa*	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	**2**	CAN: AB, BC, NT, NU, SK, YK. USA: AK, CO, ME, MI, MT, NH, NY, WY	14	14
Perlodidae	*Clioperla clio*	1	1	1	0	1	1	0	1	1	0	0	0	1	1	0	0	**9**	CAN: ON, USA: AL, AR, CT, DE, FL, GA, IA, IL, IN, KY, MA, MD, MI, MO, MS, NC, OH, OK, PA, SC, TN, VA, WI, WV	25	36
Perlodidae	*Cultus decisus decisus*	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	**3**	CAN: NB, ON. USA: MI, NY, OH, PA, WV	5	60
Perlodidae	*Diploperla kanawholensis*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, NC, VA, WV	4	25
Perlodidae	*Diploperla robusta*	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**4**	USA: AL, CT, IL, IN, KY, MD, OH, PA, TN, VA, WV	11	36
Perlodidae	*Diura bicaudata*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: MB, NT, NU, SK, YK. USA: AK.	6	33
Perlodidae	*Diura knowltoni*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	CAN: AB, BC, SK, YK. USA: CA, CO, ID, MT, NM, NV, OR, UT, WY.	13	8
Perlodidae	*Helopicus nalatus*	0	1	1	1	0	1	1	1	0	0	0	0	0	1	0	0	**7**	CAN: ON. USA: AR, IL, IN, KS, MI, MN, MO, OK	9	78
Perlodidae	*Helopicus subvarians*	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	**3**	CAN: ON, PQ. USA: AL, CT, FL, GA, KY, ME, NC, NY, PA, SC, TN, VA, WV	15	20

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlodidae	*Hydroperla crosbyi*	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	**4**	USA: AR, IL, IN, KS, MO, OK, TX	7	57
Perlodidae	*Hydropterla fugitans*	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	**6**	USA: AR, IA, IL, IN, KS, KY, MO, OK, TN, TX	10	60
Perlodidae	*Isogenoides colubrinus*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: AB, BC, MB, NT, NU, SK, YK. USA: AK, AZ, CA, CO, ID, MT, NM, OR, UT, WA, WY.	18	11
Perlodidae	*Isogenoides doratus*	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	**4**	CAN: BC, MB, PQ. USA: IA, MN, MI, NY	7	57
Perlodidae	*Isogenoides elongatus*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	**2**	CAN: AB, BC, MB. USA: AZ, CO, ID, MT, NM, NV, SD, UT, WA, WY	13	15
Perlodidae	*Isogenoides frontalis*	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	1	**6**	CAN: MB, NF, ON, PQ, SK. USA: ME, MI, MN, NY, WI	10	60
Perlodidae	*Isogenoides olivaceus*	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	**4**	CAN: ON, PQ. USA: MI, MN, PA, WI	6	67
Perlodidae	*Isogenoides varians*	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	**5**	USA: AL, FL, IA, IL, IN, KS, MN, MS, NC, SC, TN, VA	12	42
Perlodidae	*Isoperla bilineata*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	**16**	CAN: MB, NB NF, ON, PQ, SK, USA: AL, CO, CT, FL, IA, IL, IN, KS, KY, MA, ME, MI, MN, MO, MS, NC, ND, NE, NY, OH, PA, SD, VA, WI, WV	31	52
Perlodidae	*Isoperla burksi*	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	0	**5**	USA: AL, AR, IL, IN, KY, MD, MO, NC, NJ, OH, OK, SC, VA, WV	14	36

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlodidae	*Isoperla cotta*	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	**3**	CAN: NB, NS, ON, PE, PQ. USA: MA, ME, MI, NY, SC, VA, WI, WV	13	23
Perlodidae	*Isoperla davisi*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AL, AR, DE, FL, LA, MO, MS, NC, OK, SC, TX, VA	12	8
Perlodidae	*Isoperla decepta*	0	1	1	0	1	0	0	1	1	0	0	0	0	1	0	0	**6**	CAN: ON. USA: AL, IL, IN, KY, MO, OH	7	86
Perlodidae	*Isoperla decolorata*	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	**3**	CAN: AB, BC, MB, NT, NU, ON, SK, YK. USA: AK.	9	33
Perlodidae	*Isoperla dicala*	1	0	1	0	1	1	1	1	1	0	0	0	1	1	1	0	**10**	CAN: MB, NB, NS, ON, PQ. USA: AL, AR, CT, FL, GA, IA, IN, KY, MA, MD, ME, MI, MN, MO, MS, NC, NY, OH, PA, SC, TN, VA, WI, WV	29	34
Perlodidae	*Isoperla emarginata*	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**	USA: MN	1	100
Perlodidae	*Isoperla frisoni*	0	0	1	0	0	1	1	0	1	0	0	0	1	1	1	0	**7**	CAN: MB, NB, NS, ON, PE, PQ. USA: CT, DE, GA, IN, ME, MI, MN, NC, NY, OH, PA, SC, TN, VA, WI	21	33
Perlodidae	*Isoperla holochlora*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	CAN: NS, PQ. USA: AL, CT, DE, GA, KY, MA, MD, ME, NC, NY, OH, PA, SC, TN, VA, WV	18	11
Perlodidae	*Isoperla irregularis*	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	**3**	USA: AR, IL, KS, LA, MO, OK, TX	7	43
Perlodidae	*Isoperla kirchneri*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, MD, NC, NY, PA, TN, VA, WV	8	13

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlodidae	*Isoperla lata*	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	**4**	CAN: LB, NB, NS, ON, PQ. USA: MA, ME, MI, MN, NC, NY, PA, TN, VA, WI, WV	16	25
Perlodidae	*Isoperla longiseta*	1	1	0	1	0	0	1	1	0	1	0	1	0	1	1	1	**10**	CAN: AB, BC, MB, NT, ON, PQ, SK. USA: AK, AZ, CO, IA, ID, IL, KS, MN, MO, MT, ND, NM, SD, UT, WY	22	45
Perlodidae	*Isoperla marlynia*	1	1	1	1	1	1	1	1	0	0	1	0	1	1	1	1	**13**	CAN: MB, NB, NS, ON, PQ, SK. USA: CO, IA, IL, IN, KS, KY, ME, MI, MN, NE, NH, NJ, NY, OK, PA, SC, VA, WI, WV	25	52
Perlodidae	*Isoperla maxana*	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	**1**	USA: MN	1	100
Perlodidae	*Isoperla montana*	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	**4**	CAN: NS, ON, PQ. USA: AL, CT, DE, IN, KY, MD, ME, MN, NC, NH, NJ, NY, OH, PA, SC, VA, WV	20	20
Perlodidae	*Isoperla namata*	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	**4**	USA: AR, IL, IN, KY, MD, MO, OK	8	50
Perlodidae	*Isoperla nana*	0	1	1	0	1	1	0	0	1	0	0	0	1	1	0	0	**7**	CAN: ON, PQ. USA: IL, IN, KY, MI, NY, OH, PA, WI	10	70
Perlodidae	*Isoperla nelsoni*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: AL, GA, KY, NC, TN, VA, WV	7	14
Perlodidae	*Isoperla orata*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	CAN: NB, NS, PQ. USA: CT, KY, ME, NC, NH, NY, OH, PA, SC, TN, VA, VT, WV	16	13
Perlodidae	*Isoperla ouachita*	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	**1**	USA: AR, MO, OK	3	33

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Perlodidae	*Isoperla petersoni*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	CAN: AB, BC, NT, SK, YK. USA: AK, CO, ID, MT, NV, UT, WA, WY.	13	8
Perlodidae	*Isoperla phalerata*	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	**1**	USA: CO, ID, NM, NV, OR, SD, UT, WY	8	13
Perlodidae	*Isoperla pseudosimilis*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: CT, KY, MA, MD, ME, NC, NH, NJ, NY, PA, TN, VA, VT, WV.	14	7
Perlodidae	*Isoperla quinquepunctata*	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	**4**	CAN: AB, BC, SK. USA: AZ, CA, CO, ID, KS, MT, NE, NM, NV, OR, SD UT, WY	16	25
Perlodidae	*Isoperla richardsoni*	1	1	1	0	1	1	1	1	1	0	0	0	1	0	0	0	**9**	USA: CT, IA, IL, IN, KY, MI, MN, MO, OH, PA, WI, WV	12	75
Perlodidae	*Isoperla signata*	1	0	0	0	0	1	1	1	1	0	0	0	1	1	1	0	**8**	CAN: MB, NB, NS, ON, PQ. USA: AR, CT, IA, ME, MI, MN, MO, NY, OH, OK, PA, VA, WI, WV	19	42
Perlodidae	*Isoperla similis*	0	0	0	0	1	0	0	0	0	0	0	0	0				**1**	USA: CT, MA, MD, ME, NC, NH, NJ, NY, PA, TN, VA, VT, WV	13	8
Perlodidae	*Isoperla slossonae*	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	**4**	CAN: NB, NS, PE, PQ. USA: IA, CT, ME, MI, MN, NC, NH, NY, PA, VA, WI, WV	16	25
Perlodidae	*Isoperla transmarina*	1	0	0	0	1	1	1	0	1	0	0	1	1	1	1	1	**10**	CAN: AB, BC, LB, MB, NB, NF, NS, ON, PE, PQ, SK, USA: CT, DE, IA, KY, ME, MI, MN, NC, NH, NJ, NY, OH, PA, SD, VA, WI, WV, WY	29	34

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
Perlodidae	*Malirekus hastatus*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: GA, KY, NC, SC, TN, VA, WV	7	14
Perlodidae	*Malirekus iroquois*	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**1**	CAN: NB, NS, PQ. USA: MD, NH, NY, OH, PA, VT	9	11
Perlodidae	*Remenus bilobatus*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: AL, CT, DE, GA, KY, MD, NC, NY, PA, SC, TN, VA, WV	13	8
Perlodidae	*Skwala americana*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**2**	CAN: AB, BC, MB, SK, YK. USA: AZ, CA, CO, ID, MT, NM, NV, OR, UT, WA, WY	15	13
Perlodidae	*Yugus kirchneri*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: KY, MD, PA, VA, WV	5	20
Pteronarcyidae	*Pteronarcys biloba*	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	**2**	CAN: NB, NS, PE, PQ. USA: AL, CT, GA, KY, MA, MD, ME, NC, NY, OH, PA, TN, VA, WV	18	11
Pteronarcyidae	*Pteronarcys comstocki*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	CAN: NB. USA: KY, ME, NY, PA, VA, WV	7	14
Pteronarcyidae	*Pteronarcys dorsata*	0	0	1	0	1	1	1	0	1	0	0	0	1	1	1	1	**9**	CAN: AB, BC, LB, MB, NB, NT, ON, PQ, SK, YK. USA: AK, AL, GA, FL, KS-doubtful, KY, IN, LA, MD, ME, MI, MN, MS, MT, NC, NJ, NY, OH, PA, SC, TN, VA, WI, WV, WY	34	26
Pteronarcyidae	*Pteronarcys pictetii*	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	**14**	CAN: MB. USA: AR, CO, CT, IA, IL, IN, KS, KY, MI, MN, MO, ND, NE, PA, SD, TN, WI	18	78
Pteronarcyidae	*Pteronarcys proteus*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	CAN: QB, USA: KY, MA, MD, ME, NC, NH, NY, PA, VA, VT, WV	12	8

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Prevalence	North America Distribution	NA Dist.	% RR
Taeniopterygidae	*Oemopteryx contorta*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	USA: AL, CT, GA, KY, MA, MD, ME, NC, NH, PA, TN, VA, WV	13	8
Taeniopterygidae	*Oemopteryx fosketti*	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	**3**	CAN: AB, MB, SK. USA: CO, MT, ND, UT	7	43
Taeniopterygidae	*Oemopteryx glacialis*	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	**4**	CAN: ON, PQ. USA: CT, MI, MN, NY, WI, WV	6	67
Taeniopterygidae	*Strophopteryx appalachia*	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	**2**	USA: GA, KY, MD, NC, NY, PA, SC, TN, VA, WV	10	20
Taeniopterygidae	*Strophopteryx arkansae*	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	**2**	USA: AR, KS, MO, OK	4	50
Taeniopterygidae	*Strophopteryx fasciata*	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	**13**	CAN: MB, ON, PQ. USA: AL, AR, CT, DE, GA, IA, IL, IN, KS, KY, MD, ME, MI, MN, MO, MS, NC, ND, NY, OH, OK, PA, SC, VA, WI, WV	29	45
Taeniopterygidae	*Taenionema atlanticum*	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**	CAN: LB, NB, NF, NS, PQ. USA: CT, KY, MA, MD, ME, NC, NH, NY, PA, SC, TN, VA, VT, WV	19	5
Taeniopterygidae	*Taeniopteryx burksi*	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	**13**	CAN: ON, PQ. USA: AL, AR, CO, CT, DE, FL, GA, IA, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, NC, NE, NY, OH, OK, PA, SD, TN, TX, VA, WI, WV	33	39
Taeniopterygidae	*Taeniopteryx lita*	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**4**	USA: AL, AR, FL, IL, IN, KY, LA, MS, NC, NJ, OH, OK, SC, TX, VA, WV	16	25

Family	ScientificName	IA	IL	IN	KS	KY	MI	MN	MO	OH	ND	NE	SD	WI	ON	MB	SK	Preva-lence	North America Distribution	NA Dist.	% RR
Taeniopterygidae	*Taeniopteryx maura*	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	**3**	USA: AL, AR, CT, DE, GA, IN, KY, MA, MD, ME, MS, NC, NY, OK, OH, PA, SC, TN, TX, VA, WV	21	14
Taeniopterygidae	*Taeniopteryx metequi*	0	1	1	1	1	0	0	1	1	0	0	0	0	1	0	0	**7**	CAN: ON. USA: AL, AR, IL, IN, KS, KY, MD, MO, NC, NY, OH, OK, PA, VA, WV	16	44
Taeniopterygidae	*Taeniopteryx nivalis*	1	1	1	0	0	1	1	0	1	0	0	0	1	1	1	1	**10**	CAN: AB, MB, ON, PQ, SK. USA: CA, CT, DE, IA, ID, IL, IN, MD, ME, MI, MN, NV, NY, OH, OR, PA, UT, WI, WA, WV	25	40
Taeniopterygidae	*Taeniopteryx parvula*	0	1	1	0	1	1	1	1	1	0	0	0	1	1	1	0	**10**	CAN: AB, MB, ON, PQ. USA: AR, CO, CT, GA, IL, IN, KY, MD, ME, MI, MN, MO, MS, NM, NJ, NY, OH, PA, SC, TN, VA, WI, WV, WY	28	36
		45	**82**	**91**	**30**	**126**	**71**	**66**	**69**	**102**	**12**	**15**	**32**	**69**	**78**	**43**	**45**	**4.2**	**Mean**	**13.2**	**35.9**
																		1	**Min**	**1**	**5**
																		16	**Max**	**42**	**100**

Preliminary Report on Trichoptera of Midwest (Midwest Association of Fish and Wildlife Agencies)

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Target area: States and provinces contained within Midwest Association of Fish and Wildlife Agencies (MAFWA) region: USA: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin. Canada: Manitoba, Ontario, Saskatchewan.

Data Sources: We utilized Rasmussen & Morse (2020) which contains names of all North American caddisflies, the states reported from, and the literature reference reporting them. We also consulted museum specimen databases at Hillsdale College, University of Minnesota, Illinois Natural History Survey, University of Wisconsin Superior and Stevens Point, and Iowa Hygenics Laboratory, adding confirmed, unpublish specimen records to the state/province lists. These new specimen records were vetted by all scientists on this committee, often to the point of re-examination of specimens. All scientific names were checked for potential synonyms, spelling, and current, valid usage at Morse (2021).

General information. Trichoptera (caddisflies) occur in all continents except Antarctica. It is a small order of insects currently approaching 14,000 valid species worldwide and is most diverse in the Oriental Biogeographic Region (Morse 2011). In North America, generic diversity is highest at about 47° latitude (Shah et al. 2014) and species richness is highest in the Southeast Appalachian Mountain area (Morse et al. 2017).

The MAFWA target area is extremely large, perhaps outsized for the intended purpose. This large region consists of several biomes: Eastern Deciduous Forest, Taiga, Tallgrass Prairie, and Subarctic Tundra. Because of this intersection of biomes and the historical connectivity to southern and western glacial refugia and the Bering Land Bridge the region is hyperdiverse,

perhaps supporting as many as one-fourth of all species known from North America. Holarctic species (those known from both the Palearctic and Nearctic Biogeographic Regions), western mountains species, plains originated species, Interior Highlands species, and Appalachian origin species are found in the region.

Larvae the world over are used as indicators of water quality and are in the top three orders of insects with the highest sensitivity to organic enrichment and habitat disturbance in running water systems (Barbour et al. 1999). Caddisflies occur in all freshwater aquatic systems, from springs to large lakes. Larvae have the ability to spin silk from salivary glands. This silk is used to glue mineral or organic substrates together to form cases. Cases appear to confer protection against predation, but may more often allow larvae to circulate relatively oxygen rich water across their bodies by undulation--thus improving respiration and removing CO_2 laden water. Because of this many species have adapted to warmwater streams, marshes, and the lakes where seasonal or night-time hypoxia may occur. Other species construct long, silken retreats with mesh nets that filter small particles of food. These species are often most abundant in fast flowing rivers of all sizes. A detailed account of the biology of caddisflies is available from Wiggins (2004).

Regional and State Species Richness: We have documented that nearly 600 species reside in the MAFWA region (Fig. 1). The number of species within the region is not likely to grow substantially from this tally since only 14 species have been described since the year 2000 with distributions in the region. A complete checklist list of regional species resulting from the data sources listed above is presented in the Excel spreadsheet as part of supplementary data.

Species richness within states and provinces is highest in eastern and northern forested political units (OH, ON, WI, MN, KY, MI) (Fig. 1). As forests are gradually replaced by prairie, species numbers dramatically decline. Western prairie states and provinces have much diminished richness, some of which is certainly real, some attributable to lack of survey effort. In the future, there should be substantial increase in richness in these western states and provinces due to inventory work.

Our search for regional records uncovered 21 of the 26 families of caddisflies known to occur in North American. Five families (Hydroptilidae, Limnephilidae, Leptoceridae, Hydropsychidae, Polycentropodidae) contributed 8–20% of the total species in the region, for a combined total of 70.4 % of all species (Fig. 2).

Percentage Regional Responsibility (%RR): We prepared a presence/absence data matrix of all 595 species by states and provinces. Four species (*Neotrichia collata* Morton, 1905, *Ceraclea brevis* (Etnier, 1968), *Pycnopsyche scabripennis* (Rambur, 1842), and *Banksiola concatenata* (Walker, 1852)) were not scored for %RR because there is a question of validity of the species or difficulty in identifying specimens that does not allow assignment to states or provinces with

certainty. Another species, *Ceraclea joannae* Morse & Lenat, 2005, submitted by Indiana, is surely a misidentification since this species is only known from North Carolina. It has been removed from the list, bringing the number of assessed species to 591. A prevalence score was tallied from the number of positive occurrences across states and provinces. Total North American presence was tallied across all states and provides. The quotient %RR is the result of (regional prevalence/#N American units) X 100.

