Appendix O

Sensitive Species Data and Archaeological and Historic Resource Data

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Appendix O-1

USFWS IPaC Data – Route Width

IPaC

U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to *astrust resource*  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 and Wisconsin

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 i;iroposed 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 **canonly** be obtained by requesting an official species list from either the Regulatory Review section in lPaC (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 speciesl and their critical habitats are managed by thEfcological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contactNOAA Fisheries for.s.P-ecies under their jurisdiction.

1. Species listed under theEndangered Species Actare threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See thesting status Ri:l 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 Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Clams

NAME	STATUS
Higgins Eye (pearlymussel) Lampsilis higginsii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5428	Endangered
Salamander Mussel Simpsonaias ambigua Wherever found There is **proposed** critical habitat for this speciesYour location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

Sheepnose Mussel Plethobasus cyphyus — Endangered
Wherever found
No critical habitat has been designated for this species.
htt;;!s:/ /ecos.fws.gov / ecl2f species/6903

Spectaclecase {mussel) Cumberlandia monodonta — Endangered
Wherever found
No critical habitat has been designated for this species.
https:/ Iecos.fws.gov Iecl2f species/786 7

Insects

NAME	STATUS

Monarch Butterfly Danaus plexippus — Candidate
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov Iecl2f speci es/97 43

Rusty Patched Bumble Bee Bombus affinis — Endangered
Wherever found
No critical habitat has been designated for this species.
https:/Iecos.fws.govIed2f speci es/9383

Flowering Plants

NAME	STATUS

Minnesota Dwarf Trout Lily Erythronium propullans — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov Iecl2f speci es/597

Prairie Bush-clover Lespedeza leptostachya — Threatened
Wherever found
No critical habitat has been designated for this species.
https:/ Iecos.fws.gov Iecl2f species/ 4458

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 ManagementhttJ;2s://www.fws.gQY/R[_ogram/eagle-management
- Measures for avoiding and minimizing impacts to birds httr,2s://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds httr,2s://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.p_gf
- Supplemental Information for Migratory Birds and Eagles in IPaC httr,2s://www.fws.gov/media/su_pplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur- oject-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 thavian Knowledge Network (AKN. The AKN data is based on a growing collection oturvey. 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 f.ggle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit theRaP-id Avian Information Locator {RAIL} Toal

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 USFW53irds of Conservation Concern rncq 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 th@Vian Knowled Network (AKN} The AKN data is based on a growing collection oturvey. 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 eaglelfi!gle 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 theRaP-id Avian Information Locator (RAIL} Toal

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 Aetand the Bald and Golden Eagle Protection A d .

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 Actof 1940.

Additional information can be found using the following links:

- Eagle ManagementhttP-s://www.fws.gov/J1Logram/eagle-management
- Measures for avoiding and minimizing impacts to birds httP-s://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds,ttP-s://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures_.mjf

- Supplemental Information for Migratory Birds and Eagles in IPaC httP-s://www.fws.gov/media/su_pplemental-information-migratory-birds-and-bald-and-gold en-eagles-may-occu r-p,Loject-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 oq ermits 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 USFW53irds of Conservation Concern rncq 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 th.(tvian Knowledgg Network (AKN} The AKN data is based on a growing collection oturvey. 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 eaglelfilgle 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 thERaP-id 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 oturvey. 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 th AIL 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 areBirds 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 th ortheast 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 M2RP,ing of Marine Bird Distributions and Abundance on the Atlantic Outer Continental She roject 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 tha>iving Bird Study and the nanotag studies or contact Caleb Sgg l 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 tobtain a permitto 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 thENational Wildlife Refu 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
LESUEUR COUNTY WATERFOWL PRODUCTION AREA	193.52 acres
UPPER MISSISSIPPI RIVER NATIONAL WILDLIFE AND FISH REFUGE	14,407.73 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.

Data limitations

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 tuberficid 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.

Appendix O-2

USFWS IPaC Data – ROW

IPaC **U.S. Fish & Wildlife Service**

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 and Wisconsin

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[1] 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[2]).

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.

