

# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Minnesota



## Local office

Minnesota-Wisconsin Ecological Services Field Office

☎ (952) 858-0793

3815 American Blvd East

Bloomington, MN 55425-1659

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

# Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

# Birds

NAME	STATUS
Whooping Crane <i>Grus americana</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	<a href="#">EXPN</a>

# Clams

NAME	STATUS
Salamander Mussel <i>Simpsonia ambigua</i> Wherever found There is <b>proposed</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/6208">https://ecos.fws.gov/ecp/species/6208</a>	Proposed Endangered

# Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

# Flowering Plants

NAME	STATUS
Prairie Bush-clover <i>Lespedeza leptostachya</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4458">https://ecos.fws.gov/ecp/species/4458</a>	Threatened

# Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

## Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds  
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds  
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC  
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Bald and Golden Eagle information is not available at this time

**What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?**

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?**



The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Migratory bird information is not available at this time

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

### **What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain

types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

This location overlaps the following National Wildlife Refuge lands:

LAND	ACRES
KANDIYOHI COUNTY WATERFOWL PRODUCTION AREA	33,350.07 acres
LYON COUNTY WATERFOWL PRODUCTION AREA	369.38 acres
YELLOW MEDICINE COUNTY WATERFOWL PRODUCTION AREA	457.93 acres

## Fish hatcheries

There are no fish hatcheries at this location.

## Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

## Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

**Natural Heritage Information System Records of State Special Concern Species Documented  
within One Mile of the Project**

Scientific Name	Common Name	Type	State Status	Federal Status	Habitat <sup>1</sup>
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed	Formerly occurred in the extensive dry tallgrass prairie and open grasslands but is now found primarily in agricultural areas and in tiny remnant prairies and grasslands.
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed	Native prairie.
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed	Dry prairies and in mesic prairies, and most commonly in hill prairies, which are frequently dry-mesic in nature.
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed	Dry prairies on glacial till, and primarily in dry sand-gravel prairies or in dry, sandy areas within hill prairies.
<i>Atrytone arogos iowa</i>	Iowa skipper	Butterfly	Special concern	Not listed	Mesic to dry mesic native prairie.
<i>Buellia nigra</i>	A species of lichen	Fungus	Special concern	Not listed	Non-calcareous rock in sunny exposed areas, sometimes near the edge of hardwood forests.
<i>Buteo lineatus</i>	Red-shouldered hawk	Bird	Special concern	Not listed	Large tracts of mature deciduous forests with scattered wetlands.
<i>Chondestes grammacus</i>	Lark sparrow	Bird	Special concern	Not listed	Rock outcrops, fire dependent forests, savannas, upland prairies.
<i>Cirsium pumilum</i> var. <i>hillii</i>	Hill's thistle	Vascular plant	Special concern	Not listed	Southern dry prairies and southern dry savannas, and to a lesser extent drier examples of southern mesic prairies and woodlands (central dry pine woodland and central poor dry pine woodland with scattered oaks or Jack pine.
<i>Cygnus buccinator</i>	Trumpeter swan	Bird	Special concern	Not listed	Littoral zone of lakes, marshes.

Scientific Name	Common Name	Type	State Status	Federal Status	Habitat <sup>1</sup>
<i>Cypripedium candidum</i>	Small white lady's-slipper	Vascular plant	Special concern	Not listed	Mesic prairies with deep soil.
<i>Falco peregrinus</i>	Peregrine falcon	Bird	Special concern	Not listed	Cliff ledges along rivers and lakes.
<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed	Freshwater cattail-bulrush marshes (northern) and prairie.
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed	Mesic hardwood forests on terraces of the Minnesota River, the Mississippi River below the Twin Cities, and a few major tributaries
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed	Small rivers and streams.
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed	Large prairie marshes.
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed	Large and medium rivers and streams.
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed	Rivers, lakes, reservoirs, and sluggish streams.
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Mouse	Special concern	Not listed	Sites with gravelly or coarse soils, including active and inactive quarry sites. They occur in a variety of upland prairie habitats, most often in areas with sparse vegetation.
<i>Opuntia macrorhiza</i>	Devil's tongue	Vascular plant	Special concern	Not listed	Margins of bedrock exposures and in associated dry prairie communities, specifically in thin, dry soil over granite, quartzite, and gneiss
<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed	Well-developed forest soil, typically mesic loamy soil. In most cases, the forests have a closed canopy of mature sugar maple, basswood, or northern red oak.
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed	Well-drained, loose sandy and gravel soils in dry sand prairies and bluff prairies.



Scientific Name	Common Name	Type	State Status	Federal Status	Habitat <sup>1</sup>
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed	Medium to large rivers.
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed	Open fields, streams and rivers, and open water habitats including wetlands, marshes, and lakes.
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed	Extensive marshes with an interspersed of emergent vegetation and open water
<i>Trillium nivale</i>	Snow trillium	Vascular plant	Special concern	Not listed	Mesic hardwood forests dominated by sugar maple, basswood, and oaks.
<i>Uroditellus richardsonii</i>	Richardson's ground squirrel	Squirrel	Special concern	Not listed	Open habitat, preferring dry well-drained soils for burrowing.
<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed	Shrub thickets, clumps, and edges within or bordering open habitats such as grasslands or wetlands.

<sup>1</sup> Habitat information is from Rare Species Guide available here:

<https://www.dnr.state.mn.us/rsg/index.html>.

Regional Segment					Region A																				
					A1 (Purple Route)			A2			A3 (Blue Route)			A4			A5			A6			A7		
					ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile
Scientific Name	Common Name	Type	State Status	Federal Status																					
<i>Ammodramus henslowii</i>	Henslow's sparrow	Bird	Endangered	Not listed								X			X						X			X	
<i>Juglans cinerea</i>	Butternut	Vascular plant	Endangered	Not listed																					
<i>Lampsilis teres</i>	Yellow sandshell	Mussel	Endangered	Not listed																					
<i>Lanius ludovicianus</i>	Loggerhead shrike	Bird	Endangered	Not listed																					
<i>Oarisma poweshiek</i>	Poweshiek skipperling	Butterfly	Endangered	Endangered							X	X	X	X	X	X			X	X	X	X	X	X	
<i>Rallus elegans</i>	King rail	Bird	Endangered	Not listed																					
<i>Simpsonaias ambigua</i>	Salamander mussel	Mussel	Endangered	Not listed																					
<i>Actinonaias ligamentina</i>	Mucket	Mussel	Threatened	Not listed																					
<i>Alasmidonta marginata</i>	Elktoe	Mussel	Threatened	Not listed																					
<i>Asclepias sullivantii</i>	Sullivant's milkweed	Vascular plant	Threatened	Not listed																					
<i>Bacopa rotundifolia</i>	Waterhyssop	Vascular plant	Threatened	Not listed			X			X															
<i>Berula erecta</i>	Stream parsnip	Vascular plant	Threatened	Not listed														X							
<i>Emydoidea blandingii</i>	Blanding's turtle	Turtle	Threatened	Not listed																					
<i>Eurynia dilatata</i>	Spike	Mussel	Threatened	Not listed																					
<i>Lasmigona costata</i>	Fluted-shell	Mussel	Threatened	Not listed																					
<i>Lespedeza leptostachya</i>	Prairie bush clover	Vascular plant	Threatened	Threatened																					
<i>Minuartia dawsonensis</i>	Rock sandwort	Vascular plant	Threatened	Not listed																					
<i>Quadrula nodulata</i>	Wartyback	Mussel	Threatened	Not listed																					
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed																					
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed							X	X	X	X	X	X			X	X	X	X	X	X	
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed																					
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed																					
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<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed																					
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed																					
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed								X			X			X	X	X	X	X	X	X	
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed																					
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed																					
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed																					
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Mouse	Special concern	Not listed								X	X				X	X		X	X		X	X	
<i>Opuntia macrorhiza</i>	Devil's tongue	Vascular plant	Special concern	Not listed																					
<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed																					
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed																					
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed																					
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed																					
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed																					
<i>Trillium nivale</i>	Snow trillium	Vascular plant	Special concern	Not listed			X			X			X			X	X			X			X	X	
<i>Urocitellus richardsonii</i>	Richardson's ground squirrel	Squirrel	Special concern	Not listed																					
<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed																					