Prevalence varied greatly. Mean regional prevalence for a species was 5.3 units with range being 0–16. The number of North American states/provinces occupied by species averaged 16.6 units and ranged 1–60 units. The continuous measure of % RR across all species averaged 35.6 units/species and ranged 5–100 (100 being endemic to the region). Converting continuous measures of %RR to management ranges demonstrated that the 0-25 and 26-50 range contained 513 of the 591 measured species. Only 44 species fell into ranges of 51-75 and 12 into the 76-99 class. Another 21 species scored 100% RR--the endemics of the region (see Table 1).

Levels of Concern. Our team was presented with 62 species for initial review, none of which had estimates of %RR. After calculation of %RR, many species had low values. This makes sense because the list was composed from concerns based on single states/provinces. Of the 62 species being considered, Concern levels were changed for 40 (Fig. 4). Of eight categories of change, 0 change had the highest frequency at 22 species. Additionally, we were able to downgrade the Concern level for 27 species, while increasing Concern for 12.

We were able to rate levels of concern for all but four caddisfly species known to occur in the MAFWA region (Fig. 5). Most species (493) were ranked at Low Concern. A total of 98 additional species were ranked at Very High Concern level (34 species), High Concern level (27), and Moderate Concern level (37), qualifying them for RSGCN status within the MAFWA.

Conclusions and Recommendations. The size of the region and placement on the continent led to high species richness--at least 595 species occur there. We found 21 species that appear to be endemic to the region (Table 1).

A total of 493 species do not qualify for RSGCN status, ranking low in concern. A remaining 98 species meet criteria for inclusion. In a few cases, we accept species into RSGCN status that have low %RR. One such species, *Arctopsyche ladogensis* (Kolenati, 1859) occurs in the region in the subarctic of Manitoba and Saskatchewan and in several rivers that are direct tributaries to Lake Superior. There are approximately five known, recently confirmed locations from Houghton to Alger counties in the Upper Peninsula of Michigan. Much regional effort in Wisconsin, Minnesota, and Ontario suggest absence. This is a disjunct population of a northern boreal species. Nearest other locations are Churchill, the Adirondacks Mountains of New York, and the White Mountains of New Hampshire. It is most likely that each of these populations are genetically isolated. Other species have similar circumstances and are imperiled in the region.

It is our recommendation that work could prioritize endemic species. Other projects could include species with disjunct populations. Determination of genetic distinctness could be useful if it also included other populations. Taxonomists are becoming fewer every decade, soon there may be now capable of identification of these species. Funded projects would be wise to include DNA barcoding of all Very High and High Concern species. This would allow non-taxonomists to confidently continue conservation work on these species, even in the inevitable future absence of taxonomists.

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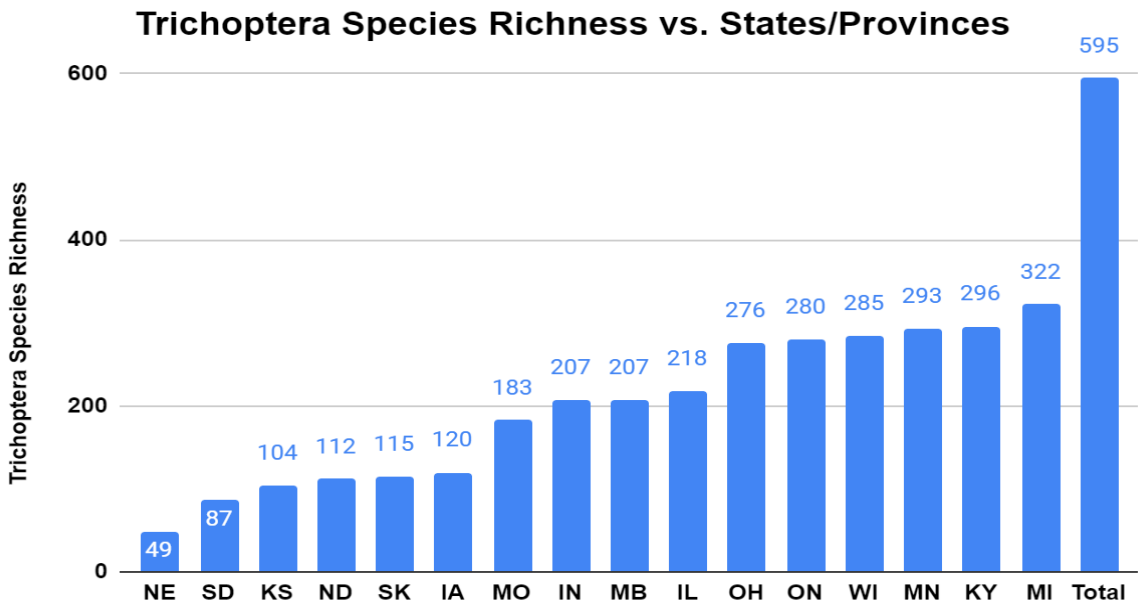

Fig. 1. Trichoptera species richness for states and provinces in the MAFWA Region as of April, 2021.

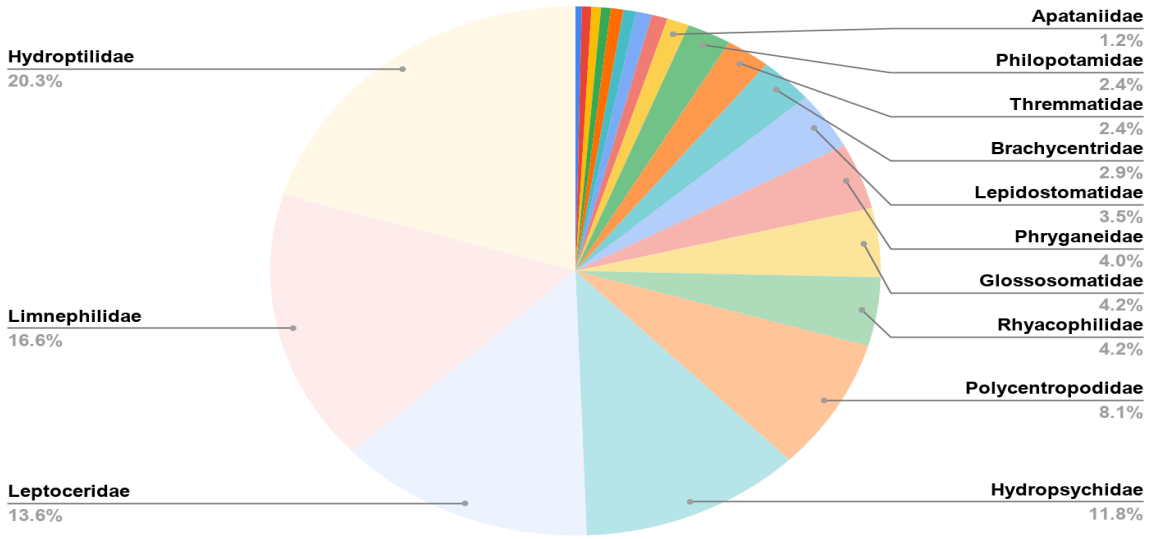

Fig. 2. Relative distribution of species within 21 families of Trichoptera that occur in the region.

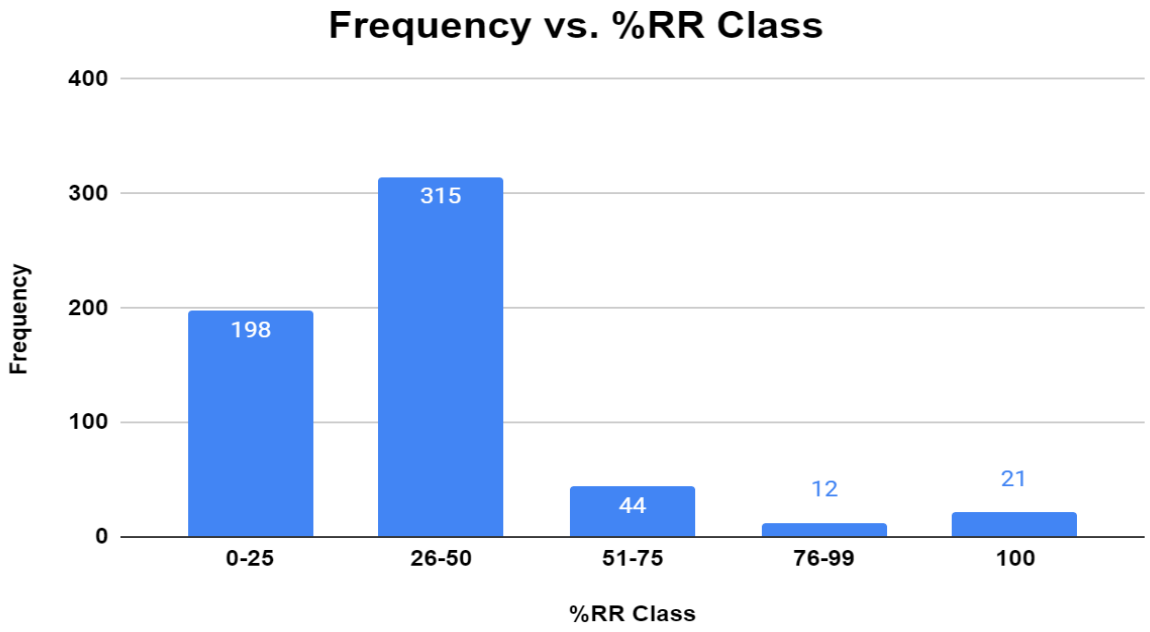

Fig. 3. Frequency of caddisfly species occurring in MAFWA falling into percentage Regional Responsibility (%RR) classes.

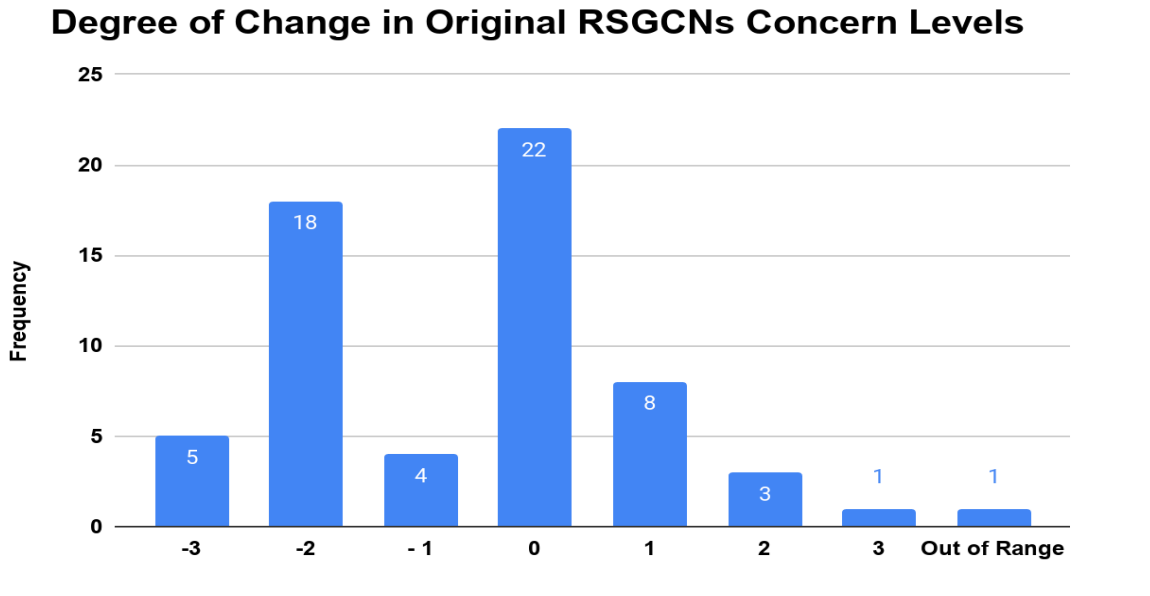

Fig. 4. Degree of change in original RSGCN Concern levels. Change level of -3 equates to change from Very High to Low Concern.

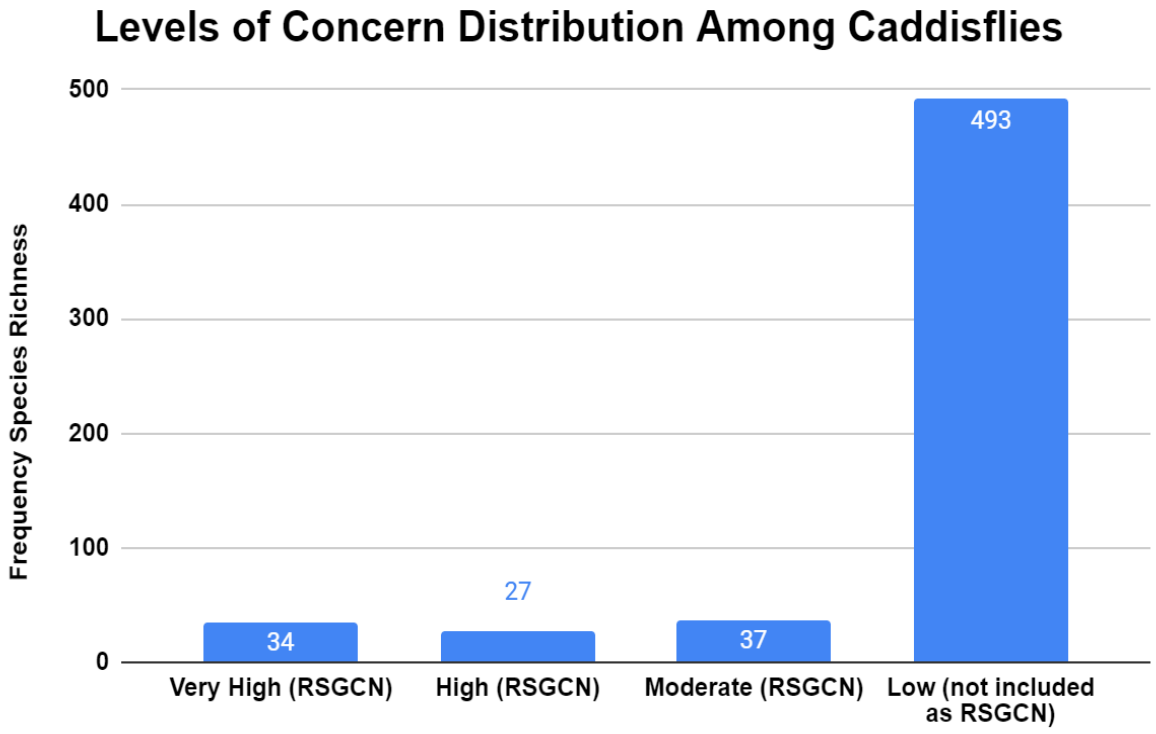

Fig. 5. Distribution of Levels of Concern among MAFWA regional caddisflies.

Table 1. Proposed RSGCN Trichoptera of MAFWA. North American distribution, percentage of MAFWA Regional Responsibility, and Concern level.

Family	Scientific Name	North America Distribution	% Regional Responsibility	Concern Level
Glossosomatidae	*Agapetus artesus* (Ross, 1938)	MO	100	Very High (RSGCN)
Hydroptilidae	*Hydroptila danieli* (Harris & Armitage, 2011)	OH	100	Very High (RSGCN)
Hydroptilidae	*Hydroptila howelli* (Houp, Houp & Harris, 1998)	KY	100	Very High (RSGCN)
Hydroptilidae	*Hydroptila kuehnei* (Houp, Houp, & Harris, 1998)	KY	100	Very High (RSGCN)
Hydroptilidae	*Hydroptila paraxella* (Harris & Armitage, 2011)	KY, OH	100	Very High (RSGCN)
Hydroptilidae	*Neotrichia paraokopa* (Keth, 2015)	MO	100	Very High (RSGCN)
Hydroptilidae	*Neotrichia staufferi* (Keth, 2015)	IL	100	Very High (RSGCN)
Hydroptilidae	*Oxyethira ecornuta* (Morton, 1893)	MI, MN, ON	100	Very High (RSGCN)
Hydroptilidae	*Oxyethira itascae* (Monson and Holzenthal, 1993)	MI, MN	100	Very High (RSGCN)
Leptoceridae	*Ceraclea erulla* (Ross, 1938)	OH	100	Very High (RSGCN)
Leptoceridae	*Ceraclea maccalmonti* (Moulton & Stewart, 1992)	MO	100	Very High (RSGCN)
Leptoceridae	*Setodes truncatus* (Houghton, 2021)	MI	100	Very High (RSGCN)
Leptoceridae	*Triaenodes phalacris* (Ross, 1938)	OH	100	Very High (RSGCN)
Limnephilidae	*Chilostigma itascae* (Wiggins 1975)	MN	100	Very High (RSGCN)
Limnephilidae	*Glyphopsyche missouri* (Ross, 1944)	MO	100	Very High (RSGCN)
Limnephilidae	*Ironoquia plattensis* (Alexander & Whiles, 2000)	NE	100	Very High (RSGCN)
Polycentropodidae	*Cernotina ohio* (Ross, 1939)	OH	100	Very High (RSGCN)
Polycentropodidae	*Holocentropus chellus* (Denning, 1964)	ND	100	Very High (RSGCN)

Family	Scientific Name	North America Distribution	% Regional Responsibility	Concern Level
Polycentropodidae	*Holocentropus milaca* (Etnier, 1968)	MI, MN	100	Very High (RSGCN)
Polycentropodidae	*Plectrocnemia sabulosa* (Leonard & Leonard, 1949)	MI	100	Very High (RSGCN)
Polycentropodidae	*Polycentropus neiswanderi* (Ross, 1947)	KY, OH	100	Very High (RSGCN)
Brachycentridae	*Brachycentrus fuliginosus* (Walker, 1852)	MB, MI, MN, ON, QC, WI	83	Very High (RSGCN)
Limnephilidae	*Asynarchus rossi* (Leonard and Leonard, 1949)	MB, MI, MN, QC, SK, WI	83	Very High (RSGCN)
Hydroptilidae	*Ochrotrichia riesi* (Ross, 1944)	AL, AR, KY, IL, IN, MI, MO, TN	75	Very High (RSGCN)
Limnephilidae	*Leptophylax gracilis* (Banks, 1900)	IL, MI, MN, ND, NY, SD, WI, WV	75	Very High (RSGCN)
Leptoceridae	*Ceraclea albosticta* (Hagen, 1861)	IL, MI, MN, NY, OH, PA, QC	71	Very High (RSGCN)
Limnephilidae	*Pycnopsyche rossi* (Betten, 1950)	AR, IL, IN, KY, MO, OH, TN	71	Very High (RSGCN)
Hydropsychidae	*Cheumatopsyche rossi* (Gordon, 1974)	AR, KS, MO, OH, OK	60	Very High (RSGCN)
Phryganeidae	*Beothukus complicatus* (Banks, 1924)	AB, MI, MN, NF, ON, QC, WI	57	Very High (RSGCN)
Hydropsychidae	*Hydropsyche piatrix* (Ross, 1938)	AR, MO, ND, QC	50	Very High (RSGCN)
Limnephilidae	*Anabolia ozburni* (Milne, 1935)	AB, ME, MI, MN, ND, NH, NY, OH, ON, QC, VT, WI	50	Very High (RSGCN)
Limnephilidae	*Limnephilus samoedus* (McLachlan, 1880)	AK, MI	50	Very High (RSGCN)
Hydropsychidae	*Arctopsyche ladogensis* (Kolenati, 1859)	AB, AK, MB, ME, MI, NF, NH, NS, NT, NY, QC, SK, UT, VT, YT	20	Very High (RSGCN)
Hydropsychidae	*Hydropsyche aerata* (Ross, 1938)	IL, IN, KY, MI, MO, OH, VT, WV	88	High (RSGCN)
Hydroptilidae	*Neotrichia falca* (Ross, 1938)	IL, KS, MN, OH, SC, WI	83	High (RSGCN)
Hydroptilidae	*Ochrotrichia anisca* (Ross, 1941)	AR, IL, KS, KY, MO	80	High (RSGCN)
Hydroptilidae	*Ochrotrichia unio* (Ross, 1941)	IL, KY, MO, OH, TN	80	High (RSGCN)