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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 Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Clams

NAME	STATUS
Higgins Eye (pearlymussel) Lampsilis higginsii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5428	Endangered
Salamander Mussel Simpsonaias ambigua Wherever found There is **proposed** critical habitat for this speciesYour location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

Sheepnose Mussel Plethobasus cyphyus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6903

Spectaclecase (mussel) Cumberlandia monodonta — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/7867

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Rusty Patched Bumble Bee Bombus affinis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9383	Endangered

Flowering Plants

NAME	STATUS
Minnesota Dwarf Trout Lily Erythronium propullans Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/597	Endangered
Prairie Bush-clover Lespedeza leptostachya Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4458	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

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the"Supplemental Information on Migratory Birds and Eagles"

Additional information can be found using the following links:

- Eagle Managementhttps://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

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

Bald Eagle Haliaeetus leucocephalus — Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles"specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence(■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

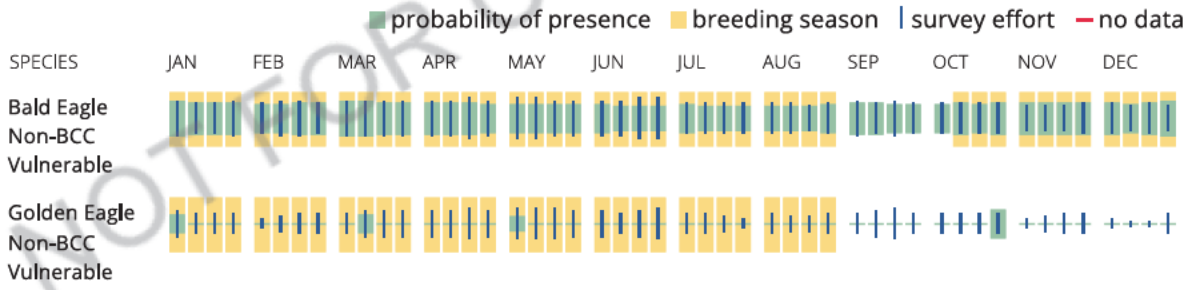
Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles"

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10

Cerulean Warbler Dendroica cerulea — Breeds Apr 21 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/2974

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Eastern Whip-poor-will Antrostomus vociferus — Breeds May 1 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Franklin's Gull Leucophaeus pipixcan — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Golden-winged Warbler Vermivora chrysoptera — Breeds May 1 to Jul 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8745

Henslow's Sparrow Ammodramus henslowii — Breeds May 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3941

Kentucky Warbler Oporornis formosus — Breeds Apr 20 to Aug 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

King Rail Rallus elegans — Breeds May 1 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8936

Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl asio otus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone Arenaria interpres morinella This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

Willet Tringa semipalmata — Breeds Apr 20 to Aug 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles"specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence(■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

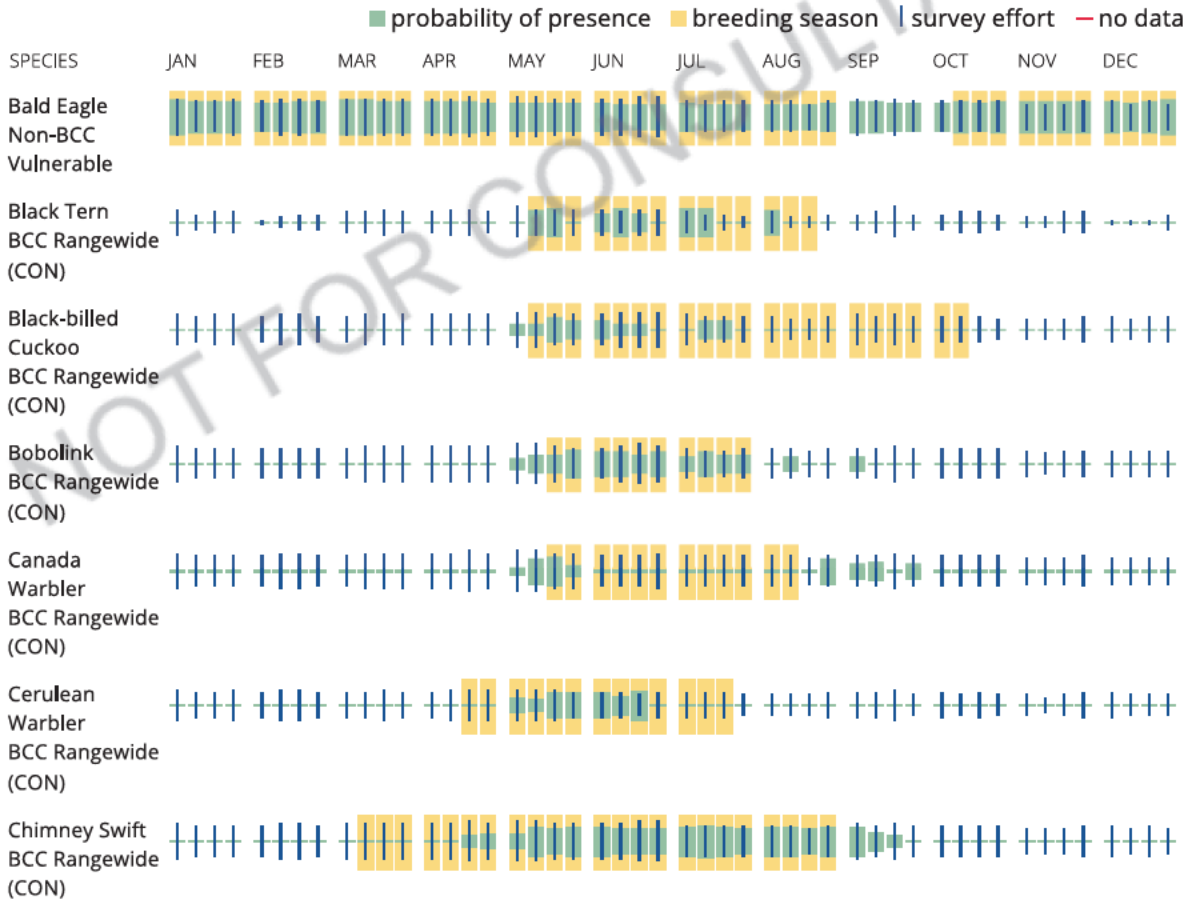
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