Regional Segment					Region B											
					B1 (Purple Route)			B2			B3			B4 (Blue Route)		
					ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile
Scientific Name	Common Name	Type	State Status	Federal Status												
<i>Ammodramus henslowii</i>	Henslow's sparrow	Bird	Endangered	Not listed												
<i>Juglans cinerea</i>	Butternut	Vascular plant	Endangered	Not listed												
<i>Lampsilis teres</i>	Yellow sandshell	Mussel	Endangered	Not listed		X	X		X	X		X	X			
<i>Lanius ludovicianus</i>	Loggerhead shrike	Bird	Endangered	Not listed												
<i>Oarisma poweshiek</i>	Poweshiek skipperling	Butterfly	Endangered	Endangered												
<i>Rallus elegans</i>	King rail	Bird	Endangered	Not listed	X	X	X				X	X	X			
<i>Simpsonaias ambigua</i>	Salamander mussel	Mussel	Endangered	Not listed		X	X		X	X		X	X			
<i>Actinonaias ligamentina</i>	Mucket	Mussel	Threatened	Not listed	X	X	X	X	X	X	X	X	X			X
<i>Alasmidonta marginata</i>	Elktoe	Mussel	Threatened	Not listed		X	X		X	X		X	X			
<i>Asclepias sullivantii</i>	Sullivant's milkweed	Vascular plant	Threatened	Not listed			X			X			X			
<i>Bacopa rotundifolia</i>	Waterhyssop	Vascular plant	Threatened	Not listed			X			X			X			
<i>Berula erecta</i>	Stream parsnip	Vascular plant	Threatened	Not listed												
<i>Emydoidea blandingii</i>	Blanding's turtle	Turtle	Threatened	Not listed												
<i>Eurynia dilatata</i>	Spike	Mussel	Threatened	Not listed	X	X	X	X	X	X	X	X	X			
<i>Lasmigona costata</i>	Fluted-shell	Mussel	Threatened	Not listed	X	X	X	X	X	X	X	X	X			
<i>Lespedeza leptostachya</i>	Prairie bush clover	Vascular plant	Threatened	Threatened												X
<i>Minuartia dawsonensis</i>	Rock sandwort	Vascular plant	Threatened	Not listed												
<i>Quadrula nodulata</i>	Wartyback	Mussel	Threatened	Not listed												X
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed												
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed												
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed												
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed			X			X			X			
<i>Atrytone arogos iowa</i>	Iowa skipper	Butterfly	Special concern	Not listed												
<i>Buellia nigra</i>	A species of lichen	Fungus	Special concern	Not listed												X
<i>Buteo lineatus</i>	Red-shouldered hawk	Bird	Special concern	Not listed												
<i>Chondestes grammacus</i>	Lark sparrow	Bird	Special concern	Not listed			X			X			X			
<i>Cirsium pumilum</i> var. <i>hillii</i>	Hill's thistle	Vascular plant	Special concern	Not listed												
<i>Cygnus buccinator</i>	Trumpeter swan	Bird	Special concern	Not listed												
<i>Cypripedium candidum</i>	Small white lady's-slipper	Vascular plant	Special concern	Not listed										X	X	X
<i>Falco peregrinus</i>	Peregrine falcon	Bird	Special concern	Not listed												
<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed												
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed												
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed						X						X
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed												
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed	X	X	X	X	X	X	X	X	X			
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed			X			X			X			
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Mouse	Special concern	Not listed												
<i>Opuntia macrorhiza</i>	Devil's tongue	Vascular plant	Special concern	Not listed												X
<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed												
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed												
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed		X	X		X	X		X	X			
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed												
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed						X						
<i>Trillium nivale</i>	Snow trillium	Vascular plant	Special concern	Not listed												
<i>Urocitellus richardsonii</i>	Richardson's ground squirrel	Squirrel	Special concern	Not listed										X	X	X
<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed												

Regional Segment					Region C											
					C1 (Purple Route)			C2			C3			C4 (Blue Route)		
					Buffer	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width
Scientific Name	Common Name	Type	State Status	Federal Status												
<i>Ammodramus henslowii</i>	Henslow's sparrow	Bird	Endangered	Not listed												
<i>Juglans cinerea</i>	Butternut	Vascular plant	Endangered	Not listed												
<i>Lampsilis teres</i>	Yellow sandshell	Mussel	Endangered	Not listed												
<i>Lanius ludovicianus</i>	Loggerhead shrike	Bird	Endangered	Not listed												
<i>Oarisma poweshiek</i>	Poweshiek skipperling	Butterfly	Endangered	Endangered												
<i>Rallus elegans</i>	King rail	Bird	Endangered	Not listed												
<i>Simpsonaias ambigua</i>	Salamander mussel	Mussel	Endangered	Not listed												
<i>Actinonaias ligamentina</i>	Mucket	Mussel	Threatened	Not listed												
<i>Alasmidonta marginata</i>	Elktoe	Mussel	Threatened	Not listed												
<i>Asclepias sullivantii</i>	Sullivant's milkweed	Vascular plant	Threatened	Not listed												
<i>Bacopa rotundifolia</i>	Waterhyssop	Vascular plant	Threatened	Not listed												
<i>Berula erecta</i>	Stream parsnip	Vascular plant	Threatened	Not listed												
<i>Emydoidea blandingii</i>	Blanding's turtle	Turtle	Threatened	Not listed												
<i>Eurynia dilatata</i>	Spike	Mussel	Threatened	Not listed												
<i>Lasmigona costata</i>	Fluted-shell	Mussel	Threatened	Not listed												
<i>Lespedeza leptostachya</i>	Prairie bush clover	Vascular plant	Threatened	Threatened												
<i>Minuartia dawsonensis</i>	Rock sandwort	Vascular plant	Threatened	Not listed												
<i>Quadrula nodulata</i>	Wartyback	Mussel	Threatened	Not listed												
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed			X					X				
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed												
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed												
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed												
<i>Atrytone arogos iowa</i>	Iowa skipper	Butterfly	Special concern	Not listed	X	X	X									
<i>Buellia nigra</i>	A species of lichen	Fungus	Special concern	Not listed												
<i>Buteo lineatus</i>	Red-shouldered hawk	Bird	Special concern	Not listed												
<i>Chondestes grammacus</i>	Lark sparrow	Bird	Special concern	Not listed												
<i>Cirsium pumilum</i> var. <i>hillii</i>	Hill's thistle	Vascular plant	Special concern	Not listed												
<i>Cygnus buccinator</i>	Trumpeter swan	Bird	Special concern	Not listed												
<i>Cypripedium candidum</i>	Small white lady's-slipper	Vascular plant	Special concern	Not listed	X	X	X					X				
<i>Falco peregrinus</i>	Peregrine falcon	Bird	Special concern	Not listed												
<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed												
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed			X									
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed												
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed					X	X		X	X		X	
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed												
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed												
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Mouse	Special concern	Not listed												
<i>Opuntia macrorhiza</i>	Devil's tongue	Vascular plant	Special concern	Not listed												
<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed												
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed												
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed												
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed						X		X			X	
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed					X	X		X	X		X	
<i>Trillium nivale</i>	Snow trillium	Vascular plant	Special concern	Not listed												
<i>Urocitellus richardsonii</i>	Richardson's ground squirrel	Squirrel	Special concern	Not listed												
<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed												