Family	Scientific Name	North America Distribution	% Regional Responsibility	Concern Level
Limnephilidae	*Limnephilus sackeni* (Banks, 1930)	AB, MB, MI, MN, ON	80	High (RSGCN)
Leptoceridae	*Ceraclea erratica* (Milne, 1936)	IL, MB, MN, MI, NY, OH, ON, QC, WI	78	High (RSGCN)
Hydroptilidae	*Ochrotrichia arva* (Ross)	AL, AR, KY, MI, MO, OH,	71	High (RSGCN)
Hydroptilidae	*Ochrotrichia xena* (Ross, 1938)	AR, IL, IN, KY, MO, OH, TN	71	High (RSGCN)
Phryganeidae	*Fabria inornata* (Banks, 1907)	AB, IA, IL, IN, MB, MI, MN, NE, NT, OH, ON, QC, WI, WV	71	High (RSGCN)
Polycentropodidae	*Holocentropus glacialis* (Ross, 1938)	IL, IN, MI, MN, QC, VT, WI	71	High (RSGCN)
Thremmatidae	*Neophylax ayanus* (Ross)	IL, IN, KY, MI, NJ, OH, TN	71	High (RSGCN)
Hydropsychidae	*Hydropsyche placoda* (Ross, 1941)	AB, IA, IL, IN, MB, MI, MN, MT, NY, OH, ON, PA, QC, SD, SK, TN, WI	71	High (RSGCN)
Hydropsychidae	*Hydropsyche valanis* (Ross, 1938)	IA, IL, IN, KS, KY, MI, MN, NY, OH, PA, VT, WI, WV	69	High (RSGCN)
Hydroptilidae	*Ochrotrichia spinosa* (Ross)	AR, IL, KY, MB, MI, MN, MO, NT, OH, OK, PA, WI	67	High (RSGCN)
Polycentropodidae	*Holocentropus picicornis* (Stephens, 1836)	AB, MB, MI, MN, ND, NH, NT, SK	63	High (RSGCN)
Polycentropodidae	*Holocentropus melanae* (Ross 1938)	MI, MN, NH, NS, WI	60	High (RSGCN)
Brachycentridae	*Micrasema gelidum* (MacLachlan, 1876)	AB, AK, IA, MB, MI, MN, NT, ON, QC, SK, WI, YT	58	High (RSGCN)
Hydroptilidae	*Hydroptila salmo* (Ross, 1941)	MB, ME, MI, MN, NH, OH, QC, WI, WY	56	High (RSGCN)
Leptoceridae	*Setodes oligius* (Ross, 1938)	IL, IN, ME, MI, MN, NY, ON, PA, QC, TN, WI	55	High (RSGCN)
Psychomyiidae	*Paduniella nearctica* (Flint, 1967)	AR, MO	50	Very High (RSGCN)
Hydropsychidae	*Hydropsyche cuanis* (Ross, 1938)	AL, CT, IL, IN, KY, MA, MI, TN, VT, WI	50	High (RSGCN)
Hydroptilidae	*Hydroptila waskesia* (Ross, 1944)	AL, KY, MN, OH, PA, QC, SK, TN	50	High (RSGCN)
Polycentropodidae	*Neureclipsis piersoni* (Frazer & Harris, 1991)	AL, AR, GA, IN, KY, MI, TN, WI	50	High (RSGCN)

Family	Scientific Name	North America Distribution	% Regional Responsibility	Concern Level
Rhyacophilidae	*Rhyacophila parantra* (Ross, 1948)	IN, KY, MO, OH, QC, TN, VA, WV	50	High (RSGCN)
Thremmatidae	*Neophylax lewisae* (Etnier, 2006)	KY, TN	50	High (RSGCN)
Thremmatidae	*Neophylax ottawa* (Vineyard & Wiggins, 1987)	NY, ON	50	High (RSGCN)
Leptoceridae	*Oecetis ochracea* (Curtis, 1825)	AB, AK, BC, CA, CO, IN MB, MI, MN, MT, NC, ND, NT, OH, ON, SD, SK, TN, VA, WI, WY, YT	48	High (RSGCN)
Goeridae	*Goera stylata* (Ross, 1938)	AL, CT, IN, KY, MA, MI, MN, NC, NH, NY, OH, ON, PA, VA, WI, WV	44	High (RSGCN)
Hydroptilidae	*Hydroptila scolops* (Ross, 1938)	IA, IL, KS, KY, MB, MI, MN, MO, TX, WI	90	Moderate (RSGCN)
Hydropsychidae	*Hydropsyche arinale* (Ross, 1938)	AR, IA, IL, IN, KS, MI, MO, OK, ON, WI	80	Moderate (RSGCN)
Hydroptilidae	*Ithytrichia mazon* (Ross, 1944)	IL, KY, OH, OK	75	Moderate (RSGCN)
Polycentropodidae	*Polycentropus chelatus* (Ross & Yamamoto, 1965)	AL, IN, KY, TN	75	Moderate (RSGCN)
Hydropsychidae	*Hydropsyche patera* (Schuster & Etnier, 1978)	KY, OH, TN	67	Moderate (RSGCN)
Glossosomatidae	*Agapetus illini* (Ross, 1938)	AR, IL, IN, KS, KY, MO, OK, TN	63	Moderate (RSGCN)
Limnephilidae	*Pycnopsyche aglona* (Ross, 1941)	MA, ME, MI, MN, NH, NY, OH, ON, WI	56	Moderate (RSGCN)
Polycentropodidae	*Neureclipsis valida* (Walker, 1852)	MB, MI, MN, NJ, NY, ON, QC, SK, WI	56	Moderate (RSGCN)
Leptoceridae	*Ceraclea neffi* (Resh, 1974)	AL, IA, KS, KY, MI, MN, NC, OH, TN, VA, WV	55	Moderate (RSGCN)
Limnephilidae	*Platycentropus amicus* (Hagen, 1861)	AB, IA, LA, MB, ME, MI, MN, NJ, ON, QC, RI, SK, WI	54	Moderate (RSGCN)
Hydroptilidae	*Hydroptila jackmanni* (Blickle, 1963)	AL, IN, KY, MB, ME, MI, MN, NH, OH, ON, PA, QC, TN, VA, WI	53	Moderate (RSGCN)
Brachycentridae	*Micrasema ozarkana* (Ross & Unzicker, 1965)	AR, MO	50	Moderate (RSGCN)

Family	Scientific Name	North America Distribution	% Regional Responsibility	Concern Level
Glossosomatidae	*Agapetus stylifer* (Etnier, Baxter, & Parker, 2010)	KY, TN	50	Moderate (RSGCN)
Hydropsychidae	*Cheumatopsyche gordonae* (Lago & Harris, 1983)	FL, KY	50	Moderate (RSGCN)
Hydroptilidae	*Hydroptila valhalla* (Denning, 1947)	AL, ME, MI, MN, NH, OH, TN, WI	50	Moderate (RSGCN)
Hydroptilidae	*Hydroptila wyomyia* (Denning, 1948)	MB, ME, MI, MN, NH, QC, WI, WY	50	Moderate (RSGCN)
Hydroptilidae	*Neotrichia kitae* (Ross, 1941)	MO, OK	50	Moderate (RSGCN)
Hydroptilidae	*Neotrichia riegeli* (Ross, 1941)	AR, IL, KY, OK	50	Moderate (RSGCN)
Hydroptilidae	*Ochrotrichia contorta* (Ross, 1941)	AR, MO	50	Moderate (RSGCN)
Hydroptilidae	*Ochrotrichia shawnee* (Ross, 1938)	AL, IL, KY, MO, NY, PA, TN, WV	50	Moderate (RSGCN)
Lepidostomatidae	*Lepidostoma etnieri* (Weaver, 1988)	KY, TN	50	Moderate (RSGCN)
Leptoceridae	*Ceraclea excisa* (Morton, 1904)	AB, AK, MA, MB, MI, MN, NY, ON, QC, WI	50	Moderate (RSGCN)
Leptoceridae	*Ceraclea spongillovorax* (Resh, 1974)	AL, FL, IA, IL, IN, KS, KY, LA, MS, VA	50	Moderate (RSGCN)
Leptoceridae	*Oecetis ozarkensis* (Moulton & Stewart, 1993)	AR, MO	50	Moderate (RSGCN)
Limnephilidae	*Ironoquia lyrata* (Ross. 1938)	CT, IL, IN, KY, ME, MI, MN, NY, OH, PA, QC, VA, WI, WV	50	Moderate (RSGCN)
Polycentropodidae	*Cernotina pallida* (Banks, 1904)	DC, MD, MI, NH, OH, ON, VA	50	Moderate (RSGCN)
Polycentropodidae	*Polycentropus centralis* (Banks, 1914)	AL, AR, IA, IL, IN, KS, KY, MI, MN, MO, MS, NF, NS, NY, OH, OK, ON, PA, TN TX, VA, WI, WV	50	Moderate (RSGCN)
Leptoceridae	*Ceraclea alagma* (Ross, 1938)	CT, DE, IA, IL, IN, MA, MB, ME, MI, MN, MT, ND, NE, NF, NH, NY, OH, ON, PA, QC, VT, WA, WI	48	Moderate (RSGCN)
Limnephilidae	*Limnephilus perpusillus* (Walker, 1852)	AB, BC, CO, MB, ME, MI, MN, NB, ND, NF, NT, NY, OH,	47	Moderate (RSGCN)

Family	Scientific Name	North America Distribution	% Regional Responsibility	Concern Level
		ON, QC, SD, SK, WI, YT		
Leptoceridae	*Ceraclea ancylus* (Vorhies, 1909)	AL, AR, CT, DE, GA, IL, IN, KS, KY, MA, MB, ME, MI, MN, MO, NC, ND, NY, OH, OK, ON, PA, TN, QC, SC, SD, TN, VA, WI, WV	47	Moderate (RSGCN)
Hydropsychidae	*Cheumatopsyche speciosa* (Banks, 1904)	AB, AR, CO, CT, DE, IA, IL, IN, KY, LB, MB, MD, MI, MN, MO, MT, NC, ND, NY, OH, OK, ON, PA, QC, SK, TN, VA, WI	46	Moderate (RSGCN)
Glossosomatidae	*Agapetus tomus* (Ross, 1941)	AL, GA, KY, MI, MN, OH, PA, TN, VA, WI, WV	45	Moderate (RSGCN)
Phryganeidae	*Ptilostomis angustipennis* (Hagen, 1873)	CT, DE, IL, IN, MA, MB, ME, MI, MN, NB, ND, NH, NJ, NS, NY, ON, QC, WI	44	Moderate (RSGCN)
Glossosomatidae	*Glossosoma intermedium* (Klapalek, 1892)	AB, AK, BC, IA, ID, IL, IN, KY, MB, ME, MI, MN, MO, MT, NF, NY, OH, ON, PA, QC, TN, VA, VT, WI, YT	44	Moderate (RSGCN)
Leptoceridae	*Triaenodes aba* (Milne, 1935)	AL, AR, DE, FL, GA, IA, IL, KY, MB, MI, MN, MS, NC, NH, NY, OH, ON, PA, QC, RI, SC, TN, VA, WI	42	Moderate (RSGCN)
Brachycentridae	*Brachycentrus lateralis* (Say, 1823)	AR, IL, IN, KY, MD, ME, MO, NC, NC, NH, NY, ON, PA, QC, SC, TN, VA, VT, WI, WV	40	Moderate (RSGCN)
Hydropsychidae	*Homoplectra doringa* (Milne 1936)	AL, IL, IN, KY, MA, NC, NH, NY, OH, TN, VA, WV	33	Moderate (RSGCN)

APPENDIX N. RSGCN HABITAT ASSOCIATIONS

Up to three natural and three anthropogenic habitat associations are provided for each RSGCN and Proposed RSGCN. The 20 coarse habitat types were developed in collaboration with the MLI Habitat Working Group and are described in the *RSGCN Habitat and Limiting Factors* section of the report. Habitat associations are based on available data sources and verified by the taxa teams. The list of RSGCN and Proposed RSGCN associated with each of the 20 habitat types are provided in the following tables.

Table N-1. RSGCN and Proposed RSGCN associated with Forest habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Ringed Salamander (*Ambystoma annulatum*)	RSGCN	No
Amphibians	Blue-spotted Salamander (*Ambystoma laterale*)	RSGCN	Yes
Amphibians	Unisexual Ambystoma Complex (*Ambystoma* sp.)	RSGCN	Yes
Amphibians	Green Salamander (*Aneides aeneus*)	RSGCN	Yes
Amphibians	Four-toed Salamander (*Hemidactylium scutatum*)	RSGCN	Yes
Bees	Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	RSGCN	
Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	RSGCN	
Birds	Eastern Whip-poor-will (*Antrostomus vociferus*)	RSGCN	
Birds	Short-eared Owl (*Asio flammeus*)	RSGCN	Maybe
Birds	Chimney Swift (*Chaetura pelagica*)	RSGCN	Maybe
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	RSGCN	
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	Maybe
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	Maybe
Birds	Connecticut Warbler (*Oporornis agilis*)	RSGCN	
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	Maybe
Birds	Kirtland's Warbler (*Setophaga kirtlandii*)	RSGCN	Yes
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	Maybe
Butterflies and Moths	Linda's Roadside-Skipper (*Amblyscirtes linda*)	RSGCN	Yes
Butterflies and Moths	Ozark Swallowtail (*Papilio joanae*)	RSGCN	No
Butterflies and Moths	a noctuid moth (*Bagisara gulnare*)	RSGCN	Maybe
Butterflies and Moths	Quiet or Sweet Underwing (*Catocala dulciola*)	RSGCN	Maybe
Butterflies and Moths	Milne's Looper Moth (*Euchlaena milnei*)	RSGCN	Maybe
Butterflies and Moths	The Starry Campion Moth (*Hadena ectypa*)	RSGCN	Maybe
Butterflies and Moths	an olethreutine moth (*Hystrichophora loricana*)	RSGCN	Unknown

Taxa	Species	RSGCN Status	Habitat Specialist?
Butterflies and Moths	Franclemont's Lithophane (*Lithophane franclemonti*)	Proposed RSGCN	Maybe
Butterflies and Moths	Golden Borer Moth (*Papaipema cerina*)	RSGCN	No
Dragonflies and Damselflies	Gray Petaltail (*Tachopteryx thoreyi*)	RSGCN	Yes
Mammals	Silver-haired Bat (*Lasionycteris noctivagans*)	RSGCN	
Mammals	Eastern Red Bat (*Lasiurus borealis*)	RSGCN	
Mammals	Hoary Bat (*Lasiurus cinereus*)	RSGCN	
Mammals	Northern Long-eared Bat (*Myotis septentrionalis*)	RSGCN	
Mammals	Indiana Myotis (*Myotis sodalis*)	RSGCN	
Mammals	Fringe-tailed Myotis (*Myotis thysanodes pahasapensis*)	RSGCN	
Mammals	Eastern Spotted Skunk (*Spilogale putorius*)	RSGCN	
Mammals	Plains Spotted Skunk (*Spilogale putorius interrupta*)	RSGCN	
Mammals	Kentucky Red-backed Vole (*Myodes gapperi maurus*)	RSGCN	
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	
Reptiles	Dusty Hog-nosed Snake (*Heterodon gloydi*)	RSGCN	
Reptiles	Lake Erie Watersnake (*Nerodia sipedon insularum*)	RSGCN	
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	RSGCN	No
Reptiles	Eastern Massasauga (*Sistrurus catenatus*)	RSGCN	Yes
Reptiles	Western Massasauga (*Sistrurus tergeminus*)	RSGCN	Maybe
Reptiles	Red-bellied Snake (Black Hills pop.) (*Storeria occipitomaculata pahasapae*)	RSGCN	
Reptiles	Wood Turtle (*Glyptemys insculpta*)	RSGCN	Maybe

Table N-2. RSGCN and Proposed RSGCN associated with Shrubland habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Bees	Macropis Cuckoo Bee (*Epeoloides pilosulus*)	Proposed RSGCN	
Birds	Eastern Whip-poor-will (*Antrostomus vociferus*)	RSGCN	
Birds	Black-billed Cuckoo (*Coccyzus erythropthalmus*)	RSGCN	
Birds	Northern Bobwhite (*Colinus virginianus*)	RSGCN	Maybe
Birds	Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	RSGCN	
Birds	Connecticut Warbler (*Oporornis agilis*)	RSGCN	
Birds	Golden-winged Warbler (*Vermivora chrysoptera*)	RSGCN	Maybe
Mammals	Eastern Spotted Skunk (*Spilogale putorius*)	RSGCN	
Mammals	Plains Spotted Skunk (*Spilogale putorius interrupta*)	RSGCN	
Mammals	White-tailed Jackrabbit (*Lepus townsendii*)	RSGCN	
Mammals	Franklin's Ground Squirrel (*Poliocitellus franklinii*)	RSGCN	