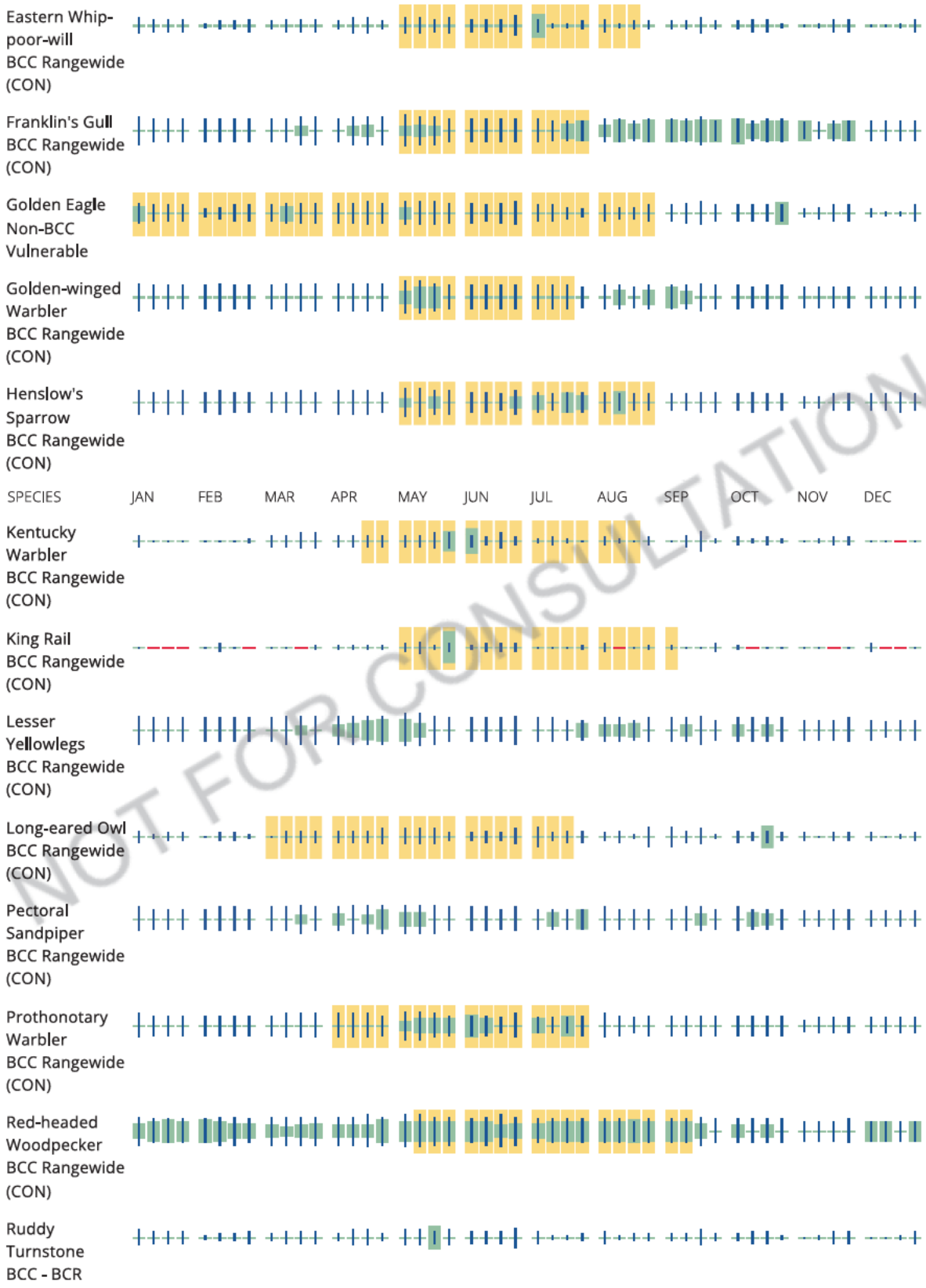
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





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
LESUEUR COUNTY WATERFOWL PRODUCTION AREA	79 acres
UPPER MISSISSIPPI RIVER NATIONAL WILDLIFE AND FISH REFUGE	14,407.73 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.