Regional Segment					Region D																				
					D1 (Purple Route)			D2			D3			D4 (Blue Route)			D5			D6			D7		
					ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile
Scientific Name	Common Name	Type	State Status	Federal Status																					
<i>Ammodramus henslowii</i>	Henslow's sparrow	Bird	Endangered	Not listed																					
<i>Juglans cinerea</i>	Butternut	Vascular plant	Endangered	Not listed																					
<i>Lampsilis teres</i>	Yellow sandshell	Mussel	Endangered	Not listed																					
<i>Lanius ludovicianus</i>	Loggerhead shrike	Bird	Endangered	Not listed																					
<i>Oarisma poweshiek</i>	Poweshiek skipperling	Butterfly	Endangered	Endangered																					
<i>Rallus elegans</i>	King rail	Bird	Endangered	Not listed																					
<i>Simpsonaias ambigua</i>	Salamander mussel	Mussel	Endangered	Not listed																					
<i>Actinonaias ligamentina</i>	Mucket	Mussel	Threatened	Not listed																					
<i>Alasmidonta marginata</i>	Elktoe	Mussel	Threatened	Not listed																					
<i>Asclepias sullivantii</i>	Sullivant's milkweed	Vascular plant	Threatened	Not listed																					
<i>Bacopa rotundifolia</i>	Waterhyssop	Vascular plant	Threatened	Not listed																					
<i>Berula erecta</i>	Stream parsnip	Vascular plant	Threatened	Not listed																					
<i>Emydoidea blandingii</i>	Blanding's turtle	Turtle	Threatened	Not listed																					
<i>Eurynia dilatata</i>	Spike	Mussel	Threatened	Not listed																					
<i>Lasmigona costata</i>	Fluted-shell	Mussel	Threatened	Not listed																					
<i>Lespedeza leptostachya</i>	Prairie bush clover	Vascular plant	Threatened	Threatened																					
<i>Minuartia dawsonensis</i>	Rock sandwort	Vascular plant	Threatened	Not listed																					
<i>Quadrula nodulata</i>	Wartyback	Mussel	Threatened	Not listed																					
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed																					
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed																					
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed																					
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed																					
<i>Atrytone arogos iowa</i>	Iowa skipper	Butterfly	Special concern	Not listed																					
<i>Buellia nigra</i>	A species of lichen	Fungus	Special concern	Not listed																					
<i>Buteo lineatus</i>	Red-shouldered hawk	Bird	Special concern	Not listed																					
<i>Chondestes grammacus</i>	Lark sparrow	Bird	Special concern	Not listed																					
<i>Cirsium pumilum</i> var. <i>hillii</i>	Hill's thistle	Vascular plant	Special concern	Not listed																					
<i>Cygnus buccinator</i>	Trumpeter swan	Bird	Special concern	Not listed																					
<i>Cypripedium candidum</i>	Small white lady's-slipper	Vascular plant	Special concern	Not listed																					
<i>Falco peregrinus</i>	Peregrine falcon	Bird	Special concern	Not listed																					
<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed																					
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed																					
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed																					
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed																					
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed																					
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed																					
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Mouse	Special concern	Not listed																					
<i>Opuntia macrorhiza</i>	Devil's tongue	Vascular plant	Special concern	Not listed																					
<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed																					
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed																					
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed																					
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed																					
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed																					
<i>Trillium nivale</i>	Snow trillium	Vascular plant	Special concern	Not listed																					
<i>Urocitellus richardsonii</i>	Richardson's ground squirrel	Squirrel	Special concern	Not listed																					
<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed																					

					Region E					
Regional Segment					E1 (Purple Route)			E2 (Blue Route)		
Buffer					ROW	Route Width	1-Mile	ROW	Route Width	1-Mile
Scientific Name	Common Name	Type	State Status	Federal Status						
<i>Ammodramus henslowii</i>	Henslow's sparrow	Bird	Endangered	Not listed						
<i>Juglans cinerea</i>	Butternut	Vascular plant	Endangered	Not listed						
<i>Lampsilis teres</i>	Yellow sandshell	Mussel	Endangered	Not listed						
<i>Lanius ludovicianus</i>	Loggerhead shrike	Bird	Endangered	Not listed				X	X	X
<i>Oarisma poweshiek</i>	Poweshiek skipperling	Butterfly	Endangered	Endangered						
<i>Rallus elegans</i>	King rail	Bird	Endangered	Not listed						
<i>Simpsonaias ambigua</i>	Salamander mussel	Mussel	Endangered	Not listed						
<i>Actinonaias ligamentina</i>	Mucket	Mussel	Threatened	Not listed						
<i>Alasmidonta marginata</i>	Elktoe	Mussel	Threatened	Not listed						
<i>Asclepias sullivantii</i>	Sullivant's milkweed	Vascular plant	Threatened	Not listed						
<i>Bacopa rotundifolia</i>	Waterhyssop	Vascular plant	Threatened	Not listed						
<i>Berula erecta</i>	Stream parsnip	Vascular plant	Threatened	Not listed						
<i>Emydoidea blandingii</i>	Blanding's turtle	Turtle	Threatened	Not listed			X			X
<i>Eurynia dilatata</i>	Spike	Mussel	Threatened	Not listed						
<i>Lasmigona costata</i>	Fluted-shell	Mussel	Threatened	Not listed						
<i>Lespedeza leptostachya</i>	Prairie bush clover	Vascular plant	Threatened	Threatened						
<i>Minuartia dawsonensis</i>	Rock sandwort	Vascular plant	Threatened	Not listed						
<i>Quadrula nodulata</i>	Wartyback	Mussel	Threatened	Not listed						
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed						
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed						
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed						
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed						
<i>Atrytone arogos iowa</i>	Iowa skipper	Butterfly	Special concern	Not listed						
<i>Buellia nigra</i>	A species of lichen	Fungus	Special concern	Not listed						
<i>Buteo lineatus</i>	Red-shouldered hawk	Bird	Special concern	Not listed						
<i>Chondestes grammacus</i>	Lark sparrow	Bird	Special concern	Not listed						
<i>Cirsium pumilum</i> var. <i>hillii</i>	Hill's thistle	Vascular plant	Special concern	Not listed						
<i>Cygnus buccinator</i>	Trumpeter swan	Bird	Special concern	Not listed						
<i>Cypripedium candidum</i>	Small white lady's-slipper	Vascular plant	Special concern	Not listed						
<i>Falco peregrinus</i>	Peregrine falcon	Bird	Special concern	Not listed						
<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed						
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed						
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed						
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed						
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed						
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed						
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Mouse	Special concern	Not listed						
<i>Opuntia macrorhiza</i>	Devil's tongue	Vascular plant	Special concern	Not listed						
<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed						
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed						
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed						
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed						
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed						
<i>Trillium nivale</i>	Snow trillium	Vascular plant	Special concern	Not listed						
<i>Urocitellus richardsonii</i>	Richardson's ground squirrel	Squirrel	Special concern	Not listed						
<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed				X	X	X