Table N-3. RSGCN and Proposed RSGCN associated with Glades, Barrens, and Savanna habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Bees	Rusty-patched Bumble Bee (*Bombus affinis*)	RSGCN	No
Bees	American Bumble Bee (*Bombus pensylvanicus*)	RSGCN	Yes
Bees	an andrenid bee (*Andrena beameri*)	RSGCN	Yes
Bees	Peckham's Miner Bee (*Andrena peckhami*)	Proposed RSGCN	Yes
Bees	Planed Miner Bee (*Andrena runcinatae*)	Proposed RSGCN	Yes
Bees	Ainslie's Cuckoo Nomad Bee (*Epeolus ainsliei*)	RSGCN	Yes
Bees	a leafcutter bee (*Megachile ingenua*)	RSGCN	Yes
Birds	Northern Bobwhite (*Colinus virginianus*)	RSGCN	Maybe
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	Maybe
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	Maybe
Butterflies and Moths	Dusted Skipper (*Atrytonopsis hianna*)	RSGCN	Yes
Butterflies and Moths	Frosted Elfin (*Callophrys irus*)	RSGCN	Yes
Butterflies and Moths	Monarch (*Danaus plexippus*)	RSGCN	No
Butterflies and Moths	Mottled Duskywing (*Erynnis martialis*)	RSGCN	Yes
Butterflies and Moths	Persius Duskywing (*Erynnis persius persius*)	RSGCN	Yes
Butterflies and Moths	Leonard's Skipper (*Hesperia leonardus*)	RSGCN	Yes
Butterflies and Moths	Cobweb Skipper (*Hesperia metea*)	RSGCN	Yes
Butterflies and Moths	Ottoe Skipper (*Hesperia ottoe*)	RSGCN	Yes
Butterflies and Moths	Chryxus Arctic (*Oeneis chryxus*)	RSGCN	Yes
Butterflies and Moths	Tawny Crescent (*Phyciodes batesii*)	RSGCN	Maybe
Butterflies and Moths	Nabokov's Blue (*Plebejus idas nabokovi*)	RSGCN	Yes
Butterflies and Moths	Karner Blue (*Plebejus samuelis*)	RSGCN	Yes
Butterflies and Moths	Appalachian Grizzled Skipper (Pyrgus *centaureae wyandot*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Butterflies and Moths	Marbleseed Leafminer (*Acrocercops pnosmodiella*)	Proposed RSGCN	Yes
Butterflies and Moths	Doll's Dagger Moth (*Acronicta dolli*)	RSGCN	Yes
Butterflies and Moths	a grass miner moth (*Agonopterix pergandeella*)	Proposed RSGCN	Yes
Butterflies and Moths	a tortricid moth (*Ancylis semiovana*)	RSGCN	Yes
Butterflies and Moths	New Jersey Tea Inchworm (*Apodrepanulatrix liberaria*)	RSGCN	Yes
Butterflies and Moths	a noctuid moth (*Bagisara gulnare*)	RSGCN	Maybe
Butterflies and Moths	Abbreviated Underwing (*Catocala abbreviatella*)	RSGCN	Yes
Butterflies and Moths	Whitney's Underwing (*Catocala whitneyi*)	RSGCN	Yes
Butterflies and Moths	an olethreutine moth (*Hystrichophora loricana*)	RSGCN	Unknown
Butterflies and Moths	Dark-banded Flower Gem Moth (*Melaporphyria immortua*)	Proposed RSGCN	Yes
Butterflies and Moths	Barrens Metarranthis Moth (*Metarranthis apiciaria*)	RSGCN	Yes
Butterflies and Moths	Blazing Star Stem Borer (*Papaipema beeriana*)	RSGCN	Yes
Butterflies and Moths	Golden Borer Moth (*Papaipema cerina*)	RSGCN	No
Butterflies and Moths	Rattlesnake-master Borer Moth (*Papaipema eryngii*)	RSGCN	Yes
Butterflies and Moths	Culvers Root Borer (*Papaipema sciata*)	RSGCN	Yes
Butterflies and Moths	a crambid snout moth (*Pyrausta pythialis*)	Proposed RSGCN	Yes
Butterflies and Moths	Bina Flower Moth (*Schinia bina*)	RSGCN	Yes
Butterflies and Moths	Phlox Moth (*Schinia indiana*)	RSGCN	Yes

Table N-4. RSGCN and Proposed RSGCN associated with Grassland habitat, which includes prairies.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Crawfish Frog (*Lithobates areolatus*)	RSGCN	Yes
Amphibians	Illinois Chorus Frog (*Pseudacris illinoensis*)	RSGCN	Yes
Bees	Rusty-patched Bumble Bee (*Bombus affinis*)	RSGCN	No
Bees	Black-and-gold Bumble Bee (*Bombus auricomus*)	Proposed RSGCN	
Bees	Southern Plains Bumble Bee (*Bombus fraternus*)	RSGCN	Yes
Bees	American Bumble Bee (*Bombus pensylvanicus*)	RSGCN	Yes
Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	RSGCN	
Bees	Variable Cuckoo Bumble Bee (*Bombus variabilis*)	RSGCN	
Bees	an andrenid bee (*Andrena beameri*)	RSGCN	Yes
Bees	Peckham's Miner Bee (*Andrena peckhami*)	Proposed RSGCN	Yes
Bees	Planed Miner Bee (*Andrena runcinatae*)	Proposed RSGCN	Yes
Bees	Ainslie's Cuckoo Nomad Bee (*Epeolus ainsliei*)	RSGCN	Yes
Bees	Interrupted Cuckoo Nomad Bee (*Epeolus interruptus*)	Proposed RSGCN	Yes
Bees	a sweat bee (*Lasioglossum fedorense*)	RSGCN	Yes
Bees	Nude Yellow Loosestrife Bee (*Macropis nuda*)	Proposed RSGCN	Yes
Bees	an oil-collecting bee (*Macropis steironematis*)	RSGCN	Yes
Bees	a leafcutter bee (*Megachile ingenua*)	RSGCN	Yes
Bees	a mason bee (*Osmia illinoensis*)	RSGCN	
Bees	a long-horned bee (*Svastra compta*)	RSGCN	
Birds	Northern Bobwhite (*Colinus virginianus*)	RSGCN	Maybe
Birds	Greater Prairie-Chicken (*Tympanuchus cupido*)	RSGCN	Yes
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	Maybe
Birds	LeConte's Sparrow (*Ammospiza leconteii*)	RSGCN	Maybe
Birds	Sprague's Pipit (*Anthus spragueii*)	RSGCN	Maybe

Taxa	Species	RSGCN Status	Habitat Specialist?
Birds	Henslow's Sparrow (*Centronyx henslowii*)	RSGCN	Maybe
Birds	Bobolink (*Dolichonyx oryzivorus*)	RSGCN	
Birds	Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	RSGCN	
Birds	Eastern Meadowlark (*Sturnella magna*)	RSGCN	
Birds	Western Meadowlark (*Sturnella neglecta*)	RSGCN	
Birds	Upland Sandpiper (*Bartramia longicauda*)	RSGCN	Maybe
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	RSGCN	Maybe
Birds	Marbled Godwit (*Limosa fedoa*)	RSGCN	Maybe
Birds	Whooping Crane (*Grus americana*)	RSGCN	
Butterflies and Moths	Regal Fritillary (*Argynnis idalia*)	RSGCN	Yes
Butterflies and Moths	Arogos Skipper (*Atrytone arogos*)	RSGCN	Yes
Butterflies and Moths	Dusted Skipper (*Atrytonopsis hianna*)	RSGCN	Yes
Butterflies and Moths	Monarch (*Danaus plexippus*)	RSGCN	No
Butterflies and Moths	Dakota Skipper (*Hesperia dacotae*)	RSGCN	Yes
Butterflies and Moths	Leonard's Skipper (*Hesperia leonardus*)	RSGCN	Yes
Butterflies and Moths	Cobweb Skipper (*Hesperia metea*)	RSGCN	Yes
Butterflies and Moths	Ottoe Skipper (*Hesperia ottoe*)	RSGCN	Yes
Butterflies and Moths	Poweshiek Skipperling (*Oarisma poweshiek*)	RSGCN	Yes
Butterflies and Moths	Marbleseed Leafminer (*Acrocercops pnosmodiella*)	Proposed RSGCN	Yes
Butterflies and Moths	a grass miner moth (*Agonopterix pergandeella*)	Proposed RSGCN	Yes
Butterflies and Moths	Early Leadplant Leaf-twirler Moth (*Anacampsis wikeri*)	RSGCN	Yes
Butterflies and Moths	Abbreviated Underwing (*Catocala abbreviatella*)	RSGCN	Yes
Butterflies and Moths	Whitney's Underwing (*Catocala whitneyi*)	RSGCN	Yes
Butterflies and Moths	Michigan Dune Dart Moth (*Copablepharon michiganensis*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Butterflies and Moths	a dart moth (*Dichagyris reliqua*)	RSGCN	Yes
Butterflies and Moths	Two-spotted Eucosma (*Eucosma bipunctella*)	RSGCN	Yes
Butterflies and Moths	Dune Cutworm Moth (*Euxoa aurulenta*)	RSGCN	Yes
Butterflies and Moths	Dark-banded Flower Gem Moth (*Melaporphyria immortua*)	Proposed RSGCN	Yes
Butterflies and Moths	Blazing Star Stem Borer (*Papaipema beeriana*)	RSGCN	Yes
Butterflies and Moths	Rattlesnake-master Borer Moth (*Papaipema eryngii*)	RSGCN	Yes
Butterflies and Moths	Culvers Root Borer (*Papaipema sciata*)	RSGCN	Yes
Butterflies and Moths	Silphium Borer Moth (*Papaipema silphii*)	RSGCN	Yes
Butterflies and Moths	a pyralid moth (*Pyla arenaeola*)	RSGCN	Yes
Butterflies and Moths	a crambid snout moth (*Pyrausta pythialis*)	Proposed RSGCN	Yes
Butterflies and Moths	Bina Flower Moth (*Schinia bina*)	RSGCN	Yes
Butterflies and Moths	Phlox Moth (*Schinia indiana*)	RSGCN	Yes
Butterflies and Moths	Pearly Indigo Borer (*Sitochroa dasconalis*)	RSGCN	Yes
Butterflies and Moths	Rosinweed Moth (*Tebenna silphiella*)	RSGCN	Yes
Butterflies and Moths	Marked Noctuid (*Tricholita notata*)	RSGCN	Yes
Mammals	Eastern Spotted Skunk (Spilogale *putorius*)	RSGCN	
Mammals	Plains Spotted Skunk (*Spilogale putorius interrupta*)	RSGCN	
Mammals	White-tailed Jackrabbit (*Lepus townsendii*)	RSGCN	
Mammals	Franklin's Ground Squirrel (*Poliocitellus franklinii*)	RSGCN	
Mammals	Cheyenne Northern Pocket Gopher (*Thomomys talpoides cheyennensis*)	RSGCN	No
Mammals	Pierre Northern Pocket Gopher (*Thomomys talpoides pierreicolus*)	RSGCN	No
Reptiles	Kirtland's Snake (*Clonophis kirtlandii*)	RSGCN	Yes
Reptiles	Dusty Hog-nosed Snake (*Heterodon gloydi*)	RSGCN	
Reptiles	Plains Hog-nosed Snake (*Heterodon nasicus*)	RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	RSGCN	
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	RSGCN	No
Reptiles	Eastern Massasauga (*Sistrurus catenatus*)	RSGCN	Yes
Reptiles	Western Massasauga (*Sistrurus tergeminus*)	RSGCN	Maybe
Reptiles	Red-bellied Snake (Black Hills pop.) (*Storeria occipitomaculata pahasapae*)	RSGCN	
Reptiles	Butler's Gartersnake (*Thamnophis butleri*)	RSGCN	
Reptiles	Blanding's Turtle (*Emydoidea blandingii*)	RSGCN	Yes
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (*Kinosternon flavescens*)	RSGCN	Yes

Table N-5. RSGCN and Proposed RSGCN associated with Caves and Karst habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Grotto Salamander (*Eurycea spelaea*)	RSGCN	Yes
Crayfishes	Caney Mountain Cave Crayfish (*Faxonius stygocaneyi*)	RSGCN	Yes
Fishes	Hoosier Cavefish (*Amblyopsis hoosieri*)	RSGCN	Yes
Fishes	Northern Cavefish (*Amblyopsis spelaea*)	RSGCN	
Fishes	Spring Cavefish (*Forbesichthys agassizii*)	RSGCN	Yes
Mammals	Gray Myotis (*Myotis grisescens*)	RSGCN	
Mammals	Little Brown Myotis (*Myotis lucifugus*)	RSGCN	
Mammals	Northern Long-eared Bat (*Myotis septentrionalis*)	RSGCN	
Mammals	Indiana Myotis (*Myotis sodalis*)	RSGCN	
Mammals	Fringe-tailed Myotis (*Myotis thysanodes pahasapensis*)	RSGCN	
Mammals	Tricolored Bat (*Perimyotis subflavus*)	RSGCN	

Table N-6. RSGCN and Proposed RSGCN associated with Soils habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Crayfishes	Dusky Mudbug (*Cambarus adustus*)	Proposed RSGCN	Yes
Mammals	Franklin's Ground Squirrel (*Poliocitellus franklinii*)	RSGCN	
Mammals	Cheyenne Northern Pocket Gopher (*Thomomys talpoides cheyennensis*)	RSGCN	No
Mammals	Pierre Northern Pocket Gopher (Thomomys *talpoides pierreicolus*)	RSGCN	No