Data limitations

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 tuberficid 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.

Appendix O-3

MnDNR Minnesota Conservation Explorer Letter

DEPARTMENT OF NATURAL RESOURCES

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

January 23, 2024
Correspondence # MCE 2023-00832

Katie Lueth
HDR Inc

RE: Natural Heritage Review of the proposed **Mankato – Mississippi River Transmission Project,** Blue Earth, Goodhue, Le Sueur, Nicollet, Olmsted, Rice, Wabasha, and Waseca Counties

Dear Katie Lueth,

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 proposed project **crosses multiple state lands**. Please contact the MN DNR Regional Environmental Assessment Ecologist for the Central region (Melissa Collins, melissa.collins@state.mn.us) and for the Southern region (Haley Byron, haley.byron@state.mn.us) with subject line MCE-2023-00832 to discuss any concerns they may have regarding this project.

- The proposed project is **within an old-growth forest in T109N R22W Section 18 within the Townsend Woods Scientific and Natural Area (SNA).** Old-growth forests are natural forests that have developed over a long period of time, generally at least 120 years, without experiencing severe, stand-replacing disturbances such as fires, windstorms, or logging. Old-growth forests are a unique, nearly vanished piece of Minnesota's history and ecology; less than 4% of Minnesota's old-growth forests remain. **Given the ecological significance of this area, disturbance should be minimized to the extent feasible.** Please contact the MN DNR Regional Ecologist for the Southern Region 4 (Megan Benage, megan.benage@state.mn.us) with subject line MCE-2023-00832 to discuss any concerns she may have regarding this project.

- Several lakes in the vicinity of the project have been identified as a Lake of Biological Significance. Lakes of Biological Significance were ranked as *Outstanding* (**Lily Lake** and **Mississippi River - U.S. Lock & Dam #5 Pool**), *High* (**Fish Lake**), *or Moderate* (**Tetonka Lake**, **Eagle Lake**, and **Madison Lake**) based on unique plant and animal presence. It is important that **effective erosion prevention and sediment control practices be implemented and maintained near lakes throughout the project**. Indirect impacts, such as the introduction or spread of invasive species, should also be considered and minimized.

- Many calcareous fens [**Holden 1 West** (13336), **Wanamingo 22** (29025), **Kasota 7** (34551), **McCarthy Lake** (31975), **Haverhill 19** (31983), and **Lime 30** (38219)] have been documented in within five miles of the proposed project. 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).**

- The Minnesota Biological Survey (MBS) has identified **26** Sites of Biodiversity Significance within the project boundary: **4** *Outstanding*, **8** *High*, and **14** *Moderate*. 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. Factors taken into account during the ranking process include the number of rare species documented within the site, the quality of the native plant communities in the site, the size of the site, and the context of the site within the landscape. Sites ranked as *Outstanding* contain the best occurrences of the rarest species, the most outstanding examples of the rarest native plant communities, and/or the largest, most intact functional landscapes present in the state. 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.

There are many MN DNR Native Plant Communities (NPCs) within 330 feet of the proposed project. There are 23 unique types of Native Plant Communities; 9 are ranked S2 which is considered **imperiled**, 10 are ranked S3 which is considered **vulnerable to extirpation**, 3 are ranked S4 which is considered **uncommon but not rare**, and 1 is ranked S5 which is considered **secure, widespread, and abundant** in Minnesota. Please see your MCE generated Conservation Planning Report for a comprehensive list of Native Plant Communities in your proposed project area.

Activities in road rights-of-way 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:

- Avoid working in MBS Sites and rare (S1-S3) Native Plant Communities.
- As much as possible, operate within already-disturbed areas.
- Retain a buffer between proposed activities and the MBS Sites.
- Confine construction activities to the opposite side of the road from the MBS Sites. If this is not feasible, confine construction activities to the existing road rights-of-way.
- 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 measure.
- 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 spanning waterbodies and wetlands to avoid such areas. We also recommend:

- Work in watercourses should be conducted during low flow whenever possible.
- Winter construction in frozen soils is the preferred method for line placement in wetlands.
- Wetland basins, lake beds, and stream/riverbeds should be restored to preconstruction contours. The work should not promote wetland drainage.