Regional Segment					Region F																							
					F1 (Purple Route)			F2			F3			F4 (Blue Route)			F5			F6			F7			F8		
					Buffer	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width	1-Mile	ROW	Route Width
Scientific Name	Common Name	Type	State Status	Federal Status																								
<i>Ammodramus henslowii</i>	Henslow's sparrow	Bird	Endangered	Not listed																								
<i>Juglans cinerea</i>	Butternut	Vascular plant	Endangered	Not listed																								
<i>Lampsilis teres</i>	Yellow sandshell	Mussel	Endangered	Not listed																								
<i>Lanius ludovicianus</i>	Loggerhead shrike	Bird	Endangered	Not listed																								
<i>Oarisma poweshiek</i>	Poweshiek skipperling	Butterfly	Endangered	Endangered																								
<i>Rallus elegans</i>	King rail	Bird	Endangered	Not listed																								
<i>Simpsonaias ambigua</i>	Salamander mussel	Mussel	Endangered	Not listed																								
<i>Actinonaias ligamentina</i>	Mucket	Mussel	Threatened	Not listed																								
<i>Alasmidonta marginata</i>	Elktoe	Mussel	Threatened	Not listed																								
<i>Asclepias sullivantii</i>	Sullivant's milkweed	Vascular plant	Threatened	Not listed																								
<i>Bacopa rotundifolia</i>	Waterhyssop	Vascular plant	Threatened	Not listed																								
<i>Berula erecta</i>	Stream parsnip	Vascular plant	Threatened	Not listed																								
<i>Emydoidea blandingii</i>	Blanding's turtle	Turtle	Threatened	Not listed	X	X	X	X	X	X	X	X	X			X			X			X	X	X	X		X	
<i>Eurynia dilatata</i>	Spike	Mussel	Threatened	Not listed																								
<i>Lasmigona costata</i>	Fluted-shell	Mussel	Threatened	Not listed																								
<i>Lespedeza leptostachya</i>	Prairie bush clover	Vascular plant	Threatened	Threatened																								
<i>Minuartia dawsonensis</i>	Rock sandwort	Vascular plant	Threatened	Not listed																								
<i>Quadrula nodulata</i>	Wartyback	Mussel	Threatened	Not listed																								
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed																								
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed																								
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed																								
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed																								
<i>Atrytone arogos iowa</i>	Iowa skipper	Butterfly	Special concern	Not listed																								
<i>Buellia nigra</i>	A species of lichen	Fungus	Special concern	Not listed																								
<i>Buteo lineatus</i>	Red-shouldered hawk	Bird	Special concern	Not listed																								
<i>Chondestes grammacus</i>	Lark sparrow	Bird	Special concern	Not listed																								
<i>Cirsium pumilum</i> var. <i>hillii</i>	Hill's thistle	Vascular plant	Special concern	Not listed																								
<i>Cygnus buccinator</i>	Trumpeter swan	Bird	Special concern	Not listed																								
<i>Cypripedium candidum</i>	Small white lady's-slipper	Vascular plant	Special concern	Not listed																								
<i>Falco peregrinus</i>	Peregrine falcon	Bird	Special concern	Not listed																								
<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed																								
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed																								
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed																								
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed																								
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed																								
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed																								
<i>Onychomys leucogaster</i>	Northern grasshopper mouse	Mouse	Special concern	Not listed																								
<i>Opuntia macrorhiza</i>	Devil's tongue	Vascular plant	Special concern	Not listed																								
<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed																								
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed																								
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed																								
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed																								
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed																								
<i>Trillium nivale</i>	Snow trillium	Vascular plant	Special concern	Not listed																								
<i>Urocitellus richardsonii</i>	Richardson's ground squirrel	Squirrel	Special concern	Not listed																								
<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed																								