Table N-7. RSGCN and Proposed RSGCN associated with Riparian habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Bees	Macropis Cuckoo Bee (*Epeoloides pilosulus*)	Proposed RSGCN	
Bees	Yellow Loosestrife Bee (*Macropis ciliata*)	Proposed RSGCN	Yes
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	Maybe
Birds	Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	RSGCN	
Birds	Cerulean Warbler (*Setophaga cerulea*)	RSGCN	Maybe
Butterflies and Moths	Linda's Roadside-Skipper (*Amblyscirtes linda*)	RSGCN	Yes
Caddisflies	Artesian Agapetus Caddisfly (*Agapetus artesus*)	RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus illini*)	RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus stylifer*)	Proposed RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus tomus*)	RSGCN	
Caddisflies	Ozburn's Northern Caddisfly (*Anabolia ozburni*)	RSGCN	
Caddisflies	Ladoga Net-spinning Caddisfly (*Arctopsyche ladogensis*)	Proposed RSGCN	
Caddisflies	Ross's Northern Caddisfly (*Asynarchus rossi*)	RSGCN	
Caddisflies	Complex Giant Caddisfly (*Beothukus complicatus*)	RSGCN	
Caddisflies	Sooty Humpless Caddisfly (*Brachycentrus fuliginosus*)	Proposed RSGCN	
Caddisflies	Sideways Humpless Caddisfly (*Brachycentrus lateralis*)	RSGCN	
Caddisflies	Vulpine Long-horned Caddisfly (*Ceraclea alagma*)	Proposed RSGCN	
Caddisflies	White-spotted Long-horned Caddisfly (*Ceraclea albosticta*)	Proposed RSGCN	
Caddisflies	Crooked Long-horned Caddisfly (*Ceraclea ancylus*)	Proposed RSGCN	
Caddisflies	Wandering Long-horned Caddisfly (*Ceraclea erratica*)	Proposed RSGCN	
Caddisflies	a longhorned caddisfly (*Ceraclea erulla*)	Proposed RSGCN	
Caddisflies	Carved Long-horned Caddisfly (*Ceraclea excisa*)	Proposed RSGCN	
Caddisflies	a longhorned caddisfly (*Ceraclea maccalmonti*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	a longhorned caddisfly (*Ceraclea neffi*)	Proposed RSGCN	
Caddisflies	a longhorned caddisfly (*Ceraclea spongillovorax*)	Proposed RSGCN	
Caddisflies	a caddisfly (*Cernotina ohio*)	Proposed RSGCN	
Caddisflies	Pale Trumpet-net Caddisfly (*Cernotina* pallida)	Proposed RSGCN	
Caddisflies	Gordon's Little Sister Sedge (Cheumatopsyche *gordonae*)	Proposed RSGCN	
Caddisflies	a hydropsychid caddisfly (*Cheumatopsyche rossi*)	Proposed RSGCN	
Caddisflies	Beautiful Net-spinning Caddisfly (*Cheumatopsyche speciosa*)	RSGCN	
Caddisflies	Headwater Chilostigman Caddisfly (*Chilostigma itascae*)	RSGCN	
Caddisflies	Missouri Glyphopsyche Caddisfly (*Glyphopsyche missouri*)	RSGCN	
Caddisflies	Stalked Weighted-case Caddisfly (*Goera stylata*)	RSGCN	
Caddisflies	a polycentropodid caddisfly (*Holocentropus chellus*)	Proposed RSGCN	
Caddisflies	Frozen Trumpet-net Caddisfly (*Holocentropus glacialis*)	RSGCN	
Caddisflies	Black River Trumpet-net Caddisfly (*Holocentropus melanae*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Holocentropus milaca*)	RSGCN	
Caddisflies	Black-horned Trumpet-net Caddisfly (*Holocentropus picicornis*)	Proposed RSGCN	
Caddisflies	a hydropsychid caddisfly (*Homoplectra doringa*)	RSGCN	
Caddisflies	a hydropsychid caddisfly (*Hydropsyche aerata*)	Proposed RSGCN	
Caddisflies	Reisen's Hydropsyche Caddisfly (*Hydropsyche arinale*)	RSGCN	
Caddisflies	a net-spinning caddisfly (*Hydropsyche cuanis*)	RSGCN	
Caddisflies	Harpeth Hydropsyche Caddisfly (*Hydropsyche patera*)	Proposed RSGCN	
Caddisflies	Spineless Net-spinning Caddisfly (*Hydropsyche piatrix*)	Proposed RSGCN	
Caddisflies	Flat Net-spinning Caddisfly (*Hydropsyche placoda*)	Proposed RSGCN	
Caddisflies	a net-spinning caddisfly (*Hydropsyche valanis*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	a purse casemaker caddisfly (*Hydroptila danieli*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Hydroptila howelli*)	Proposed RSGCN	
Caddisflies	Jackman's Microcaddisfly (*Hydroptila jackmanni*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Hydroptila kuehnei*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Hydroptila paraxella*)	Proposed RSGCN	
Caddisflies	Trout Microcaddisfly (*Hydroptila salmo*)	Proposed RSGCN	
Caddisflies	Pointed Microcaddisfly (*Hydroptila scolops*)	Proposed RSGCN	
Caddisflies	Heavenly Microcaddisfly (*Hydroptila valhalla*)	Proposed RSGCN	
Caddisflies	Waskesiu Microcaddisfly (*Hydroptila waskesia*)	RSGCN	
Caddisflies	Wyoming Microcaddisfly (*Hydroptila wyomia*)	Proposed RSGCN	
Caddisflies	Harping Northern Caddisfly (*Ironoquia lyrata*)	RSGCN	
Caddisflies	Platte River Caddisfly (*Ironoquia plattensis*)	RSGCN	
Caddisflies	a microcaddisfly (*Ithytrichia mazon*)	Proposed RSGCN	
Caddisflies	a lepidostomatid caddisfly (*Lepidostoma etnieri*)	Proposed RSGCN	
Caddisflies	Slender Northern Caddisfly (*Leptophylax gracilis*)	Proposed RSGCN	
Caddisflies	Very Small Northern Caddisfly (*Limnephilus perpusillus*)	Proposed RSGCN	
Caddisflies	Sacken's Northern Caddisfly (*Limnephilus sackeni*)	Proposed RSGCN	
Caddisflies	Icy Humpless Caddisfly (*Micrasema gelidum*)	Proposed RSGCN	
Caddisflies	a brachycentrid caddisfly (*Micrasema ozarkanum*)	Proposed RSGCN	
Caddisflies	a uenoid caddisfly (*Neophylax ayanus*)	Proposed RSGCN	
Caddisflies	a uenoid caddisfly (*Neophylax lewisae*)	Proposed RSGCN	
Caddisflies	a microcaddisfly (*Neotrichia falca*)	Proposed RSGCN	
Caddisflies	Kite's Neotrichian Caddisfly (*Neotrichia kitae*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	a microcaddisfly (*Neotrichia paraokopa*)	Proposed RSGCN	
Caddisflies	a microcaddisfly (*Neotrichia riegeli*)	Proposed RSGCN	
Caddisflies	a microcaddisfly (*Neotrichia staufferi*)	Proposed RSGCN	
Caddisflies	a caddisfly (*Neureclipsis piersoni*)	Proposed RSGCN	
Caddisflies	Strong Trumpet-net Caddisfly (*Neureclipsis valida*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia arva*)	Proposed RSGCN	
Caddisflies	Contorted Ochrotrichian Micro Caddisfly (*Ochrotrichia contorta*)	RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia riesi*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia shawnee*)	Proposed RSGCN	
Caddisflies	Prickled Microcaddisfly (*Ochrotrichia spinosa*)	RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia unio*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia xena*)	Proposed RSGCN	
Caddisflies	Rusty Long-horned Caddisfly (*Oecetis ochracea*)	Proposed RSGCN	
Caddisflies	a longhorned caddisfly (*Oecetis ozarkensis*)	Proposed RSGCN	
Caddisflies	Unhorned Microcaddisfly (*Oxyethira ecornuta*)	RSGCN	
Caddisflies	an oxyethiran microcaddisfly (*Oxyethira itascae*)	RSGCN	
Caddisflies	Nearctic Paduniellan Caddisfly (*Paduniella nearctica*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Plectrocnemia sabulosa*)	Proposed RSGCN	
Caddisflies	Central Trumpet-net Caddisfly (*Polycentropus centralis*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Polycentropus chelatus*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Polycentropus neiswanderi*)	Proposed RSGCN	
Caddisflies	Narrow Giant Caddisfly (*Ptilostomis angustipennis*)	Proposed RSGCN	
Caddisflies	Algonquin Northern Caddisfly (*Pycnopsyche aglona*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	a northern casemaker caddisfly (*Pycnopsyche rossi*)	RSGCN	
Caddisflies	Hollow Free-living Caddisfly (*Rhyacophila parantra*)	Proposed RSGCN	
Caddisflies	a leptocerid caddisfly (*Setodes truncatus*)	Proposed RSGCN	
Caddisflies	Aba's Long-horned Caddisfly (*Triaenodes aba*)	Proposed RSGCN	
Caddisflies	Athens Triaenodes Caddisfly (*Triaenodes phalacris*)	Proposed RSGCN	
Mammals	Silver-haired Bat (*Lasionycteris noctivagans*)	RSGCN	
Mammals	Eastern Red Bat (*Lasiurus borealis*)	RSGCN	
Mammals	Hoary Bat (*Lasiurus cinereus*)	RSGCN	
Mammals	Gray Myotis (*Myotis grisescens*)	RSGCN	
Mammals	Little Brown Myotis (*Myotis lucifugus*)	RSGCN	
Mammals	Indiana Myotis (*Myotis sodalis*)	RSGCN	
Mammals	Tricolored Bat (*Perimyotis subflavus*)	RSGCN	
Mammals	Cheyenne Northern Pocket Gopher (*Thomomys talpoides cheyennensis*)	RSGCN	No
Mammals	Pierre Northern Pocket Gopher (*Thomomys talpoides pierreicolus*)	RSGCN	No
Mayflies	Pecatonica River Mayfly (*Acanthametropus pecatonica*)	RSGCN	
Mayflies	Striped Comb Minnow Mayfly (*Ameletus lineatus*)	RSGCN	
Mayflies	Filtering Small Square-gilled Mayfly (*Amercaenis ridens*)	Proposed RSGCN	
Mayflies	a mayfly (*Apobaetis lakota*)	RSGCN	
Mayflies	Hudsonia Small Minnow Mayfly (*Baetis hudsonicus*)	Proposed RSGCN	
Mayflies	Fork-headed Armored Mayfly (*Baetisca obesa*)	RSGCN	
Mayflies	Curtis's Small Square-gilled Mayfly (*Brachycercus harrisella*)	Proposed RSGCN	
Mayflies	Ojibwe Small Square-gilled Mayfly (*Brachycercus ojibwe*)	Proposed RSGCN	
Mayflies	a mayfly (*Camelobaetidius waltzi*)	RSGCN	
Mayflies	White Small Minnow Mayfly (*Centroptilum album*)	RSGCN	
Mayflies	Forky Small Minnow Mayfly (*Centroptilum bifurcatum*)	RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Mayflies	a small minnow mayfly (*Centroptilum ozarkensum*)	Proposed RSGCN	
Mayflies	Victoria's Small Minnow Mayfly (*Centroptilum victoriae*)	Proposed RSGCN	
Mayflies	Cree Small Square-gilled Mayfly (*Cercobrachys cree*)	Proposed RSGCN	
Mayflies	a small square-gilled mayfly (*Cercobrachys etowah*)	Proposed RSGCN	
Mayflies	Fox Small Square-gilled Mayfly (*Cercobrachys fox*)	RSGCN	
Mayflies	Wisconsin Small Square-gilled Mayfly (*Cercobrachys lilliei*)	RSGCN	
Mayflies	a small square-gilled mayfly (*Cercobrachys serpentis*)	Proposed RSGCN	
Mayflies	Winnebago Small Square-gilled Mayfly (*Cercobrachys winnebago*)	RSGCN	
Mayflies	Pond Small Minnow Mayfly (*Cloeon dipterum*)	Proposed RSGCN	
Mayflies	Simple Spiny Crawler Mayfly (*Dannella simplex*)	RSGCN	
Mayflies	American Sand-burrowing Mayfly (*Dolania americana*)	RSGCN	
Mayflies	a mayfly (*Epeorus namatus*)	RSGCN	
Mayflies	Blushing Flat-headed Mayfly (*Epeorus suffusus*)	RSGCN	
Mayflies	a spiny crawler mayfly (*Ephemera traverae*)	Proposed RSGCN	
Mayflies	Brown Spiny Crawler Mayfly (*Eurylophella funeralis*)	RSGCN	
Mayflies	Dirty Spiny Crawler Mayfly (*Eurylophella lutulenta*)	RSGCN	
Mayflies	American Prong-gilled Mayfly (*Habrophlebiodes americana*)	RSGCN	
Mayflies	a mayfly (*Heptagenia dalecarlica*)	Proposed RSGCN	
Mayflies	Whiting's Flat-headed Mayfly (*Heptagenia whitingi*)	Proposed RSGCN	
Mayflies	Frivolous Small Minnow Mayfly (*Heterocloeon frivolum*)	Proposed RSGCN	
Mayflies	a mayfly (*Heterocloeon grande*)	Proposed RSGCN	
Mayflies	Late Hex Burrowing Mayfly (*Hexagenia atrocaudata*)	RSGCN	
Mayflies	Straight Hex Burrowing Mayfly (*Hexagenia rigida*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Mayflies	a sand-filtering mayfly (*Homoeoneuria ammophila*)	RSGCN	
Mayflies	Konza Prairie Mayfly (*Leptophlebia konza*)	RSGCN	
Mayflies	a flat-headed mayfly (*Maccaffertium bednariki*)	RSGCN	
Mayflies	Butter Flat-headed Mayfly (*Maccaffertium luteum*)	Proposed RSGCN	
Mayflies	Nipawin Flat-headed Mayfly (*Macdunnoa nipawinia*)	Proposed RSGCN	
Mayflies	a mayfly (*Macdunnoa persimplex*)	RSGCN	
Mayflies	Boreal Cleft-footed Minnow Mayfly (*Metretopus borealis*)	RSGCN	
Mayflies	a small minnow mayfly (*Neocloeon alamance*)	Proposed RSGCN	
Mayflies	Canadian Large Square-gilled Mayfly (*Neoephemera bicolor*)	RSGCN	
Mayflies	a mayfly (*Nixe dorothae*)	Proposed RSGCN	
Mayflies	a flat-headed mayfly (*Nixe flowersi*)	Proposed RSGCN	
Mayflies	Eurasian Flat-headed Mayfly (*Nixe joernensis*)	Proposed RSGCN	
Mayflies	a small minnow mayfly (*Paracloeodes fleeki*)	Proposed RSGCN	
Mayflies	Coon Rapids Small Minnow Mayfly (*Paracloeodes lotor*)	Proposed RSGCN	
Mayflies	a prongill mayfly (*Paraleptophlebia calcarica*)	RSGCN	
Mayflies	a prongill mayfly (*Paraleptophlebia sticta*)	RSGCN	
Mayflies	Boreal Primitive Minnow Mayfly (*Parameletus chelifer*)	Proposed RSGCN	
Mayflies	Dark-winged Primitive Minnow Mayfly (*Parameletus croesus*)	Proposed RSGCN	
Mayflies	Robust Pentagenian Burrowing Mayfly (*Pentagenia robusta*)	RSGCN	
Mayflies	Band-bellied Small Minnow Mayfly (*Plauditus cestus*)	RSGCN	
Mayflies	Elliott's Small Minnow Mayfly (*Plauditus elliotti*)	Proposed RSGCN	
Mayflies	Glover's Small Minnow Mayfly (*Plauditus gloveri*)	Proposed RSGCN	
Mayflies	a small minnow mayfly (*Plauditus veteris*)	RSGCN	
Mayflies	Passive Small Minnow Mayfly (*Procloeon inanum*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Mayflies	Insignificant Small Minnow Mayfly (*Procloeon insignificans*)	Proposed RSGCN	
Mayflies	Faulty Small Minnow Mayfly (*Procloeon mendax*)	Proposed RSGCN	
Mayflies	Medicine Hat Small Minnow Mayfly (*Procloeon quaesitum*)	Proposed RSGCN	
Mayflies	Painted Small Minnow Mayfly (*Procloeon rubropictum*)	Proposed RSGCN	
Mayflies	Hobbs's Small Minnow Mayfly (*Procloeon rufostrigatum*)	Proposed RSGCN	
Mayflies	Simple Small Minnow Mayfly (*Procloeon simplex*)	RSGCN	
Mayflies	White Sand-river Mayfly (*Pseudiron centralis*)	RSGCN	
Mayflies	a baetid mayfly (*Pseudocentroptiloides morihari*)	Proposed RSGCN	
Mayflies	American Small Minnow Mayfly (*Pseudocentroptiloides usa*)	Proposed RSGCN	
Mayflies	Wallace's Deepwater Mayfly (*Raptoheptagenia cruentata*)	RSGCN	
Mayflies	Central Flat-headed Mayfly (*Rhithrogena manifesta*)	Proposed RSGCN	
Mayflies	Frison's Serratellan Mayfly (*Serratella frisoni*)	RSGCN	
Mayflies	a primitive minnow mayfly (*Siphlonurus minnoi*)	RSGCN	
Mayflies	Leafy Primitive Minnow Mayfly (*Siphlonurus phyllis*)	Proposed RSGCN	
Mayflies	Flapped Cleft-footed Minnow Mayfly (*Siphloplecton basale*)	RSGCN	
Mayflies	Flapless Cleft-footed Minnow Mayfly (*Siphloplecton interlineatum*)	RSGCN	
Mayflies	Lacustrine Small Square-gilled Mayfly (*Sparbarus lacustris*)	RSGCN	
Mayflies	a small square-gilled mayfly (*Sparbarus nasutus*)	RSGCN	
Mayflies	Wallace's Deepwater Mayfly (*Spinadis simplex*)	RSGCN	
Mayflies	Candid Flat-headed Mayfly (*Stenacron candidum*)	RSGCN	
Mayflies	Gildersleeve's Stenacron Mayfly (*Stenacron gildersleevei*)	RSGCN	
Mayflies	Minnetonka Flat-headed Mayfly (*Stenacron minnetonka*)	RSGCN	
Mayflies	Prudent Small Square-gilled Mayfly (*Susperatus prudens*)	Proposed RSGCN	
Mayflies	Manitoba White Burrowing Mayfly (*Tortopsis primus*)	RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Mayflies	a leptophlebiid mayfly (*Traverella lewisi*)	Proposed RSGCN	
Mayflies	Cobb's Stout Crawler Mayfly (*Tricorythodes cobbi*)	Proposed RSGCN	
Mayflies	a mayfly (*Waynokiops dentatogriphus*)	Proposed RSGCN	
Reptiles	Smooth Greensnake (*Opheodrys vernalis*)	RSGCN	
Stoneflies	Shawnee Stone (*Acroneuria covelli*)	Proposed RSGCN	
Stoneflies	Illinois Stone (*Acroneuria filicis*)	RSGCN	
Stoneflies	Kentucky Stone (*Acroneuria hitchcocki*)	Proposed RSGCN	
Stoneflies	Illinois Snowfly (*Allocapnia illinoensis*)	RSGCN	
Stoneflies	Three-lobed Snowfly (*Allocapnia smithi*)	RSGCN	
Stoneflies	Holarctic Springfly (*Arcynopteryx dichroa*)	RSGCN	
Stoneflies	Giant Stone (*Attaneuria ruralis*)	RSGCN	
Stoneflies	Great Lakes Springfly (*Cultus decisus decisus*)	Proposed RSGCN	
Stoneflies	Robust Springfly (*Diploperla robusta*)	RSGCN	
Stoneflies	Ozark Springfly (*Helopicus nalatus*)	RSGCN	
Stoneflies	Michigan Springfly (*Isogenoides doratus*)	RSGCN	
Stoneflies	Hudsonian Springfly (*Isogenoides frontalis*)	RSGCN	
Stoneflies	Olive Springfly (*Isogenoides olivaceus*)	RSGCN	
Stoneflies	Rock Island Springfly (*Isogenoides varians*)	RSGCN	
Stoneflies	Crescent Stripetail (*Isoperla emarginata*)	Proposed RSGCN	
Stoneflies	Plains Stripetail (*Isoperla longiseta*)	Proposed RSGCN	
Stoneflies	Midwestern Stripetail (*Isoperla marlynia*)	RSGCN	
Stoneflies	Minnesota Stripetail (*Isoperla maxana*)	Proposed RSGCN	
Stoneflies	Alta Needlefly (*Leuctra alta*)	RSGCN	
Stoneflies	a needlefly (*Leuctra schusteri*)	Proposed RSGCN	
Stoneflies	Ohio Stone (*Neoperla gaufini*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Stoneflies	Arkansas Stone (*Neoperla harpi*)	RSGCN	
Stoneflies	Plains Stone (*Perlesta cinctipes*)	RSGCN	
Stoneflies	Dakota Stone (*Perlesta dakota*)	RSGCN	
Stoneflies	Cloudy Stonefly (*Perlesta ephelida*)	RSGCN	
Stoneflies	Two-lined Stone (*Perlesta golconda*)	RSGCN	
Stoneflies	Wabash Stone (*Perlesta ouabache*)	RSGCN	
Stoneflies	Pawnee Stone (*Perlesta xube*)	RSGCN	
Stoneflies	Karst Forestfly (*Soyedina calcarea*)	Proposed RSGCN	
Stoneflies	Northern Needlefly (*Zealeuctra narfi*)	RSGCN	

Table N-8. RSGCN and Proposed RSGCN associated with Shoreline habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Birds	Interior Least Tern (*Sternula antillarum athalassos*)	RSGCN	Yes
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	RSGCN	Yes
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	RSGCN	Yes
Reptiles	Lake Erie Watersnake (*Nerodia sipedon insularum*)	RSGCN	