The Minnesota Biological Survey (MBS) considered the area surrounding the proposed project for a Site of Biodiversity Significance. There are **17 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.

- If the Wetland Conservation Act (WCA) is applicable to this project, please note that wetlands within ***High*** or ***Outstanding*** MBS Sites of Biodiversity Significance and/or 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

- The loggerhead shrike (*Lanius ludovicianus*), a state-listed endangered bird, has been documented in the vicinity of the project site. Loggerhead shrikes use grasslands that contain short grass and scattered perching sites such as hedgerows, shrubs, or small trees. They can be found in native prairie, pastures, shelterbelts, old fields or orchards, cemeteries, grassy

roadsides, and farmyards. 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 endangered or threatened plants or animals, including their parts or seeds, without a permit. Given the potential for this species to be found in the vicinity of the project, **tree and shrub removal must not occur within potential habitat during the breeding season, April through July.**

If avoiding tree or shrub removal within potential habitat from April through July is not feasible, a qualified surveyor will need to conduct a survey for active nests before any trees or shrubs will be removed. Requirements for surveys and lists of DNR certified lists of surveyors can be found at the Natural Heritage Review website. Survey results should be sent to the NH Review Team at Reports.NHIS@state.mn.us with subject line MCE-2023-00832; survey results are valid for 3 years. Please contact the NH Review team at Review.NHIS@state.mn.us with subject line MCE-2023-00832 if you have any questions regarding this species.

- Blanding's turtles (*Emydoidea blandingii)* and wood turtles (*Glyptemys insculpta*), both state-listed threatened species, have been documented in the vicinity of the proposed project and may be encountered on site. Both species are semi-aquatic, spending time both on land and in water. Any added fatality can be detrimental to these populations of 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 these rare turtles 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.
  - Check any holes that have been left unattended for prolonged periods for turtles before being filled.

- The Blanding's turtle flyer must be given to all contractors working in the area. Illegal collection is a concern with wood turtles; therefore, please do not post any signs that would bring attention to the presence of wood turtles.
- Monitor for turtles during construction. Report any sightings to Reports.NHIS@state.mn.us; please include date, observer, location, and photograph of the turtles.
- If turtles are in imminent danger, they must be moved by hand out of harm's way, otherwise they are to be left undisturbed. Please see Helping Turtles Across the Road for guidelines on how to move turtles safely out of danger.
- If the above avoidance measures are not feasible, please contact Review.NHIS@state.mn.us with subject line MCE-2023-00832 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.**

- Timber rattlesnake (*Crotalus horridus)*, a state-listed threatened species, have been reported from the vicinity of the proposed project and may be encountered on site. In Minnesota, the ideal habitat for this species is forested bluffs, south-facing rock outcrops, and bluff prairies, particularly in the Mississippi River Valley. Nearby forests, prairies, and agricultural lands are used as summer feeding grounds.

  Timber rattlesnake mortality in Minnesota is most commonly caused by poaching, vehicle collisions, and habitat destruction. The loss of a single adult, especially a female, can impact the population significantly. 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**:

  - **Crews working in the area should be advised that if they encounter any snakes, the snakes should not be disturbed.**
  - **Erosion and sediment control should be limited to wildlife friendly erosion control to avoid the inadvertent take of timber rattlesnakes.**
  - If the above avoidance measures are not feasible, please contact Review.NHIS@state.mn.us with subject line MCE-2023-00832 as further action may be needed.

Timber rattlesnake precautions may include, but are not limited to, the following recommendations:

  - Wear appropriate personal protection equipment, such as thick pants, boots, and leather gloves.
  - Care should be taken around stockpiled materials as snakes may be using these materials as shelter.
  - Report any sightings to Reports.NHIS@state.mn.us; please include date, observer, location, and photograph of the timber rattlesnake.

- Many rare aquatic species, including state-listed endangered and threatened species, have been documented 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 submit a new Natural Heritage Review request as our requirements may change.

- Many rare plant species, including state-listed endangered and threatened species, have been documented in the project vicinity. The table below lists state-listed plant species within the project vicinity; species found within the proposed project area are marked with an asterisk (*). **All known occurrences of state protected plant species and all potential habitats must be avoided.** If this is not feasible, a qualified surveyor will need to (1) resurvey known occurrences and (2) determine if suitable habitat exists within the activity impact area and, if so, conduct a survey prior to any project activities.

  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-2023-00832, if you have any questions regarding this process.