Regional Segment					Region G																	
					G1 (Blue Route)			G2			G3 (Purple Route)			G4			G5			G6		
					ROW	Route Width	1- Mile	ROW	Route Width	1- Mile	ROW	Route Width	1- Mile	ROW	Route Width	1- Mile	ROW	Route Width	1- Mile	ROW	Route Width	1- Mile
Scientific Name	Common Name	Type	State Status	Federal Status																		
<i>Ammodramus henslowii</i>	Henslow's sparrow	Bird	Endangered	Not listed																		
<i>Juglans cinerea</i>	Butternut	Vascular plant	Endangered	Not listed			X			X												
<i>Lampsilis teres</i>	Yellow sandshell	Mussel	Endangered	Not listed																		
<i>Lanius ludovicianus</i>	Loggerhead shrike	Bird	Endangered	Not listed			X			X			X			X			X		X	
<i>Oarisma poweshiek</i>	Poweshiek skipperling	Butterfly	Endangered	Endangered																		
<i>Rallus elegans</i>	King rail	Bird	Endangered	Not listed																		
<i>Simpsonaias ambigua</i>	Salamander mussel	Mussel	Endangered	Not listed																		
<i>Actinonaias ligamentina</i>	Mucket	Mussel	Threatened	Not listed																		
<i>Alasmidonta marginata</i>	Elktoe	Mussel	Threatened	Not listed																		
<i>Asclepias sullivantii</i>	Sullivant's milkweed	Vascular plant	Threatened	Not listed																		
<i>Bacopa rotundifolia</i>	Waterhyssop	Vascular plant	Threatened	Not listed																		
<i>Berula erecta</i>	Stream parsnip	Vascular plant	Threatened	Not listed																		
<i>Emydoidea blandingii</i>	Blanding's turtle	Turtle	Threatened	Not listed		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	
<i>Eurynia dilatata</i>	Spike	Mussel	Threatened	Not listed																		
<i>Lasmigona costata</i>	Fluted-shell	Mussel	Threatened	Not listed																		
<i>Lespedeza leptostachya</i>	Prairie bush clover	Vascular plant	Threatened	Threatened																		
<i>Minuartia dawsonensis</i>	Rock sandwort	Vascular plant	Threatened	Not listed																		
<i>Quadrula nodulata</i>	Wartyback	Mussel	Threatened	Not listed																		
<i>Anaxyrus cognatus</i>	Great plains toad	Toad	Special concern	Not listed																		
<i>Argynnis idalia</i>	Regal fritillary	Butterfly	Special concern	Not listed																		
<i>Astragalus flexuosus</i> var. <i>flexuosus</i>	Slender milk-vetch	Vascular plant	Special concern	Not listed																		
<i>Astragalus missouriensis</i> var. <i>missouriensis</i>	Missouri milk-vetch	Vascular plant	Special concern	Not listed																		
<i>Atrytone arogos iowa</i>	Iowa skipper	Butterfly	Special concern	Not listed																		
<i>Buellia nigra</i>	A species of lichen	Fungus	Special concern	Not listed																		
<i>Buteo lineatus</i>	Red-shouldered hawk	Bird	Special concern	Not listed			X			X			X			X			X		X	
<i>Chondestes grammacus</i>	Lark sparrow	Bird	Special concern	Not listed			X			X												
<i>Cirsium pumilum</i> var. <i>hillii</i>	Hill's thistle	Vascular plant	Special concern	Not listed			X			X			X			X			X		X	
<i>Cygnus buccinator</i>	Trumpeter swan	Bird	Special concern	Not listed								X			X			X			X	
<i>Cypripedium candidum</i>	Small white lady's-slipper	Vascular plant	Special concern	Not listed																		
<i>Falco peregrinus</i>	Peregrine falcon	Bird	Special concern	Not listed																		
<i>Gallinula galeata</i>	Common gallinule	Bird	Special concern	Not listed		X	X		X	X												
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Vascular plant	Special concern	Not listed																		
<i>Lasmigona compressa</i>	Creek heelsplitter	Mussel	Special concern	Not listed								X			X			X			X	
<i>Leucophaeus pipixcan</i>	Franklin's gull	Bird	Special concern	Not listed																		
<i>Ligumia recta</i>	Black sandshell	Mussel	Special concern	Not listed			X			X			X			X			X		X	
<i>Necturus maculosus</i>	Mudpuppy	Salamander	Special concern	Not listed																		
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<i>Panax quinquefolius</i>	American ginseng	Vascular plant	Special concern	Not listed											X						X	
<i>Pituophis catenifer</i>	Gophersnake	Snake	Special concern	Not listed																		
<i>Pleurobema sintoxia</i>	Round pigtoe	Mussel	Special concern	Not listed																		
<i>Progne subis</i>	Purple martin	Bird	Special concern	Not listed																		
<i>Sterna forsteri</i>	Forster's tern	Bird	Special concern	Not listed																		
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<i>Vireo bellii</i>	Bell's vireo	Bird	Special concern	Not listed																		



Minnesota Department of Natural Resources  
Division of Ecological & Water Resources  
500 Lafayette Road, Box 25  
St. Paul, MN 55155-4025

February 20, 2024

Correspondence # MCE-2023-00889

Angela Durand  
Merjent, Inc.

RE: Natural Heritage Review of the proposed **Minnesota Energy Connection Project - Blue Route**,  
Kandiyohi, Lyon, Meeker, Redwood, Renville, Sherburne, Stearns County

Dear Angela Durand,

As requested, the Minnesota Natural Heritage Information System has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

*Ecologically Significant Areas*

- The Minnesota Biological Survey (MBS) has identified **8** Sites of Moderate Biodiversity Significance in the vicinity of the proposed project. Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as Moderate contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery. **Please see your MCE-generated Conservation Planning Report for a comprehensive list of MBS Sites of Biodiversity Significance (attached).**

There are **21** MN DNR Native Plant Communities (NPCs) within 330 feet of the proposed project. Of these 1 is **critically imperiled** (S1), 17 are **imperiled** (S2), and 3 are **vulnerable to extirpation** (S3) in Minnesota. **Please see your MCE-generated Conservation Planning Report for a comprehensive list of Native Plant Communities in your proposed project area (attached).**

Activities in road rights-of-way (ROW) can negatively affect adjacent native plant communities, especially through the introduction of invasive plant species. As such, disturbance near these ecologically significant areas should be minimized. Actions to minimize disturbance may include, but are not limited to, the following recommendations:

- As much as possible, operate within already-disturbed areas.
- Confine construction activities to the opposite side of the road from MBS Sites and rare NPCs (S1-S3). If this is not feasible, confine construction activities to the existing road rights-of-way.
- Retain a buffer between proposed activities and both MBS Sites and rare NPCs (S1-S3).
- Minimize vehicular disturbance in the area (allow only vehicles necessary for the proposed work).
- Do not park equipment or stockpile supplies in the area.
- Do not place spoil within MBS Sites or other sensitive areas.
- If possible, conduct the work under frozen ground conditions.
- Inspect and clean all equipment prior to bringing it to the site to prevent the introduction and spread of invasive species.
- Use effective erosion prevention and sediment control measures.
- Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible.
- Use only weed-free mulches, topsoils, and seed mixes. Of particular concern is birdsfoot trefoil (*Lotus corniculatus*) and crown vetch (*Coronilla varia*), two invasive species that are sold commercially and are problematic in prairies and disturbed open areas, such as roadsides.

**Construction in streambeds, lakes, and wetlands should be avoided whenever possible.** We recommend either changing the cable alignment to avoid such areas, employing directional boring techniques to install cable under the area, or attaching the cable to roadway bridges passing over such areas. Additional actions to minimize disturbance may include, but are not limited to, the following recommendations:

- Work in watercourses should be conducted during low flow whenever possible.
- If possible, conduct the work under frozen ground conditions.
- Wetland basins, lake beds, and stream/riverbeds should be restored to preconstruction contours. The work should not promote wetland drainage.
- Appropriate wildlife friendly erosion control measures, such as fabric, straw bales, mulch, and silt fences should be used to prevent sedimentation of adjacent wetlands, lakes, or watercourses.

- Impacts to existing vegetation should be kept to a minimum. Disturbed soil areas should be reseeded with native species suitable to the local habitat immediately upon project completion.