Table N-9. RSGCN and Proposed RSGCN associated with Wetland habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Blanchard's Cricket Frog (*Acris blanchardi*)	RSGCN	
Amphibians	Crawfish Frog (*Lithobates areolatus*)	RSGCN	Yes
Amphibians	Illinois Chorus Frog (*Pseudacris illinoensis*)	RSGCN	Yes
Amphibians	Ringed Salamander (*Ambystoma annulatum*)	RSGCN	No
Amphibians	Blue-spotted Salamander (*Ambystoma laterale*)	RSGCN	Yes
Amphibians	Western Tiger Salamander (*Ambystoma mavortium*)	Proposed RSGCN	
Amphibians	Unisexual Ambystoma Complex (*Ambystoma* sp.)	RSGCN	Yes
Amphibians	Four-toed Salamander (*Hemidactylium scutatum*)	RSGCN	Yes
Bees	Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	RSGCN	
Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	RSGCN	
Bees	an andrenid bee (*Andrena beameri*)	RSGCN	Yes
Bees	Macropis Cuckoo Bee (*Epeoloides pilosulus*)	Proposed RSGCN	
Bees	Yellow Loosestrife Bee (*Macropis ciliata*)	Proposed RSGCN	Yes
Bees	Nude Yellow Loosestrife Bee (*Macropis nuda*)	Proposed RSGCN	Yes
Birds	Black Tern (*Chlidonias niger*)	RSGCN	Maybe
Birds	Yellow Rail (*Coturnicops noveboracensis*)	RSGCN	Yes
Birds	LeConte's Sparrow (*Ammospiza leconteii*)	RSGCN	Maybe
Birds	Nelson's Sparrow (*Ammospiza nelsoni*)	RSGCN	Yes
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	Maybe
Birds	Marbled Godwit (*Limosa fedoa*)	RSGCN	Maybe
Birds	Whooping Crane (*Grus americana*)	RSGCN	
Butterflies and Moths	Swamp Metalmark (*Calephelis muticum*)	RSGCN	Yes
Butterflies and Moths	Monarch (*Danaus plexippus*)	RSGCN	No
Butterflies and Moths	Two-spotted Skipper (*Euphyes bimacula*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Butterflies and Moths	Mitchell's Satyr (*Neonympha mitchellii*)	Proposed RSGCN	Yes
Butterflies and Moths	Aweme Borer Moth (*Papaipema aweme*)	RSGCN	Yes
Caddisflies	Artesian Agapetus Caddisfly (*Agapetus artesus*)	RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus illini*)	RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus stylifer*)	Proposed RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus tomus*)	RSGCN	
Caddisflies	Ozburn's Northern Caddisfly (*Anabolia ozburni*)	RSGCN	
Caddisflies	a longhorned caddisfly (*Ceraclea maccalmonti*)	Proposed RSGCN	
Caddisflies	Headwater Chilostigman Caddisfly (*Chilostigma itascae*)	RSGCN	
Caddisflies	Simple Giant Caddisfly (*Fabria inornata*)	Proposed RSGCN	
Caddisflies	Missouri Glyphopsyche Caddisfly (*Glyphopsyche missouri*)	RSGCN	
Caddisflies	Platte River Caddisfly (*Ironoquia plattensis*)	RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia anisca*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia riesi*)	Proposed RSGCN	
Caddisflies	Prickled Microcaddisfly (*Ochrotrichia spinosa*)	RSGCN	
Caddisflies	Rusty Long-horned Caddisfly (*Oecetis ochracea*)	Proposed RSGCN	
Caddisflies	Narrow Giant Caddisfly (*Ptilostomis angustipennis*)	Proposed RSGCN	
Caddisflies	a northern casemaker caddisfly (*Pycnopsyche rossi*)	RSGCN	
Caddisflies	Aba's Long-horned Caddisfly (*Triaenodes aba*)	Proposed RSGCN	
Crayfishes	Dusky Mudbug (*Cambarus adustus*)	Proposed RSGCN	Yes
Dragonflies and Damselflies	Elfin Skimmer (*Nannothemis bella*)	RSGCN	Yes
Dragonflies and Damselflies	Quebec Emerald (*Somatochlora brevicincta*)	RSGCN	Yes
Dragonflies and Damselflies	Hine's Emerald (*Somatochlora hineana*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Dragonflies and Damselflies	Gray Petaltail (*Tachopteryx thoreyi*)	RSGCN	Yes
Fishes	Finescale Dace (*Chrosomus neogaeus*)	RSGCN	Yes
Fishes	Topeka Shiner (*Notropis topeka*)	RSGCN	
Fishes	Plains Topminnow (*Fundulus sciadicus*)	RSGCN	Yes
Mammals	Kentucky Red-backed Vole (*Myodes gapperi maurus*)	RSGCN	
Mayflies	Brown Spiny Crawler Mayfly (*Eurylophella funeralis*)	RSGCN	
Reptiles	Kirtland's Snake (*Clonophis kirtlandii*)	RSGCN	Yes
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	
Reptiles	Dusty Hog-nosed Snake (*Heterodon gloydi*)	RSGCN	
Reptiles	Plains Hog-nosed Snake (*Heterodon nasicus*)	RSGCN	
Reptiles	Plain-bellied Watersnake (Copperbelly pop.) (*Nerodia erythrogaster neglecta*)	RSGCN	Yes
Reptiles	Eastern Massasauga (*Sistrurus catenatus*)	RSGCN	Yes
Reptiles	Western Massasauga (*Sistrurus tergeminus*)	RSGCN	Maybe
Reptiles	Red-bellied Snake (Black Hills pop.) (*Storeria occipitomaculata pahasapae*)	RSGCN	
Reptiles	Butler's Gartersnake (*Thamnophis butleri*)	RSGCN	
Reptiles	Spotted Turtle (*Clemmys guttata*)	RSGCN	No
Reptiles	Blanding's Turtle (*Emydoidea blandingii*)	RSGCN	Yes
Reptiles	Wood Turtle (*Glyptemys insculpta*)	RSGCN	Maybe
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (*Kinosternon flavescens*)	RSGCN	Yes
Stoneflies	Karst Forestfly (*Soyedina calcarea*)	Proposed RSGCN	

Table N-10. RSGCN and Proposed RSGCN associated with Rivers and Streams habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Blanchard's Cricket Frog (*Acris blanchardi*)	RSGCN	
Amphibians	Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*)	RSGCN	Yes
Amphibians	Ozark Hellbender (*Cryptobranchus alleganiensis bishopi*)	RSGCN	Yes
Amphibians	Common Mudpuppy (*Necturus maculosus*)	RSGCN	No
Caddisflies	Artesian Agapetus Caddisfly (*Agapetus artesus*)	RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus illini*)	RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus stylifer*)	Proposed RSGCN	
Caddisflies	a saddlecase caddisfly (*Agapetus tomus*)	RSGCN	
Caddisflies	Ozburn's Northern Caddisfly (*Anabolia ozburni*)	RSGCN	
Caddisflies	Ladoga Net-spinning Caddisfly (*Arctopsyche ladogensis*)	Proposed RSGCN	
Caddisflies	Ross's Northern Caddisfly (*Asynarchus rossi*)	RSGCN	
Caddisflies	Complex Giant Caddisfly (*Beothukus complicatus*)	RSGCN	
Caddisflies	Sooty Humpless Caddisfly (*Brachycentrus fuliginosus*)	Proposed RSGCN	
Caddisflies	Sideways Humpless Caddisfly (*Brachycentrus lateralis*)	RSGCN	
Caddisflies	Vulpine Long-horned Caddisfly (*Ceraclea alagma*)	Proposed RSGCN	
Caddisflies	Crooked Long-horned Caddisfly (*Ceraclea ancylus*)	Proposed RSGCN	
Caddisflies	Wandering Long-horned Caddisfly (*Ceraclea erratica*)	Proposed RSGCN	
Caddisflies	a longhorned caddisfly (*Ceraclea erulla*)	Proposed RSGCN	
Caddisflies	Carved Long-horned Caddisfly (*Ceraclea excisa*)	Proposed RSGCN	
Caddisflies	a longhorned caddisfly (*Ceraclea neffi*)	Proposed RSGCN	
Caddisflies	a longhorned caddisfly (*Ceraclea spongillovorax*)	Proposed RSGCN	
Caddisflies	a caddisfly (*Cernotina ohio*)	Proposed RSGCN	
Caddisflies	Pale Trumpet-net Caddisfly (*Cernotina pallida*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	Gordon's Little Sister Sedge (*Cheumatopsyche gordonae*)	Proposed RSGCN	
Caddisflies	a hydropsychid caddisfly (*Cheumatopsyche rossi*)	Proposed RSGCN	
Caddisflies	Beautiful Net-spinning Caddisfly (*Cheumatopsyche speciosa*)	RSGCN	
Caddisflies	Headwater Chilostigman Caddisfly (*Chilostigma itascae*)	RSGCN	
Caddisflies	Stalked Weighted-case Caddisfly (*Goera stylata*)	RSGCN	
Caddisflies	a polycentropodid caddisfly (*Holocentropus chellus*)	Proposed RSGCN	
Caddisflies	Black River Trumpet-net Caddisfly (*Holocentropus melanae*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Holocentropus milaca*)	RSGCN	
Caddisflies	Black-horned Trumpet-net Caddisfly (*Holocentropus picicornis*)	Proposed RSGCN	
Caddisflies	a hydropsychid caddisfly (*Homoplectra doringa*)	RSGCN	
Caddisflies	Reisen's Hydropsyche Caddisfly (*Hydropsyche arinale*)	RSGCN	
Caddisflies	a net-spinning caddisfly (*Hydropsyche cuanis*)	RSGCN	
Caddisflies	Harpeth Hydropsyche Caddisfly (*Hydropsyche patera*)	Proposed RSGCN	
Caddisflies	Spineless Net-spinning Caddisfly (*Hydropsyche piatrix*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Hydroptila danieli*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Hydroptila howelli*)	Proposed RSGCN	
Caddisflies	Jackman's Microcaddisfly (*Hydroptila jackmanni*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Hydroptila kuehnei*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Hydroptila paraxella*)	Proposed RSGCN	
Caddisflies	Trout Microcaddisfly (*Hydroptila salmo*)	Proposed RSGCN	
Caddisflies	Pointed Microcaddisfly (*Hydroptila scolops*)	Proposed RSGCN	
Caddisflies	Heavenly Microcaddisfly (*Hydroptila valhalla*)	Proposed RSGCN	
Caddisflies	Waskesiu Microcaddisfly (*Hydroptila waskesia*)	RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	Wyoming Microcaddisfly (*Hydroptila wyomia*)	Proposed RSGCN	
Caddisflies	Harping Northern Caddisfly (*Ironoquia lyrata*)	RSGCN	
Caddisflies	a microcaddisfly (*Ithytrichia mazon*)	Proposed RSGCN	
Caddisflies	a lepidostomatid caddisfly (*Lepidostoma etnieri*)	Proposed RSGCN	
Caddisflies	Slender Northern Caddisfly (*Leptophylax gracilis*)	Proposed RSGCN	
Caddisflies	Very Small Northern Caddisfly (*Limnephilus perpusillus*)	Proposed RSGCN	
Caddisflies	Sacken's Northern Caddisfly (*Limnephilus sackeni*)	Proposed RSGCN	
Caddisflies	Icy Humpless Caddisfly (*Micrasema gelidum*)	Proposed RSGCN	
Caddisflies	a brachycentrid caddisfly (*Micrasema ozarkanum*)	Proposed RSGCN	
Caddisflies	a uenoid caddisfly (*Neophylax lewisae*)	Proposed RSGCN	
Caddisflies	a microcaddisfly (*Neotrichia falca*)	Proposed RSGCN	
Caddisflies	Kite's Neotrichian Caddisfly (*Neotrichia kitae*)	Proposed RSGCN	
Caddisflies	a microcaddisfly (*Neotrichia paraokopa*)	Proposed RSGCN	
Caddisflies	a microcaddisfly (*Neotrichia riegeli*)	Proposed RSGCN	
Caddisflies	a microcaddisfly (*Neotrichia staufferi*)	Proposed RSGCN	
Caddisflies	a caddisfly (*Neureclipsis piersoni*)	Proposed RSGCN	
Caddisflies	Strong Trumpet-net Caddisfly (*Neureclipsis valida*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia anisca*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia arva*)	Proposed RSGCN	
Caddisflies	Contorted Ochrotrichian Micro Caddisfly (*Ochrotrichia contorta*)	RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia shawnee*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia unio*)	Proposed RSGCN	
Caddisflies	a purse casemaker caddisfly (*Ochrotrichia xena*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	a longhorned caddisfly (*Oecetis ozarkensis*)	Proposed RSGCN	
Caddisflies	an oxyethiran microcaddisfly (*Oxyethira itascae*)	RSGCN	
Caddisflies	Nearctic Paduniellan Caddisfly (*Paduniella nearctica*)	Proposed RSGCN	
Caddisflies	Friendly Northern Caddisfly (*Platycentropus amicus*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Plectrocnemia sabulosa*)	Proposed RSGCN	
Caddisflies	Central Trumpet-net Caddisfly (*Polycentropus centralis*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Polycentropus chelatus*)	Proposed RSGCN	
Caddisflies	a polycentropodid caddisfly (*Polycentropus neiswanderi*)	Proposed RSGCN	
Caddisflies	Algonquin Northern Caddisfly (*Pycnopsyche aglona*)	Proposed RSGCN	
Caddisflies	Hollow Free-living Caddisfly (*Rhyacophila parantra*)	Proposed RSGCN	
Caddisflies	Little Long-horned Caddisfly (*Setodes oligius*)	RSGCN	
Caddisflies	a leptocerid caddisfly (*Setodes truncatus*)	Proposed RSGCN	
Caddisflies	Athens Triaenodes Caddisfly (*Triaenodes phalacris*)	Proposed RSGCN	
Crayfishes	Bottlebrush Crayfish (*Barbicambarus cornutus*)	RSGCN	Maybe
Crayfishes	Big South Fork Crayfish (*Cambarus bouchardi*)	RSGCN	No
Crayfishes	Big Sandy Crayfish (*Cambarus callainus*)	Proposed RSGCN	No
Crayfishes	Brawny Crayfish (*Cambarus hazardi*)	Proposed RSGCN	Yes
Crayfishes	Freckled Crayfish (*Cambarus maculatus*)	RSGCN	Yes
Crayfishes	Cutshin Crayfish (*Cambarus taylori*)	Proposed RSGCN	Yes
Crayfishes	Crittenden Crayfish (*Faxonius bisectus*)	RSGCN	Maybe
Crayfishes	Blood River Crayfish (*Faxonius burri*)	RSGCN	
Crayfishes	Coldwater Crayfish (*Faxonius eupunctus*)	RSGCN	Yes
Crayfishes	Indiana Crayfish (*Faxonius indianensis*)	RSGCN	Yes
Crayfishes	Louisville Crayfish (*Faxonius jeffersoni*)	RSGCN	No

Taxa	Species	RSGCN Status	Habitat Specialist?
Crayfishes	Kentucky Crayfish (*Faxonius kentuckiensis*)	RSGCN	
Crayfishes	Mammoth Spring Crayfish (*Faxonius marchandi*)	RSGCN	Maybe
Crayfishes	Livingston Crayfish (*Faxonius margorectus*)	RSGCN	
Crayfishes	Meek's Crayfish (*Faxonius meeki meeki*)	RSGCN	Maybe
Crayfishes	Gap Ringed Crayfish (*Faxonius neglectus chaenodactylus*)	Proposed RSGCN	
Crayfishes	Allegheny Crayfish (*Faxonius obscurus*)	Proposed RSGCN	No
Crayfishes	Big Creek Crayfish (*Faxonius peruncus*)	RSGCN	
Crayfishes	Northern Clearwater Crayfish (*Faxonius propinquus*)	RSGCN	No
Crayfishes	St. Francis River Crayfish (*Faxonius quadruncus*)	RSGCN	
Crayfishes	Little Wabash Crayfish (*Faxonius stannardi*)	RSGCN	
Crayfishes	Williams' Crayfish (*Faxonius williamsi*)	RSGCN	Maybe
Dragonflies and Damselflies	Ozark Clubtail (*Gomphurus ozarkensis*)	Proposed RSGCN	Yes
Dragonflies and Damselflies	Skillet Clubtail (*Gomphurus ventricosus*)	RSGCN	Maybe
Dragonflies and Damselflies	Green-faced Clubtail (*Hylogomphus viridifrons*)	RSGCN	Maybe
Dragonflies and Damselflies	Acuminate Snaketail (*Ophiogomphus acuminatus*)	Proposed RSGCN	Yes
Dragonflies and Damselflies	Pygmy Snaketail (*Ophiogomphus howei*)	RSGCN	Yes
Dragonflies and Damselflies	Sioux Snaketail (*Ophiogomphus smithi*)	RSGCN	Yes
Dragonflies and Damselflies	St. Croix Snaketail (*Ophiogomphus susbehcha*)	RSGCN	Maybe
Dragonflies and Damselflies	Plains Emerald (*Somatochlora ensigera*)	RSGCN	Maybe
Dragonflies and Damselflies	Ozark Emerald (*Somatochlora ozarkensis*)	RSGCN	Yes
Dragonflies and Damselflies	Riverine Clubtail (*Stylurus amnicola*)	RSGCN	
Fishes	Ohio Lamprey (*Ichthyomyzon bdellium*)	RSGCN	
Fishes	Blackside Dace (*Chrosomus cumberlandensis*)	RSGCN	
Fishes	Finescale Dace (*Chrosomus neogaeus*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Fishes	Redside Dace (*Clinostomus elongatus*)	RSGCN	Yes
Fishes	Tonguetied Minnow (*Exoglossum laurae*)	Proposed RSGCN	
Fishes	Western Silvery Minnow (*Hybognathus argyritis*)	RSGCN	
Fishes	Sturgeon Chub (*Macrhybopsis gelida*)	RSGCN	
Fishes	Peppered Chub (*Macrhybopsis tetranema*)	RSGCN	
Fishes	Pugnose Shiner (*Notropis anogenus*)	RSGCN	Yes
Fishes	Popeye Shiner (*Notropis ariommus*)	RSGCN	
Fishes	Blacknose Shiner (*Notropis heterolepis*)	RSGCN	Yes
Fishes	Topeka Shiner (*Notropis topeka*)	RSGCN	
Fishes	Eastern Slim Minnow (*Pimephales tenellus parviceps*)	RSGCN	Yes
Fishes	Flathead Chub (*Platygobio gracilis*)	RSGCN	
Fishes	Neosho Madtom (*Noturus placidus*)	RSGCN	
Fishes	Northern Madtom (*Noturus stigmosus*)	RSGCN	
Fishes	Spoonhead Sculpin (*Cottus ricei*)	RSGCN	
Fishes	Plains Topminnow (*Fundulus sciadicus*)	RSGCN	Yes
Fishes	Western Sand Darter (*Ammocrypta clara*)	RSGCN	Yes
Fishes	Crystal Darter (*Crystallaria asprella*)	RSGCN	Maybe
Fishes	Relict Darter (*Etheostoma chienense*)	RSGCN	Maybe
Fishes	Tuxedo Darter (*Etheostoma lemniscatum*)	RSGCN	Yes
Fishes	Spotted Darter (*Etheostoma maculatum*)	RSGCN	
Fishes	Shawnee Darter (*Etheostoma tecumsehi*)	RSGCN	
Fishes	Longhead Darter (*Percina macrocephala*)	RSGCN	
Fishes	Blackfin Sucker (*Thoburnia atripinnis*)	RSGCN	
Freshwater Mussels	Cumberland Elktoe (*Alasmidonta atropurpurea*)	RSGCN	Maybe
Freshwater Mussels	Elktoe (*Alasmidonta marginata*)	RSGCN	Maybe
Freshwater Mussels	Cumberland Papershell (*Anodontoides denigrata*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Freshwater Mussels	Wartyback (*Cyclonaias nodulata*)	RSGCN	Maybe
Freshwater Mussels	Purple Wartyback (*Cyclonaias tuberculata*)	RSGCN	Unknown
Freshwater Mussels	Western Fanshell (*Cyprogenia aberti*)	RSGCN	Maybe
Freshwater Mussels	Fanshell (*Cyprogenia stegaria*)	RSGCN	Maybe
Freshwater Mussels	Elephantear (*Elliptio crassidens*)	RSGCN	No
Freshwater Mussels	Curtis Pearlymussel (*Epioblasma curtisii*)	RSGCN	Yes
Freshwater Mussels	White Catspaw (*Epioblasma perobliqua*)	RSGCN	Yes
Freshwater Mussels	Northern Riffleshell (*Epioblasma rangiana*)	RSGCN	Maybe
Freshwater Mussels	Snuffbox (*Epioblasma triquetra*)	RSGCN	No
Freshwater Mussels	Tan Riffleshell (*Epioblasma walkeri*)	RSGCN	Yes
Freshwater Mussels	Cracking Pearlymussel (*Hemistena lata*)	RSGCN	No
Freshwater Mussels	Pocketbook (*Lampsilis ovata*)	RSGCN	No
Freshwater Mussels	Neosho Mucket (*Lampsilis rafinesqueana*)	RSGCN	No
Freshwater Mussels	Yellow Sandshell (*Lampsilis teres*)	RSGCN	No
Freshwater Mussels	Creek Heelsplitter (*Lasmigona compressa*)	RSGCN	No
Freshwater Mussels	Scaleshell (*Leptodea leptodon*)	RSGCN	Maybe
Freshwater Mussels	Black Sandshell (*Ligumia recta*)	RSGCN	No
Freshwater Mussels	Ring Pink (*Obovaria retusa*)	RSGCN	Yes
Freshwater Mussels	Round Hickorynut (*Obovaria subrotunda*)	RSGCN	No
Freshwater Mussels	Littlewing Pearlymussel (*Pegias fabula*)	RSGCN	Yes
Freshwater Mussels	Orangefoot Pimpleback (*Plethobasus cooperianus*)	RSGCN	Maybe
Freshwater Mussels	Sheepnose (*Plethobasus cyphyus*)	RSGCN	Maybe