Name		Status		Habitat	
Common	Scientific	State	Federal	Habitat	Water Regime
Dwarf Trout Lily	*Erythronium propullans*	END	END	Mesic Hardwood Forest, Floodplain Forest	terrestrial
Sweet-smelling Indian Plantain	*Hasteola suaveolens*	END		Marsh, Wet Meadow/Carr, River Shore	wetland
Butternut	*Juglans cinerea*	END		Mesic Hardwood Forest	terrestrial
Tuberous Indian Plantain *	*Arnoglossum plantagineum*	THR		Upland Prairie	terrestrial
Clasping Milkweed	*Asclepias amplexicaulis*	THR		Savanna, Upland Prairie	terrestrial
Stream Parsnip	*Berula erecta*	THR		Small Rivers and Streams, Non-forested Rich Peatland, Wet Meadow/Carr	aquatic, wetland
Davis' Sedge	*Carex davisii*	THR		Floodplain Forest	wetland
Prairie Bush Clover	*Lespedeza leptostachya*	THR	THR	Upland Prairie, Rock Outcrop	terrestrial
Glade Mallow *	*Napaea dioica*	THR		Small Rivers and Streams, Floodplain Forest	wetland
One-flowered Broomrape	*Orobanche uniflora*	THR		Savanna, Upland Prairie, Mesic Hardwood Forest, Fire Dependent Forest	terrestrial
Tubercled Rein Orchid	*Platanthera flava var. herbiola*	THR		Wet Meadow/Carr, Savanna, Lowland Prairie	wetland
Hooded Arrowhead	*Sagittaria montevidensis ssp. calycina*	THR		Rivers and Streams, River Shore, Lake Shore, Marsh	aquatic, wetland
Edible Valerian	*Valeriana edulis var. ciliata*	THR		Wet Meadow/Carr, Non-forested Rich Peatland, Lowland Prairie, Upland Prairie, Rock Outcrop, Cliff	terrestrial, wetland
* = Known to occur within the project area. Please see your license for specific locations.					

- 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

- The area of interest overlaps with a U.S Fish and Wildlife Service (USFWS) Rusty Patched Bumble Bee High Potential Zone. The rusty patched bumble bee *(Bombus affinis)* is federally listed as endangered and is likely to be present in suitable habitat within High Potential Zones. From April through October this species uses underground nests in upland grasslands, shrublands, and forest edges, and forages where nectar and pollen are available. From October through April the species overwinters under tree litter in upland forests and woodlands. The rusty patched bumble bee may be impacted by a variety of land management activities including, but not limited to, prescribed fire, tree-removal, haying, grazing, herbicide use, pesticide use, land-clearing, soil disturbance or compaction, or use of non-native bees. If applicable, **the DNR recommends reseeding disturbed soils with native species of grasses and forbs using** BWSR Seed Mixes **or** MnDOT Seed Mixes**.**

  Please note that all projects, regardless of whether there is a federal nexus, are subject to federal take prohibitions. The IPaC review will determine if prohibited take is likely to occur and, if not, will generate an automated letter. The USFWS RPBB guidance provides guidance on avoiding impacts to rusty patched bumble bee and a key for determining if actions are likely to affect the species; the determination key can be found in the appendix.

- As mentioned above dwarf trout lily and prairie bush clover are both federally listed. These were documented in the vicinity of the project but not within the project area.

- **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,

Molly Barrett
Natural Heritage Review Specialist
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

Appendix O-4

Descriptions and Life Histories of Federal and State Listed Species Present

Appendix O-4: Descriptions and Life Histories of Federal and State Listed Species Present

The general descriptions, life histories and habitat preferences the federal and state-listed species discussed in Section 7.7 and listed in Tables 7-70 and 7-71 are provided below.

Key to Federal Designations: E – Endangered T – Threatened PT – Proposed Threatened C – Candidate Exp – Experimental Non-Essential Population

Key to State Designations: E – Endangered T – Threatened SC – Special Concern

Minnesota Dwarf Trout Lily (*Erythronium propullans*) Federal E, State E

The Minnesota dwarf trout lily is an endangered forest wildflower endemic to Minnesota and is found only in Rice County and Goodhue County. The Minnesota dwarf trout lily is found along river terraces, mesic oak-basswood forests, or mesic maple-basswood forests along streams or north facing slopes. This species is identified by its small flowers with 4-6 petals. Habitat destruction is the main threat to the Minnesota dwarf trout lily. No critical habitat has been designated for this species.

Suitable habitat for the Minnesota dwarf trout lily may be found in forested areas of Rice and Goodhue County.

Higgins eye *(Lampsis higginsii)* Federal E, State E

The Higgins eye pearlymussel is a freshwater mussel with a shell that can be yellow, greenish, reddish or brown with green ways. The shell can be up to 15 centimeters long and inhabits large rivers with deep water and moderate currents.