The Minnesota Biological Survey (MBS) considered the area surrounding the proposed project for a Site of Biodiversity Significance. There are **12 areas** that were determined to be Below the minimum biodiversity threshold for statewide significance. This area, however, may have conservation value at the local level as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, or as areas with high potential for restoration of native habitat. **As such, indirect impacts from surface runoff or the spread of invasive species should be considered during project design and implementation.**

MBS Sites of Biodiversity Significance and DNR Native Plant Communities can be viewed using the Explore page in Minnesota Conservation Explorer or their GIS shapefiles can be downloaded from the MN Geospatial Commons. Please contact the NH Review Team if you need assistance accessing the data. Reference the MBS Site Biodiversity Significance and Native Plant Community websites for information on interpreting the data. To receive a list of MBS Sites of Biodiversity Significance and DNR Native Plant Communities in the vicinity of your project, create a Conservation Planning Report using the Explore Tab in Minnesota Conservation Explorer. **I have attached a Conservation Planning Report to this review.**

- If the Wetland Conservation Act (WCA) is applicable to this project, please note that wetlands within rare (S1-S3) Native Plant Communities (NPC) may qualify as “Rare Natural Communities” under this Act. Minnesota Rules, part 8420.0515, subpart 3 states that a wetland replacement plan for activities that modify a rare natural community must be denied if the local government unit determines the proposed activities will permanently adversely affect the natural community. If the proposed project includes a wetland replacement plan under WCA, please contact your DNR Regional Ecologist for further evaluation. For technical guidance on Rare Natural Communities, please visit WCA Program Guidance and Information.

#### *State-listed Species*

- Henslow’s sparrows (*Centronyx henslowii*), a state-listed endangered bird species, have been documented in the vicinity of the proposed project. Suitable nesting habitat for this species includes uncultivated and unmowed grasslands and old fields with standing, dead vegetation, and a substantial litter layer. Minnesota’s Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, initial disturbance in these areas should not occur during their breeding season, between May 15<sup>th</sup> and July 15<sup>th</sup>. **If avoidance during breeding season is not feasible, areas that will be disturbed that contain suitable nesting habitat will need to be surveyed for active nests prior to any project**

**disturbance.** Surveys must follow the standards contained in the [Rare Species Survey Process](#). Visit the [Natural Heritage Review](#) page for a list of certified surveyors and more information on this process. Please consult with the NH Review Team at [Reports.NHIS@state.mn.us](mailto:Reports.NHIS@state.mn.us) with subject line [MCE-2023-00889](#) if you have any questions regarding this process.

- Butternut (*Juglans cinerea*), a state-listed endangered tree species, has been documented in the project vicinity. Most populations of this species in Minnesota are located in mature, mesic hardwood forests. This species is very susceptible to a lethal fungal disease called butternut canker (*Sirococcus clavigignenti-juglandacearum*). Nearly all of Minnesota's butternut populations are dead or dying from the fungus, triggering the protected status of this tree within the state. As this species has been documented in the vicinity of the proposed project, **a qualified surveyor is required to conduct a botanical survey of any trees in the proposed project area that are proposed to be removed.**

Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. Surveys must be conducted by a qualified surveyor and follow the standards contained in the [Rare Species Survey Process](#) and [Rare Plant Guidance](#). Visit the [Natural Heritage Review](#) page for a list of certified surveyors and more information on this process. Project planning should take into account that any botanical survey needs to be conducted during the appropriate time of the year, which may be limited. Please consult with the NH Review Team at [Reports.NHIS@state.mn.us](mailto:Reports.NHIS@state.mn.us) with subject line [MCE-2023-00889](#) if you have any questions regarding this process.

- Prairie bush clover (*Lespedeza leptostachya*), a federally and state-listed threatened plant species, and small white lady's slipper (*Cypripedium candidum*), a plant species of special concern, have been documented in the project vicinity. **To avoid impacting state protected plants, all native prairie habitats and all rock outcrop habitats must be avoided.** If avoidance is not feasible, a botanical survey will be needed. Please see your MCE-generated Conservation Planning Report for a comprehensive list of prairie and rock outcrop habitats in the vicinity of the proposed project (attached).

Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. Surveys must be conducted by a qualified surveyor and follow the standards contained in the [Rare Species Survey Process](#) and [Rare Plant Guidance](#). Visit the [Natural Heritage Review](#) page for a list of certified surveyors and more information on this process. Project planning should take into account that any botanical survey needs to be conducted during the appropriate time of the year, which may be limited. Please consult with the NH Review Team at [Reports.NHIS@state.mn.us](mailto:Reports.NHIS@state.mn.us) with subject line [MCE-2023-00889](#) if you have any questions regarding this process.

- Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding's turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding's turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels.

This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to excavation, fill, and other construction activities associated with the project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, **the following avoidance measures are required:**

- Avoid wetland and aquatic impacts during hibernation season, between September 15th and April 15th, if the area is suitable for hibernation.
- Erosion and sediment control should be limited to wildlife friendly erosion control to avoid the inadvertent take of Blanding's turtles.
- Hydro-mulch products should not contain any materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies.
- Construction areas, especially aquatic or wetland areas, should be thoroughly checked for turtles before the use of heavy equipment or any ground disturbance.
  - The Blanding's turtle flyer must be given to all contractors working in the area.
  - Monitor for turtles during construction. Report any sightings to [Reports.NHIS@state.mn.us](mailto:Reports.NHIS@state.mn.us); please include date, observer, location, and photograph of the Blanding's turtle.
  - Holes that have been left unattended for prolonged periods should be checked for Blanding's turtles before being filled.
  - If turtles are in imminent danger, they must be moved by hand out of harm's way, otherwise they are to be left undisturbed. Directions on how to move turtles safely can be found here: [Helping Turtles Across the Road](#).
- If the above avoidance measures are not feasible, please contact [Review.NHIS@state.mn.us](mailto:Review.NHIS@state.mn.us) with subject line MCE-2023-00889 as further action may be needed.

For additional information, see the [Blanding's turtle fact sheet](#), which describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Please refer to both lists of recommendations and apply those that are relevant to your project.**

- [Wartyback](#) (*Pustulosa nodulata*) and [mucket](#) (*Actinonaias ligamentina*), both state-listed threatened mussels have been documented in the Minnesota River in the project vicinity. [Black sandshell](#) (*Ligumia recta*) and [creek heelsplitter](#) (*Lasmigona compressa*), both state-listed species of special concern, have been documented in the Mississippi River in the project vicinity. Additionally, creek heelsplitter was also documented in the Cottonwood River in the project vicinity. These species are vulnerable to deterioration in water quality, particularly increased siltation. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. **Therefore, it is important that stringent erosion prevention and sediment control practices are maintained throughout the duration of the project to prevent adverse debris and material from impacting downstream populations.** As per proposed project details, waterbodies will be spanned, and no work is proposed within the water. If project details change and work within water is proposed, please contact the NH Review team at [Review.NHIS@state.mn.us](mailto:Review.NHIS@state.mn.us) with subject line [MCE-2023-00889](#) as rare species surveys may be needed.
- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed nearby, all seven of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, **the DNR recommends that tree removal be avoided from June 1 through August 15.**
- Please visit the [DNR Rare Species Guide](#) for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

#### *Federally Protected Species*

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online [Information for Planning and Consultation \(IPaC\) tool](#).
- As mentioned above, [prairie bush clover](#) (*Lespedeza leptostachya*) is also federally listed as threatened.



## *Environmental Review and Permitting*

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, **the results of this Natural Heritage Review are valid for one year**; the results are only valid for the project location and project description provided with the request. If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit the [Natural Heritage Review website](#) for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, you may contact your [DNR Regional Environmental Assessment Ecologist](#).