Taxa	Species	RSGCN Status	Habitat Specialist?
Freshwater Mussels	Clubshell (*Pleurobema clava*)	RSGCN	Maybe
Freshwater Mussels	Ohio Pigtoe (*Pleurobema cordatum*)	RSGCN	No
Freshwater Mussels	Rough Pigtoe (*Pleurobema plenum*)	RSGCN	Yes
Freshwater Mussels	Pyramid Pigtoe (*Pleurobema rubrum*)	RSGCN	Unknown
Freshwater Mussels	Fat Pocketbook (*Potamilus capax*)	RSGCN	No
Freshwater Mussels	Kidneyshell (*Ptychobranchus fasciolaris*)	RSGCN	No
Freshwater Mussels	Fluted Kidneyshell (*Ptychobranchus subtentus*)	RSGCN	Yes
Freshwater Mussels	Winged Mapleleaf (*Quadrula fragosa*)	RSGCN	Yes
Freshwater Mussels	Salamander Mussel (*Simpsonaias ambigua*)	RSGCN	Yes
Freshwater Mussels	Rabbitsfoot (*Theliderma cylindrica*)	RSGCN	Yes
Freshwater Mussels	Purple Lilliput (*Toxolasma lividum*)	RSGCN	Yes
Freshwater Mussels	Ellipse (*Venustaconcha ellipsiformis*)	RSGCN	Yes
Freshwater Mussels	Cumberland Bean (*Venustaconcha troostensis*)	RSGCN	Yes
Freshwater Mussels	Rayed Bean (*Villosa fabalis*)	RSGCN	Maybe
Freshwater Mussels	Little Spectaclecase (*Villosa lienosa*)	RSGCN	Maybe
Freshwater Mussels	Kentucky Creekshell (*Villosa ortmanni*)	RSGCN	Yes
Mayflies	Striped Comb Minnow Mayfly (*Ameletus lineatus*)	RSGCN	
Mayflies	a mayfly (*Apobaetis lakota*)	RSGCN	
Mayflies	Hudsonia Small Minnow Mayfly (*Baetis hudsonicus*)	Proposed RSGCN	
Mayflies	Curtis's Small Square-gilled Mayfly (*Brachycercus harrisella*)	Proposed RSGCN	
Mayflies	Ojibwe Small Square-gilled Mayfly (*Brachycercus ojibwe*)	Proposed RSGCN	
Mayflies	a mayfly (*Camelobaetidius waltzi*)	RSGCN	
Mayflies	White Small Minnow Mayfly (*Centroptilum album*)	RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Mayflies	Forky Small Minnow Mayfly (*Centroptilum bifurcatum*)	RSGCN	
Mayflies	a small minnow mayfly (*Centroptilum ozarkensum*)	Proposed RSGCN	
Mayflies	Victoria's Small Minnow Mayfly (*Centroptilum victoriae*)	Proposed RSGCN	
Mayflies	Cree Small Square-gilled Mayfly (*Cercobrachys cree*)	Proposed RSGCN	
Mayflies	a small square-gilled mayfly (*Cercobrachys etowah*)	Proposed RSGCN	
Mayflies	Fox Small Square-gilled Mayfly (*Cercobrachys fox*)	RSGCN	
Mayflies	Wisconsin Small Square-gilled Mayfly (*Cercobrachys lilliei*)	RSGCN	
Mayflies	a small square-gilled mayfly (*Cercobrachys serpentis*)	Proposed RSGCN	
Mayflies	Winnebago Small Square-gilled Mayfly (*Cercobrachys winnebago*)	RSGCN	
Mayflies	Simple Spiny Crawler Mayfly (*Dannella simplex*)	RSGCN	
Mayflies	American Sand-burrowing Mayfly (*Dolania americana*)	RSGCN	
Mayflies	a mayfly (*Epeorus namatus*)	RSGCN	
Mayflies	Blushing Flat-headed Mayfly (*Epeorus suffusus*)	RSGCN	
Mayflies	a spiny crawler mayfly (*Ephemera traverae*)	Proposed RSGCN	
Mayflies	Dirty Spiny Crawler Mayfly (*Eurylophella lutulenta*)	RSGCN	
Mayflies	American Prong-gilled Mayfly (*Habrophlebiodes americana*)	RSGCN	
Mayflies	a mayfly (*Heptagenia dalecarlica*)	Proposed RSGCN	
Mayflies	Whiting's Flat-headed Mayfly (*Heptagenia whitingi*)	Proposed RSGCN	
Mayflies	Frivolous Small Minnow Mayfly (*Heterocloeon frivolum*)	Proposed RSGCN	
Mayflies	a mayfly (*Heterocloeon grande*)	Proposed RSGCN	
Mayflies	Late Hex Burrowing Mayfly (*Hexagenia atrocaudata*)	RSGCN	
Mayflies	Straight Hex Burrowing Mayfly (*Hexagenia rigida*)	Proposed RSGCN	
Mayflies	a sand-filtering mayfly (*Homoeoneuria ammophila*)	RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Mayflies	Konza Prairie Mayfly (*Leptophlebia konza*)	RSGCN	
Mayflies	a flat-headed mayfly (*Maccaffertium bednariki*)	RSGCN	
Mayflies	Butter Flat-headed Mayfly (*Maccaffertium luteum*)	Proposed RSGCN	
Mayflies	Nipawin Flat-headed Mayfly (*Macdunnoa nipawinia*)	Proposed RSGCN	
Mayflies	a small minnow mayfly (*Neocloeon alamance*)	Proposed RSGCN	
Mayflies	Canadian Large Square-gilled Mayfly (*Neoephemera bicolor*)	RSGCN	
Mayflies	a mayfly (*Nixe dorothae*)	Proposed RSGCN	
Mayflies	a flat-headed mayfly (*Nixe flowersi*)	Proposed RSGCN	
Mayflies	Eurasian Flat-headed Mayfly (*Nixe joernensis*)	Proposed RSGCN	
Mayflies	a small minnow mayfly (*Paracloeodes fleeki*)	Proposed RSGCN	
Mayflies	Coon Rapids Small Minnow Mayfly (*Paracloeodes lotor*)	Proposed RSGCN	
Mayflies	a prongill mayfly (*Paraleptophlebia calcarica*)	RSGCN	
Mayflies	a prongill mayfly (*Paraleptophlebia sticta*)	RSGCN	
Mayflies	Boreal Primitive Minnow Mayfly (*Parameletus chelifer*)	Proposed RSGCN	
Mayflies	Dark-winged Primitive Minnow Mayfly (*Parameletus croesus*)	Proposed RSGCN	
Mayflies	Band-bellied Small Minnow Mayfly (*Plauditus cestus*)	RSGCN	
Mayflies	Elliott's Small Minnow Mayfly (*Plauditus elliotti*)	Proposed RSGCN	
Mayflies	Glover's Small Minnow Mayfly (*Plauditus gloveri*)	Proposed RSGCN	
Mayflies	a small minnow mayfly (*Plauditus veteris*)	RSGCN	
Mayflies	Passive Small Minnow Mayfly (*Procloeon inanum*)	Proposed RSGCN	
Mayflies	Insignificant Small Minnow Mayfly (*Procloeon insignificans*)	Proposed RSGCN	
Mayflies	Faulty Small Minnow Mayfly (*Procloeon mendax*)	Proposed RSGCN	
Mayflies	Medicine Hat Small Minnow Mayfly (*Procloeon quaesitum*)	Proposed RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Mayflies	Painted Small Minnow Mayfly (*Procloeon rubropictum*)	Proposed RSGCN	
Mayflies	Hobbs's Small Minnow Mayfly (*Procloeon rufostrigatum*)	Proposed RSGCN	
Mayflies	Simple Small Minnow Mayfly (*Procloeon simplex*)	RSGCN	
Mayflies	a baetid mayfly (*Pseudocentroptiloides morihari*)	Proposed RSGCN	
Mayflies	American Small Minnow Mayfly (*Pseudocentroptiloides usa*)	Proposed RSGCN	
Mayflies	Central Flat-headed Mayfly (*Rhithrogena manifesta*)	Proposed RSGCN	
Mayflies	Frison's Serratellan Mayfly (*Serratella frisoni*)	RSGCN	
Mayflies	a primitive minnow mayfly (*Siphlonurus minnoi*)	RSGCN	
Mayflies	Leafy Primitive Minnow Mayfly (*Siphlonurus phyllis*)	Proposed RSGCN	
Mayflies	Lacustrine Small Square-gilled Mayfly (*Sparbarus lacustris*)	RSGCN	
Mayflies	a small square-gilled mayfly (*Sparbarus nasutus*)	RSGCN	
Mayflies	Candid Flat-headed Mayfly (*Stenacron candidum*)	RSGCN	
Mayflies	Gildersleeve's Stenacron Mayfly (*Stenacron gildersleevei*)	RSGCN	
Mayflies	Minnetonka Flat-headed Mayfly (*Stenacron minnetonka*)	RSGCN	
Mayflies	Prudent Small Square-gilled Mayfly (*Susperatus prudens*)	Proposed RSGCN	
Mayflies	a leptophlebiid mayfly (*Traverella lewisi*)	Proposed RSGCN	
Mayflies	Cobb's Stout Crawler Mayfly (*Tricorythodes cobbi*)	Proposed RSGCN	
Reptiles	Plain-bellied Watersnake (Copperbelly pop.) (*Nerodia erythrogaster neglecta*)	RSGCN	Yes
Reptiles	Spotted Turtle (*Clemmys guttata*)	RSGCN	No
Reptiles	Wood Turtle (*Glyptemys insculpta*)	RSGCN	Maybe
Stoneflies	Illinois Stone (*Acroneuria filicis*)	RSGCN	
Stoneflies	Kentucky Stone (*Acroneuria hitchcocki*)	Proposed RSGCN	
Stoneflies	Illinois Snowfly (*Allocapnia illinoensis*)	RSGCN	
Stoneflies	Three-lobed Snowfly (*Allocapnia smithi*)	RSGCN	

Taxa	Species	RSGCN Status	Habitat Specialist?
Stoneflies	Great Lakes Springfly (*Cultus decisus decisus*)	Proposed RSGCN	
Stoneflies	Robust Springfly (*Diploperla robusta*)	RSGCN	
Stoneflies	Ozark Springfly (*Helopicus nalatus*)	RSGCN	
Stoneflies	Michigan Springfly (*Isogenoides doratus*)	RSGCN	
Stoneflies	Hudsonian Springfly (*Isogenoides frontalis*)	RSGCN	
Stoneflies	Olive Springfly (*Isogenoides olivaceus*)	RSGCN	
Stoneflies	Crescent Stripetail (*Isoperla emarginata*)	Proposed RSGCN	
Stoneflies	Plains Stripetail (*Isoperla longiseta*)	Proposed RSGCN	
Stoneflies	Midwestern Stripetail (*Isoperla marlynia*)	RSGCN	
Stoneflies	Minnesota Stripetail (*Isoperla maxana*)	Proposed RSGCN	
Stoneflies	Alta Needlefly (*Leuctra alta*)	RSGCN	
Stoneflies	a needlefly (*Leuctra schusteri*)	Proposed RSGCN	
Stoneflies	Ohio Stone (*Neoperla gaufini*)	Proposed RSGCN	
Stoneflies	Arkansas Stone (*Neoperla harpi*)	RSGCN	
Stoneflies	Maine Stone (*Neoperla mainensis*)	Proposed RSGCN	
Stoneflies	Plains Stone (*Perlesta cinctipes*)	RSGCN	
Stoneflies	Dakota Stone (*Perlesta dakota*)	RSGCN	
Stoneflies	Cloudy Stonefly (*Perlesta ephelida*)	RSGCN	
Stoneflies	Pawnee Stone (*Perlesta xube*)	RSGCN	
Stoneflies	Northern Needlefly (*Zealeuctra narfi*)	RSGCN	

Table N-11. RSGCN and Proposed RSGCN associated with Big Rivers habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Common Mudpuppy (*Necturus maculosus*)	RSGCN	No
Birds	Interior Least Tern (*Sternula antillarum athalassos*)	RSGCN	Yes
Birds	Piping Plover (Great Lakes pop.) (*Charadrius melodus*)	RSGCN	Yes
Birds	Piping Plover (Northern Great Plains pop.) (*Charadrius melodus*)	RSGCN	Yes
Caddisflies	White-spotted Long-horned Caddisfly (*Ceraclea albosticta*)	Proposed RSGCN	
Caddisflies	a hydropsychid caddisfly (*Hydropsyche aerata*)	Proposed RSGCN	
Caddisflies	Flat Net-spinning Caddisfly (*Hydropsyche placoda*)	Proposed RSGCN	
Caddisflies	a net-spinning caddisfly (*Hydropsyche valanis*)	Proposed RSGCN	
Caddisflies	a uenoid caddisfly (*Neophylax ayanus*)	Proposed RSGCN	
Crayfishes	Leopard Crayfish (*Faxonius pardalotus*)	Proposed RSGCN	
Dragonflies and Damselflies	Ozark Clubtail (*Gomphurus ozarkensis*)	Proposed RSGCN	Yes
Dragonflies and Damselflies	Skillet Clubtail (*Gomphurus ventricosus*)	RSGCN	Maybe
Dragonflies and Damselflies	St. Croix Snaketail (*Ophiogomphus susbehcha*)	RSGCN	Maybe
Dragonflies and Damselflies	Riverine Clubtail (*Stylurus amnicola*)	RSGCN	
Dragonflies and Damselflies	Elusive Clubtail (*Stylurus notatus*)	RSGCN	
Fishes	Ohio Lamprey (*Ichthyomyzon bdellium*)	RSGCN	
Fishes	Western Silvery Minnow (*Hybognathus argyritis*)	RSGCN	
Fishes	Sturgeon Chub (*Macrhybopsis gelida*)	RSGCN	
Fishes	Sicklefin Chub (*Macrhybopsis meeki*)	RSGCN	
Fishes	Flathead Chub (*Platygobio gracilis*)	RSGCN	
Fishes	Lake Sturgeon (*Acipenser fulvescens*)	RSGCN	
Fishes	Pallid Sturgeon (*Scaphirhynchus albus*)	RSGCN	Unknown
Fishes	Western Sand Darter (*Ammocrypta clara*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Fishes	Crystal Darter (*Crystallaria asprella*)	RSGCN	Maybe
Fishes	Cisco (*Coregonus artedi*)	RSGCN	
Freshwater Mussels	Elktoe (*Alasmidonta marginata*)	RSGCN	Maybe
Freshwater Mussels	Spectaclecase (*Cumberlandia monodonta*)	RSGCN	Yes
Freshwater Mussels	Wartyback (*Cyclonaias nodulata*)	RSGCN	Maybe
Freshwater Mussels	Purple Wartyback (*Cyclonaias tuberculata*)	RSGCN	Unknown
Freshwater Mussels	Western Fanshell (*Cyprogenia aberti*)	RSGCN	Maybe
Freshwater Mussels	Fanshell (*Cyprogenia* stegaria)	RSGCN	Maybe
Freshwater Mussels	Butterfly Mussel (*Ellipsaria lineolata*)	RSGCN	Maybe
Freshwater Mussels	Catspaw (*Epioblasma obliquata*)	Proposed RSGCN	Yes
Freshwater Mussels	Pink Mucket (*Lampsilis abrupta*)	RSGCN	Maybe
Freshwater Mussels	Higgins Eye (*Lampsilis higginsii*)	RSGCN	Maybe
Freshwater Mussels	Pocketbook (*Lampsilis ovata*)	RSGCN	No
Freshwater Mussels	Scaleshell (*Leptodea leptodon*)	RSGCN	Maybe
Freshwater Mussels	Black Sandshell (*Ligumia recta*)	RSGCN	No
Freshwater Mussels	Ring Pink (*Obovaria retusa*)	RSGCN	Yes
Freshwater Mussels	Round Hickorynut (*Obovaria subrotunda*)	RSGCN	No
Freshwater Mussels	White Wartyback (*Plethobasus cicatricosus*)	RSGCN	Yes
Freshwater Mussels	Orangefoot Pimpleback (*Plethobasus cooperianus*)	RSGCN	Maybe
Freshwater Mussels	Sheepnose (*Plethobasus cyphyus*)	RSGCN	Maybe
Freshwater Mussels	Ohio Pigtoe (*Pleurobema cordatum*)	RSGCN	No
Freshwater Mussels	Rough Pigtoe (*Pleurobema plenum*)	RSGCN	Yes
Freshwater Mussels	Pyramid Pigtoe (*Pleurobema rubrum*)	RSGCN	Unknown

Taxa	Species	RSGCN Status	Habitat Specialist?
Freshwater Mussels	Fat Pocketbook (*Potamilus capax*)	RSGCN	No
Freshwater Mussels	Kidneyshell (*Ptychobranchus fasciolaris*)	RSGCN	No
Freshwater Mussels	Winged Mapleleaf (*Quadrula fragosa*)	RSGCN	Yes
Freshwater Mussels	Ebonyshell (*Reginaia ebenus*)	RSGCN	Maybe
Freshwater Mussels	Salamander Mussel (*Simpsonaias ambigua*)	RSGCN	Yes
Freshwater Mussels	Rabbitsfoot (*Theliderma cylindrica*)	RSGCN	Yes
Freshwater Mussels	Rayed Bean (*Villosa fabalis*)	RSGCN	Maybe
Mayflies	Pecatonica River Mayfly (*Acanthametropus pecatonica*)	RSGCN	
Mayflies	Filtering Small Square-gilled Mayfly (*Amercaenis ridens*)	Proposed RSGCN	
Mayflies	Fork-headed Armored Mayfly (*Baetisca obesa*)	RSGCN	
Mayflies	a mayfly (*Macdunnoa persimplex*)	RSGCN	
Mayflies	Boreal Cleft-footed Minnow Mayfly (*Metretopus borealis*)	RSGCN	
Mayflies	Robust Pentagenian Burrowing Mayfly (*Pentagenia robusta*)	RSGCN	
Mayflies	White Sand-river Mayfly (*Pseudiron centralis*)	RSGCN	
Mayflies	Wallace's Deepwater Mayfly (*Raptoheptagenia cruentata*)	RSGCN	
Mayflies	Flapped Cleft-footed Minnow Mayfly (*Siphloplecton basale*)	RSGCN	
Mayflies	Flapless Cleft-footed Minnow Mayfly (*Siphloplecton interlineatum*)	RSGCN	
Mayflies	Wallace's Deepwater Mayfly (*Spinadis simplex*)	RSGCN	
Mayflies	Manitoba White Burrowing Mayfly (*Tortopsis primus*)	RSGCN	
Stoneflies	Shawnee Stone (*Acroneuria covelli*)	Proposed RSGCN	
Stoneflies	Giant Stone (*Attaneuria ruralis*)	RSGCN	
Stoneflies	Rock Island Springfly (*Isogenoides varians*)	RSGCN	
Stoneflies	Two-lined Stone (*Perlesta golconda*)	RSGCN	
Stoneflies	Wabash Stone (*Perlesta ouabache*)	RSGCN	