Sheepnose *(Plethobasus cyphyus)* Federal E, State E

The sheepnose mussel is a yellow-brown mussel with a single row of wide bumps that run the length of its shell. The mussel inhabits medium to large streams with moderate to swift currents and shallow shoal habitats.

Spectaclecase *(Cumberlandia monodonta)* Federal E, State E

The spectaclecase mussel is a large mussel with an elongated, sometimes curved and inflated shell. The mussel inhabits large rivers in areas sheltered from currents.

Northern Long-eared Bat (*Myotis septentrionalis*) Federal E, State SC

The endangered northern long-eared bat (NLEB) is a medium-sized insectivorous bat with a wingspan of 9 to 10 inches. This bat is distinguished by its long ears when

compared to other bats of its genus (*Myotis*). The NLEB is found across much of the north central and eastern United States, but is imperiled by white nose syndrome, a fatal fungal infection that kills hibernating bats. In fall and winter, NLEB hibernate in caves and mines with constant temperatures and humidity. In spring and summer, the NLEB will spend daylight hours roosting under the bark of trees and artificial structures, switching to a new roost every other day. No critical habitat has been designated for this species.

The NLEB may be found roosting in deciduous and coniferous trees in the Project Study Area and along the Right-of-Way. The MNDNR maintains a list of townships containing documented NLEB maternity roost trees (high quality roosts used by reproductive females) and hibernacula entrances (MNDNR and USFWS 2017). There are no known NLEB roost trees within the study area or surrounding counties. There are two known NLEB maternity hibernacula with 13 miles of the route in Goodhue County, two known NLEB hibernacula within 14 miles of the route in Winona County, and one known DNR Forestry NLEB hibernacula within 3 miles of the route in Nicollet/Le Sueur County.

Rusty Patched Bumble Bee (*Bombus affinis*) Federal E, no state status

The rusty patched bumble bee is an endangered bee species named for a conspicuous reddish patch of hairs on the second abdominal segment. Rusty patched bumble bees are found in a range of habitats including agricultural landscapes, residential parks and gardens, prairies, woodlands, and marshes. During the spring and summer, these bees require large, diverse communities of flowering plant species located near forest edges. During the winter, rusty patched bumble bee queens likely overwinter in upland transitional forest areas. No critical habitat has been designated for this species. The USFWS determined in 2017 that such a designation would not be prudent, as "present or threatened destruction, modification, or curtailment of habitat is not the primary threat to the species, and the availability of habitat does not limit the conservation of the rusty patched bumble bee now, nor will it in the future."

Suitable habitat for the rusty patched bumblebee may be found in pastures, fields, windbreaks, and woodlots with a high diversity of flowering plant species and forest edge habitat.

Prairie bush clover (*Lespedeza leptostachya*) Federal T, State T

Prairie bush clover is a Midwest endemic typically found on bedrock outcrop prairie or north, northeast and northwest-facing mesic to dry prairie slopes. Plants are often localized in concave, mid-slope areas with coarse textured loam or colluvium with high sand or gravel content. The principal threat to prairie bush clover is loss and degradation of prairie habitat.

Tricolored Bat (*Perimyotis subflavus*) Federal PT, State SC

The tricolored bat is a proposed endangered, small (wingspan of 1.24 to 1.34 inches), insectivorous bat distinguished by unique tricolored fur. The tricolored bat was historically common throughout much of the eastern and central United States. During the winter, tricolored bats hibernate in caves and abandoned mines. During the spring, summer, and fall, tricolored bats will roost in trees and human structures. Similar to the NLEB, this species has experienced heavy population declines due to white-nose syndrome throughout the majority of its range. No critical habitat has been proposed for this species.

The tricolored bat may be found roosting in the leaves of deciduous and coniferous trees.

Monarch Butterfly (*Danaus plexippus*) Federal C, no state status

The monarch butterfly is a large, conspicuous butterfly with orange wings patterned by black veins. Monarch butterflies can be found in a wide range of habitats including prairies, roadsides, open areas, and gardens where flowering plants are present. During the breeding season, monarch butterflies will lay eggs on their obligate host plant, which includes multiple species of the milkweed genus (*Asclepias* spp.). The monarch butterfly is a candidate species that is not yet listed or proposed for listing. No critical habitat has been proposed or designated for this species.

The monarch butterfly may be encountered along all segments and subsegments of the route where flowering plants are present.

Whooping Crane (*Grus americana*) Federal Exp, no state status

The whooping crane is a large, (1.5 meter tall) endangered crane with white plumage, black primaries, a red crown, and a black half-moon shaped patch on the face. Whooping cranes are found in salt and freshwater marshes in Texas, Florida, and the

central inland United States, but will frequently forage for animals and plants in agricultural fields surrounding their preferred habitat. Critical habitat for whooping cranes was published in the Federal Register Vol. 43, No. 94 on May 15, 1978.