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,



Molly Barrett  
Natural Heritage Review Specialist  
[Molly.Barrett@state.mn.us](mailto:Molly.Barrett@state.mn.us)

Cc: [Melissa Collins](#), Regional Environmental Assessment Ecologist, Region 3 (Central)  
Cc: [Haley Byron](#), Regional Environmental Assessment Ecologist, Region 4 (South)  
Cc: [Amanda Weise](#), Regional Ecologist, Region 3 (Central)

Cc: Megan Benage, Regional Ecologist, Region 4 (South)

Cc: Jennie Skancke, Wetlands Program Coordinator

Cc: Cynthia Warzecha, Energy Projects Review



Minnesota Department of Natural Resources  
Division of Ecological & Water Resources  
500 Lafayette Road, Box 25  
St. Paul, MN 55155-4025

February 20, 2024

Correspondence # MCE 2023-00890

Angela Durand  
Merjent, Inc.

RE: Natural Heritage Review of the proposed **Minnesota Energy Connection Project - Purple Route**,  
Chippewa, Kandiyohi, Lyon, Meeker, Renville, Sherburne, Stearns, Wright, Yellow Medicine County

Dear Angela Durand,

As requested, the [Minnesota Natural Heritage Information System](#) has been reviewed to determine if the proposed project has the potential to impact any rare species or other significant natural features. Based on the project details provided with the request, the following rare features may be impacted by the proposed project:

*Ecologically Significant Areas*

- A calcareous fen, **Genessee 21** (Fen ID 25251), has been documented within five miles of the proposed project (T119N R33W Section 21). A calcareous fen is a rare and distinctive peat-accumulating wetland that is legally protected in Minnesota. The Wetlands Conservation Act (WCA), authorized by Minnesota Statutes, section 103G.223, states that calcareous fens may not be filled, drained, or otherwise degraded, wholly or partially, by any activity, except as provided for in a management plan approved by the commissioner of the Department of Natural Resources. Many of the unique characteristics of calcareous fens result from the upwelling of groundwater through calcareous substrates. Because of this dependence on groundwater hydrology, calcareous fens can be affected by nearby activities or even those several miles away. For more information regarding calcareous fens, please see the [Calcareous Fen Fact Sheet](#). To minimize stormwater impacts, please refer to the Minnesota Pollution Control Agency's [General Principles for Erosion Prevention and Sediment Control](#) in the Minnesota Stormwater Manual. Please note that calcareous fens are "Special Waters" and a [buffer zone](#) may be required.

Calcareous fens may be impacted by activities within the fen, activities that affect surface water flows (e.g., stormwater flow, erosion), or activities that affect groundwater hydrology (e.g.,

groundwater pumping, contamination, discharge, or excavation). **To ensure compliance under WCA, please contact the Calcareous Fen Program Coordinator, Keylor Andrews ([Keylor.Andrews@state.mn.us](mailto:Keylor.Andrews@state.mn.us)).**

- The Minnesota Biological Survey (MBS) has identified **1 Site of High** and **19 Sites of Moderate** Biodiversity Significance in the vicinity of the proposed project. Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as High contain very good quality occurrences of the rarest species, high quality examples of the rare native plant communities, and/or important functional landscapes. Sites ranked as Moderate contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery. **Please see your MCE-generated Conservation Planning Report for a comprehensive list of MBS Sites of Biodiversity Significance (attached).**

There are **25 MN DNR Native Plant Communities (NPCs)** within 330 feet of the proposed project. Of these **1 is critically imperiled (S1)**, **13 are imperiled (S2)**, and **1 is vulnerable to extirpation (S3)** in Minnesota. **Please see your MCE-generated Conservation Planning Report for a comprehensive list of Native Plant Communities in your proposed project area (attached).**

Activities in road rights-of-way (ROW) can negatively affect adjacent native plant communities, especially through the introduction of invasive plant species. As such, disturbance near these ecologically significant areas should be minimized. Actions to minimize disturbance may include, but are not limited to, the following recommendations:

- As much as possible, operate within already-disturbed areas.
- Confine construction activities to the opposite side of the road from MBS Sites and rare NPCs (S1-S3). If this is not feasible, confine construction activities to the existing road rights-of-way.
- Retain a buffer between proposed activities and both MBS Sites and rare NPCs (S1-S3).
- Minimize vehicular disturbance in the area (allow only vehicles necessary for the proposed work).
- Do not park equipment or stockpile supplies in the area.
- Do not place spoil within MBS Sites or other sensitive areas.
- If possible, conduct the work under frozen ground conditions.
- Inspect and clean all equipment prior to bringing it to the site to prevent the introduction and spread of invasive species.
- Use effective erosion prevention and sediment control measures.

- Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible.
- Use only weed-free mulches, topsoils, and seed mixes. Of particular concern is birdsfoot trefoil (*Lotus corniculatus*) and crown vetch (*Coronilla varia*), two invasive species that are sold commercially and are problematic in prairies and disturbed open areas, such as roadsides.

**Construction in streambeds, lakes, and wetlands should be avoided whenever possible.** We recommend either changing the cable alignment to avoid such areas, employing directional boring techniques to install cable under the area, or attaching the cable to roadway bridges passing over such areas. Additional actions to minimize disturbance may include, but are not limited to, the following recommendations:

- Work in watercourses should be conducted during low flow whenever possible.
- If possible, conduct the work under frozen ground conditions.
- Wetland basins, lake beds, and stream/riverbeds should be restored to preconstruction contours. The work should not promote wetland drainage.
- Appropriate wildlife friendly erosion control measures, such as fabric, straw bales, mulch, and silt fences should be used to prevent sedimentation of adjacent wetlands, lakes, or watercourses.
- Impacts to existing vegetation should be kept to a minimum. Disturbed soil areas should be reseeded with native species suitable to the local habitat immediately upon project completion.

The Minnesota Biological Survey (MBS) considered the area surrounding the proposed project for a Site of Biodiversity Significance. There are **19 areas** that were determined to be Below the minimum biodiversity threshold for statewide significance. This area, however, may have conservation value at the local level as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, or as areas with high potential for restoration of native habitat. **As such, indirect impacts from surface runoff or the spread of invasive species should be considered during project design and implementation.**

MBS Sites of Biodiversity Significance and DNR Native Plant Communities can be viewed using the Explore page in Minnesota Conservation Explorer or their GIS shapefiles can be downloaded from the MN Geospatial Commons. Please contact the NH Review Team if you need assistance accessing the data. Reference the MBS Site Biodiversity Significance and Native Plant Community websites for information on interpreting the data. To receive a list of MBS Sites of Biodiversity Significance and DNR Native Plant Communities in the vicinity of your project, create a

Conservation Planning Report using the Explore Tab in Minnesota Conservation Explorer. **I have attached a Conservation Planning Report to this review.**

- If the Wetland Conservation Act (WCA) is applicable to this project, please note that wetlands within rare (S1-S3) Native Plant Communities (NPC) may qualify as “Rare Natural Communities” under this Act. Minnesota Rules, part 8420.0515, subpart 3 states that a wetland replacement plan for activities that modify a rare natural community must be denied if the local government unit determines the proposed activities will permanently adversely affect the natural community. If the proposed project includes a wetland replacement plan under WCA, please contact your DNR Regional Ecologist for further evaluation. For technical guidance on Rare Natural Communities, please visit WCA Program Guidance and Information.