Table N-12. RSGCN and Proposed RSGCN associated with Lakes and Ponds habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Blanchard's Cricket Frog (*Acris blanchardi*)	RSGCN	
Amphibians	Western Tiger Salamander (*Ambystoma mavortium*)	Proposed RSGCN	
Amphibians	Unisexual Ambystoma Complex (*Ambystoma* sp.)	RSGCN	Yes
Amphibians	Common Mudpuppy (*Necturus maculosus*)	RSGCN	No
Caddisflies	Vulpine Long-horned Caddisfly (*Ceraclea alagma*)	Proposed RSGCN	
Caddisflies	White-spotted Long-horned Caddisfly (*Ceraclea albosticta*)	Proposed RSGCN	
Caddisflies	Simple Giant Caddisfly (*Fabria inornata*)	Proposed RSGCN	
Caddisflies	Frozen Trumpet-net Caddisfly (*Holocentropus glacialis*)	RSGCN	
Caddisflies	Pale Northern Caddisfly (*Limnephilus samoedus*)	RSGCN	
Caddisflies	Unhorned Microcaddisfly (*Oxyethira ecornuta*)	RSGCN	
Caddisflies	Friendly Northern Caddisfly (*Platycentropus amicus*)	Proposed RSGCN	
Caddisflies	Little Long-horned Caddisfly (*Setodes oligius*)	RSGCN	
Crayfishes	Northern Clearwater Crayfish (*Faxonius propinquus*)	RSGCN	No
Dragonflies and Damselflies	Spatterdock Darner (*Rhionaeschna mutata*)	RSGCN	Yes
Dragonflies and Damselflies	Elusive Clubtail (*Stylurus notatus*)	RSGCN	
Fishes	Finescale Dace (*Chrosomus neogaeus*)	RSGCN	Yes
Fishes	Pugnose Shiner (*Notropis anogenus*)	RSGCN	Yes
Fishes	Blacknose Shiner (*Notropis heterolepis*)	RSGCN	Yes
Fishes	Lake Sturgeon (*Acipenser fulvescens*)	RSGCN	
Fishes	Spoonhead Sculpin (*Cottus* ricei)	RSGCN	
Fishes	Cisco (*Coregonus artedi*)	RSGCN	
Fishes	Ives Lake Cisco (*Coregonus hubbsi*)	RSGCN	
Fishes	Shortjaw Cisco (*Coregonus zenithicus*)	RSGCN	Maybe
Fishes	Siskiwit Lake Cisco (*Coregonus zenithicus bartletti*)	RSGCN	Yes

Taxa	Species	RSGCN Status	Habitat Specialist?
Freshwater Mussels	Salamander Mussel (*Simpsonaias ambigua*)	RSGCN	Yes
Freshwater Mussels	Ellipse (*Venustaconcha ellipsiformis*)	RSGCN	Yes
Mayflies	Pond Small Minnow Mayfly (*Cloeon dipterum*)	Proposed RSGCN	
Mayflies	a mayfly (*Waynokiops dentatogriphus*)	Proposed RSGCN	
Reptiles	Plain-bellied Watersnake (Copperbelly pop.) (*Nerodia erythrogaster neglecta*)	RSGCN	Yes
Reptiles	Spotted Turtle (*Clemmys guttata*)	RSGCN	No
Reptiles	Blanding's Turtle (*Emydoidea blandingii*)	RSGCN	Yes
Reptiles	Yellow Mud Turtle (Illinois/Missouri/Iowa pop.) (Kinosternon *flavescens*)	RSGCN	Yes

Table N-13. RSGCN and Proposed RSGCN associated with Great Lakes habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Caddisflies	Pale Northern Caddisfly (*Limnephilus samoedus*)	RSGCN	
Fishes	Spoonhead Sculpin (*Cottus ricei*)	RSGCN	
Fishes	Cisco (*Coregonus artedi*)	RSGCN	
Fishes	Shortjaw Cisco (*Coregonus zenithicus*)	RSGCN	Maybe
Freshwater Mussels	Round Hickorynut (*Obovaria subrotunda*)	RSGCN	No
Freshwater Mussels	Kidneyshell (*Ptychobranchus fasciolaris*)	RSGCN	No
Freshwater Mussels	Rayed Bean (*Villosa fabalis*)	RSGCN	Maybe
Reptiles	Lake Erie Watersnake (*Nerodia sipedon insularum*)	RSGCN	
Stoneflies	Holarctic Springfly (*Arcynopteryx dichroa*)	RSGCN	
Stoneflies	Maine Stone (*Neoperla mainensis*)	Proposed RSGCN	

Table N-14. RSGCN and Proposed RSGCN associated with Agricultural – Annual Crops habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Illinois Chorus Frog (*Pseudacris illinoensis*)	RSGCN	Yes
Birds	Whooping Crane (*Grus americana*)	RSGCN	
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	
Reptiles	Plains Hog-nosed Snake (*Heterodon nasicus*)	RSGCN	
Reptiles	Blanding's Turtle (*Emydoidea blandingii*)	RSGCN	Yes
Reptiles	Wood Turtle (*Glyptemys insculpta*)	RSGCN	Maybe

Table N-15. RSGCN and Proposed RSGCN associated with Agricultural – Perennial Crops habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Crawfish Frog (*Lithobates areolatus*)	RSGCN	Yes
Amphibians	Illinois Chorus Frog (*Pseudacris illinoensis*)	RSGCN	Yes
Bees	Southern Plains Bumble Bee (*Bombus fraternus*)	RSGCN	Yes
Bees	American Bumble Bee (*Bombus pensylvanicus*)	RSGCN	Yes
Bees	Variable Cuckoo Bumble Bee (*Bombus variabilis*)	RSGCN	
Birds	Short-eared Owl (*Asio flammeus*)	RSGCN	Maybe
Birds	Northern Bobwhite (*Colinus virginianus*)	RSGCN	Maybe
Birds	Greater Prairie-Chicken (*Tympanuchus cupido*)	RSGCN	Yes
Birds	Grasshopper Sparrow (*Ammodramus savannarum*)	RSGCN	Maybe
Birds	Sprague's Pipit (*Anthus spragueii*)	RSGCN	Maybe
Birds	Henslow's Sparrow (*Centronyx henslowii*)	RSGCN	Maybe
Birds	Bobolink (*Dolichonyx oryzivorus*)	RSGCN	
Birds	Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	RSGCN	
Birds	Eastern Meadowlark (*Sturnella magna*)	RSGCN	
Birds	Western Meadowlark (*Sturnella neglecta*)	RSGCN	
Birds	Upland Sandpiper (*Bartramia longicauda*)	RSGCN	Maybe
Birds	Buff-breasted Sandpiper (*Calidris subruficollis*)	RSGCN	Maybe
Birds	Marbled Godwit (*Limosa fedoa*)	RSGCN	Maybe
Butterflies and Moths	Monarch (*Danaus plexippus*)	RSGCN	No
Mammals	Cheyenne Northern Pocket Gopher (*Thomomys* talpoides *cheyennensis*)	RSGCN	No
Mammals	Pierre Northern Pocket Gopher (*Thomomys talpoides pierreicolus*)	RSGCN	No
Reptiles	Eastern Foxsnake (Great Lakes pop.) (*Pantherophis gloydi*)	RSGCN	No
Reptiles	Blanding's Turtle (*Emydoidea blandingii*)	RSGCN	Yes
Reptiles	Wood Turtle (*Glyptemys insculpta*)	RSGCN	Maybe

Table N-16. RSGCN and Proposed RSGCN associated with Silviculture and Orchards habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Bees	Rusty-patched Bumble Bee (*Bombus affinis*)	RSGCN	No
Bees	Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	RSGCN	
Birds	Red-headed Woodpecker (*Melanerpes erythrocephalus*)	RSGCN	Maybe
Birds	Rusty Blackbird (*Euphagus carolinus*)	RSGCN	Maybe
Birds	Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)	RSGCN	
Mammals	Eastern Red Bat (*Lasiurus borealis*)	RSGCN	

Table N-17. RSGCN and Proposed RSGCN associated with Developed habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Bees	Rusty-patched Bumble Bee (*Bombus affinis*)	RSGCN	No
Bees	Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	RSGCN	
Bees	Southern Plains Bumble Bee (*Bombus fraternus*)	RSGCN	Yes
Bees	Yellow-banded Bumble Bee (*Bombus terricola*)	RSGCN	
Bees	Macropis Cuckoo Bee (*Epeoloides pilosulus*)	Proposed RSGCN	
Bees	a long-horned bee (*Svastra compta*)	RSGCN	
Birds	Chimney Swift (*Chaetura pelagica*)	RSGCN	Maybe
Birds	Interior Least Tern (*Sternula antillarum athalassos*)	RSGCN	Yes
Mammals	Little Brown Myotis (*Myotis lucifugus*)	RSGCN	
Mammals	Tricolored Bat (*Perimyotis subflavus*)	RSGCN	
Reptiles	Kirtland's Snake (*Clonophis kirtlandii*)	RSGCN	Yes
Reptiles	Butler's Gartersnake (*Thamnophis butleri*)	RSGCN	

Table N-18. RSGCN and Proposed RSGCN associated with Mines habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Mammals	Gray Myotis (*Myotis grisescens*)	RSGCN	
Mammals	Little Brown Myotis (*Myotis lucifugus*)	RSGCN	
Mammals	Northern Long-eared Bat (*Myotis septentrionalis*)	RSGCN	
Mammals	Fringe-tailed Myotis (*Myotis thysanodes pahasapensis*)	RSGCN	
Mammals	Tricolored Bat (*Perimyotis subflavus*)	RSGCN	
Reptiles	Timber Rattlesnake (*Crotalus horridus*)	RSGCN	

Table N-19. RSGCN and Proposed RSGCN associated with Impoundments habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Western Tiger Salamander (*Ambystoma mavortium*)	Proposed RSGCN	
Amphibians	Common Mudpuppy (*Necturus maculosus*)	RSGCN	No
Dragonflies and Damselflies	Spatterdock Darner (*Rhionaeschna mutata*)	RSGCN	Yes
Fishes	Finescale Dace (*Chrosomus neogaeus*)	RSGCN	Yes
Fishes	Sturgeon Chub (*Macrhybopsis gelida*)	RSGCN	
Fishes	Sicklefin Chub (*Macrhybopsis meeki*)	RSGCN	
Fishes	Pallid Sturgeon (*Scaphirhynchus albus*)	RSGCN	Unknown
Freshwater Mussels	Butterfly Mussel (*Ellipsaria lineolata*)	RSGCN	Maybe
Freshwater Mussels	Pink Mucket (*Lampsilis abrupta*)	RSGCN	Maybe
Freshwater Mussels	Pocketbook (*Lampsilis ovata*)	RSGCN	No
Freshwater Mussels	Scaleshell (*Leptodea leptodon*)	RSGCN	Maybe
Freshwater Mussels	Sheepnose (*Plethobasus cyphyus*)	RSGCN	Maybe
Freshwater Mussels	Ohio Pigtoe (*Pleurobema cordatum*)	RSGCN	No
Mayflies	a mayfly (*Waynokiops dentatogriphus*)	Proposed RSGCN	

Table N-20. RSGCN and Proposed RSGCN associated with Managed Wetlands habitat.

Taxa	Species	RSGCN Status	Habitat Specialist?
Amphibians	Crawfish Frog (*Lithobates areolatus*)	RSGCN	Yes
Amphibians	Illinois Chorus Frog (*Pseudacris illinoensis*)	RSGCN	Yes
Birds	Black Tern (*Chlidonias niger*)	RSGCN	Maybe
Butterflies and Moths	Monarch (*Danaus plexippus*)	RSGCN	No
Crayfishes	Dusky Mudbug (*Cambarus adustus*)	Proposed RSGCN	Yes
Crayfishes	Big South Fork Crayfish (*Cambarus bouchardi*)	RSGCN	No
Crayfishes	Louisville Crayfish (*Faxonius jeffersoni*)	RSGCN	No
Reptiles	Kirtland's Snake (*Clonophis kirtlandii*)	RSGCN	Yes
Reptiles	Spotted Turtle (*Clemmys guttata*)	RSGCN	No

APPENDIX O. DATA GAPS AND OBSERVATIONS IDENTIFIED DURING THE RSGCN PROCESS

The RSGCN habitat and limiting factor identification process began by listing a broad spectrum of possible data fields, which were then refined and narrowed down throughout the process when it was clear that neither the TCI team nor the taxa experts had the time or comprehensive expertise across taxa to efficiently populate all the initially desired fields. Data fields were prioritized based on the likelihood that that sufficient data were available and how much the data could contribute to the species' applied conservation. The list of data fields was reviewed with the MLI At-Risk/RSGCN Work Group throughout this process until a final, refined list was developed.

These prioritized data fields were pre-populated for the predicted RSGCN using information available from NatureServe and other well recognized references for each taxa (AFS, PIF, PARC, Recovery and other Conservation Plans, SSAs and other similar documents, etc.). Additional data fields were added when deemed of high value for certain taxonomic groups (i.e., aquatic substrate type was added for freshwater mussels), and the data were available. After the pre-population of the limiting factors data was complete, taxa experts were asked to review the information for accuracy and completeness via an online survey. They reviewed all the fields that were pre-populated, as well as some additional fields in which the taxa experts would be able to provide additional context. These fields are listed below:

Prioritized Habitat fields	**Limiting Factor Fields pre-populated if possible**	**Fields added via online survey in response to expert/MLI/TCI**
Habitat Preferences (3 natural and 3 anthropogenic habitats)	Does the species have specific aquatic substrate needs?	Does the species use different habitats for different life stages or seasons?
Is the species a habitat specialist?	Are populations limited by predation of adults, juveniles, or eggs?	Does the species have high site fidelity?
Is the availability (loss of acreage) of key habitat limiting the species?	Are populations limited by individuals being taken from the wild?	Is excess energy affecting the species?
Is the condition (degradation) of this habitat type limiting the species?	Is the population likely to be further limited by climate change?	Is fire regime important for this species?

Is loss of habitat connectivity limiting the species?	Does the species rely on another species?	Is native grassland important for this species?
Does the species' current habitat require ongoing active management to maintain suitable conditions?	Is the availability of food threatened by climate change?	Does the species make use of current or former agricultural lands?
Is the species' habitat projected to decline (loss of condition or area) due to climate change in the next 50 years?	Is another species directly competing for food resources?	Are caves important to this species?
Are invasives degrading the habitat?	Are any other habitat features important? (*only caves and seeps assessed*)	Are water management structures impacting the species?
Does the species breed in the Midwest?		Which migratory routes does the species utilize?
Does the species winter in the Midwest Region?		Is wintering habitat availability a concern for this species?
Is the species limited due to winter vulnerabilities?		Is migration or stopover habitat availability a concern for this species?
What is the wintering behavior?		What is the wintering shelter and life stage for this species?
What is the daily activity cycle?		Are there any other factors that are limiting reproductive success or causing mortality?
Is the population limited by disease?		What are the top 3 CMP threats to this species?
Is the population limited by toxins or other pollutants in the environment?		
Has population isolation or the lack of genetic diversity become a limitation?		

Is the population likely to be further limited by climate change?

Primary food type

Is the species a food specialist?

Is the population limited by availability of food resources?

DATA GAPS SYNOPSIS

Limiting Factors (LF) are listed below based on the number of species for which the information was completed. This summary is based *only* on RSGCN, not Proposed RSGCN. The full database contains additional information, as the summary presented here combines responses for a topic (i.e., many data fields have a Yes/No/Maybe field and an associated text field).

Variables that are complete (100%) for RSGCN

- Habitat preference (Hab 1-3 and Anthro_Hab 1-3) **This is the only info available for EPTs*
- Overwinters in Midwest
- Breeds in Midwest

Variables that are mostly complete (>50%) for RSGCN *Note that no data fields are 75-100% filled out

- Habitat specialist
- Habitat availability
- Habitat condition
- Primary food type

Variables that are somewhat complete (25-50%) for RSGCN

- CMP Threats
- General notes
- Habitat connectivity
- Habitat management
- Habitat & Climate change
- Aquatic substrate
- Overwintering behavior
- Daily activity cycle
- Toxin/pollution LF
- Food specialist

Variables that are mostly incomplete (<25%) for RSGCN

- Associated Upland Habitat (*only complete for fish*)
- Other important habitat features (*only assessed for caves, seeps, and ephemeral pools*)
- Habitat life stage dependent

- Habitat site fidelity
- Habitat invasive degradation
- Excess energy LF
- Terrestrial substrate (type, moisture, surface litter)
- Fire regime
- Native grassland/ag land/caves/water management structures
- Migrant type
- Winter vulnerability
- Migratory routes
- Winter/migratory habitat LF
- Overwintering shelter/life stage/habitat features
- Disease
- Genetic diversity
- Predation
- Harvest/take
- Population dynamics & Climate Change
- Food LF
- Food & Climate Change
- Competition LF
- Requires other species

<u>Variables that are incomplete (0%) for RSGCN</u>

- Canopy/Midstory/Understory density
- Shrub/Forbs&Grass/Emergent/Submerged Vegetation density
- Forest age class
- Water Source/Depth/Hydroperiod
- River/Stream type
- Lake/Pond type
- Lake/pond depth and trophic state
- Water temperature/oxygen level/pH/salinity
- Other important habitat attributes
- Other reproduction/mortality factors

NOTES AND OBSERVATIONS TO CONSIDER CONCERNING DATA GAPS

- No Limiting Factors were completed for the EPTs
- Associated upland habitats were only considered for fish species
- The "Other features" field was only completed for species associated with caves and seeps; skipped floodplains, riparian areas, snags, high elevation, outcrops, talus, epikarst, right-of-ways, and vernal pools
- Habitat associations for EPTs were done as a batch, rather than individually, so there is potential for error (e.g., are seep specialists really associated with riparian habitat?)
- There are a lot more "yes" responses than "no" responses. It is much easier to demonstrate that something is being affected by something else than it is to demonstrate no effect. As a result, "no" and "unknown" may not be particularly meaningful.
- It was difficult to get meaningful feedback from taxa experts when trying to get so much data at one time; this likely restricted the responses.
- Note that the fields that are more complete closely align with the prioritization scheme.
- Habitat preference, Breeds in MW, and Overwinters in MW are the *only* fields where we have complete coverage for all RSGCN and Proposed RSGCN.
- These data gaps can assist in prioritization of next steps to fill these gaps.
- These data gaps should be considered when presenting the RSGCN information. This is why the analysis/report addressed only those fields for which sufficient data were available and were silent on those in which data were generally lacking.

APPENDIX P. REFERENCES AND RESOURCES

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