#### *State-listed Species*

- Sullivant’s milkweed (*Asclepias sullivantii*) and waterhyssop (*Bacopa rotundifolia*), both state-listed threatened plant species, and small white lady’s slipper (*Cypripedium candidum*), a plant species of special concern, have been documented in the project vicinity. **To avoid impacting state protected plants, all native prairie habitats and all rock outcrop habitats must be avoided.** If avoidance is not feasible, a botanical survey will be needed. Please see your MCE-generated Conservation Planning Report for a comprehensive list of prairie and rock outcrop habitats in the vicinity of the proposed project (attached).

Minnesota’s Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. Surveys must be conducted by a qualified surveyor and follow the standards contained in the Rare Species Survey Process and Rare Plant Guidance. Visit the Natural Heritage Review page for a list of certified surveyors and more information on this process. Project planning should take into account that any botanical survey needs to be conducted during the appropriate time of the year, which may be limited. Please consult with the NH Review Team at Reports.NHIS@state.mn.us with subject line MCE-2023-00890 if you have any questions regarding this process.

- Blanding’s turtles (*Emydoidea blandingii*), a state-listed threatened species, have been documented in the vicinity of the proposed project. Blanding’s turtles use upland areas up to and over a mile distant from wetlands, waterbodies, and watercourses. Uplands are used for nesting, basking, periods of dormancy, and traveling between wetlands. Factors believed to contribute to the decline of this species include collisions with vehicles, wetland drainage and degradation, and the development of upland habitat. Any added mortality can be detrimental to populations of Blanding’s turtles, as these turtles have a low reproduction rate that depends upon a high survival rate to maintain population levels.

This project has the potential to impact this rare turtle through direct fatalities and habitat disturbance/destruction due to excavation, fill, and other construction activities associated with the project. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. As such, **the following avoidance measures are required:**

- Avoid wetland and aquatic impacts during hibernation season, between September 15th and April 15th, if the area is suitable for hibernation.
- Erosion and sediment control should be limited to wildlife friendly erosion control to avoid the inadvertent take of Blanding's turtles.
- Hydro-mulch products should not contain any materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies.
- Construction areas, especially aquatic or wetland areas, should be thoroughly checked for turtles before the use of heavy equipment or any ground disturbance.
  - The Blanding's turtle flyer must be given to all contractors working in the area.
  - Monitor for turtles during construction. Report any sightings to [Reports.NHIS@state.mn.us](mailto:Reports.NHIS@state.mn.us); please include date, observer, location, and photograph of the Blanding's turtle.
  - Holes that have been left unattended for prolonged periods should be checked for Blanding's turtles before being filled.
  - If turtles are in imminent danger, they must be moved by hand out of harm's way, otherwise they are to be left undisturbed. Directions on how to move turtles safely can be found here: [Helping Turtles Across the Road](#).
- If the above avoidance measures are not feasible, please contact [Review.NHIS@state.mn.us](mailto:Review.NHIS@state.mn.us) with subject line MCE-2023-00890 as further action may be needed.

For additional information, see the Blanding's turtle fact sheet, which describes the habitat use and life history of this species. The fact sheet also provides two lists of recommendations for avoiding and minimizing impacts to this rare turtle. **Please refer to both lists of recommendations and apply those that are relevant to your project.**

- Black sandshell (*Ligumia recta*), a state-listed mussel species of special concern, has been documented in the Mississippi River in the project vicinity. Creek heelsplitter (*Lasmigona compressa*), a state-listed mussel species of special concern, has been documented in the Clearwater River in the project vicinity. Mudpuppy (*Necturus maculosus*), a state-listed salamander species of special concern, has been documented in the Minnesota River in the



project vicinity. These species are vulnerable to deterioration in water quality, particularly increased siltation. Minnesota's Endangered Species Statute (Minnesota Statutes, section 84.0895) and associated Rules (Minnesota Rules, part 6212.1800 to 6212.2300 and 6134) prohibit the take of threatened or endangered species without a permit. **Therefore, it is important that stringent erosion prevention and sediment control practices are maintained throughout the duration of the project to prevent adverse debris and material from impacting downstream populations.** As per proposed project details, waterbodies will be spanned, and no work is proposed within the water. If project details change and work within water is proposed, please contact the NH Review team at [Review.NHIS@state.mn.us](mailto:Review.NHIS@state.mn.us) with subject line MCE-2023-00890 as rare species surveys may be needed.

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Even if there are no bat records listed nearby, all seven of Minnesota's bats, including the federally endangered northern long-eared bat (*Myotis septentrionalis*), can be found throughout Minnesota. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the pups cannot yet fly. To minimize these impacts, **the DNR recommends that tree removal be avoided from June 1 through August 15.**
- Please visit the [DNR Rare Species Guide](#) for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

#### *Federally Protected Species*

- To ensure compliance with federal law, conduct a federal regulatory review using the U.S. Fish and Wildlife Service's (USFWS) online [Information for Planning and Consultation \(IPaC\) tool](#).

#### *Environmental Review and Permitting*

- Please include a copy of this letter and the MCE-generated Final Project Report in any state or local license or permit application. Please note that measures to avoid or minimize disturbance to the above rare features may be included as restrictions or conditions in any required permits or licenses.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore,

ecologically significant features for which we have no records may exist within the project area. If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.

For environmental review purposes, **the results of this Natural Heritage Review are valid for one year**; the results are only valid for the project location and project description provided with the request. If project details change or the project has not occurred within one year, please resubmit the project for review within one year of initiating project activities.

The Natural Heritage Review does not constitute project approval by the Department of Natural Resources. Instead, it identifies issues regarding known occurrences of rare features and potential impacts to these rare features. Visit the [Natural Heritage Review website](#) for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, you may contact your [DNR Regional Environmental Assessment Ecologist](#).

Thank you for consulting us on this matter and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

A handwritten signature in black ink that reads "Molly Barrett". The script is cursive and fluid, with the first letters of the first and last names being capitalized and prominent.

**Molly Barrett**  
**Natural Heritage Review Specialist**  
[Molly.Barrett@state.mn.us](mailto:Molly.Barrett@state.mn.us)

Cc: [Melissa Collins](#), Regional Environmental Assessment Ecologist, Region 3 (Central)

Cc: [Haley Byron](#), Regional Environmental Assessment Ecologist, Region 4 (South)

Cc: [Amanda Weise](#), Regional Ecologist, Region 3 (Central)

Cc: [Megan Benage](#), Regional Ecologist, Region 4 (South)

Cc: [Keylor Andrews](#), Calcareous Fen Program Coordinator

Cc: [Jennie Skancke](#), Wetlands Program Coordinator

Cc: [Cynthia Warzecha](#), Energy Projects Review