An experimental, non-essential population of whooping cranes may be in the area of the Project. Under the ESA, non-essential, experimental populations are treated as a proposed species in most areas; however, they are treated as threatened on National Wildlife Refuge and National Park lands. USFWS data found that the Right-of-Way will border the LeSueur County Waterfowl Production Area and the Upper Mississippi River National Wildlife and Fish Refuge.

Salamander Mussel (*Simpsonias ambigua*) State E, no federal status

The salamander mussel is a proposed endangered freshwater mussel found in rivers, streams, and lakes with natural flow regimes. Habitat within rivers includes space under slab rock or bedrock crevices where they are in contact with a solid surface and there is stability from swift currents. Primary risks to salamander mussels include municipal, industrial, and agricultural run-off, disturbance to hydrological regimes and landscape connectivity, and invasive species (e.g., zebra mussel). There is proposed habitat for this species but the Project does not overlap the critical habitat.

Suitable habitat for the salamander mussel may be found along large rivers, including tributaries of the Mississippi River such as the St. Croix River.

Crystal Darter *(Crystallaria asprella)* State E, no federal status

The crystal darter is a small slender freshwater fish that is pale yellow with 4-8 dark side bars connected to 4 dark saddles across the back. The fish inhabits medium to large rivers, usually with clean sand and gravel bottoms and moderate to swift currents.

Loggerhead Shrike *(Lanius ludovicianus)* State E, no federal status

Loggerhead shrike is a grassland species once common in Minnesota, but whose population levels have dropped sharply. It is a robin-sized bird with a slate-gray back, a broad black mask through the eyes, a white patch on the otherwise black wings and white outer tail feathers. The loggerhead shrike hunts large invertebrates, small snakes, lizards, mice and small birds. It has a habit of impaling its prey on thorns or barbed wire, which enables it to consume larger prey without strong feet and talons.

Pallid Shiner *(Hybopsis amnis)* State E, no federal status

The pallid shiner is a small slender minnow that reaches a total length of approximately 2.6 inches. The pallid shiner inhabits large and medium-sized rivers and streams.

Blanchard's Cricket Frog *(Acris blanchardi)* State E, no federal status

The Blanchard's cricket frog is a small, endangered treefrog species with warty skin, dark bands on the thighs, and a green or brown triangle between the eyes. This frog will inhabit permanent ponds and backwaters during the summer and hibernate underground during the winter. Primary threats to this species include declines in water quality and alterations to habitat hydrology.

Hair-like Beak Rush (*Rhynchospora capillacea)* State T, no federal status

Hair-like beak rush is a small member of the sedge family that occurs in calcareous fens within the prairie region of the state. It is an annual, a plant that completes its lifecycle from germination to the production of seeds within one growing season and then dies, that reproduces from seed and forms tufts or dense mats. The fruits of the plant mature in late summer to autumn and remain dormant until spring.

Blanding's turtle *(Emydoidea blandingii)* State T, no federal status

Blanding's turtle is a medium-sized turtle six to nine inches in length, with a domed carapace (upper shell) and a bright yellow chin and throat. It is a late-maturing, long-lived species. A combination of factors, including low mobility, high juvenile mortality, low reproductive potential and difficulty recovering from catastrophic events that reduce the population has restricted its population in Minnesota. Blanding's turtle prefers wetland complexes and adjacent sandy uplands. Calm, shallow waters, including wetlands associated with streams are preferred. Open marshes and bottomland wetlands provide summer and winter habitat, with ephemeral wetlands utilized in spring and early summer.

Ellipse *(Venustaconcha ellipsiformis)* State T, no federal status

The ellipse was unknown in Minesota until 1983. It is a small (up to four inches) mussel, yellowish-green, that occurs primarily in the headwater reaches of rivers in gravel riffles. As with other freshwater mussel species profiled above, the ellipse is sensitive to sedimentation and turbidity.

Fluted shell *(Lasmigona costata)* State T, no federal status
Fluted shell is a dark brown, elongated, moderately thick mussel up to seven inches long. It prefers gravel substrates in medium to large rivers in areas with swift currents. As with other freshwater mussel species profiled above, the fluted shell is sensitive to sedimentation and turbidity.

Mucket *(Actinonaias ligamentina)* State T, no federal status
The mucket is an oblong, moderately thick mussel up to six inches long. It inhabits medium to large rivers and prefers coarse sand and gravel.

Spike *(Eurynia dilatata)* State T, no federal status
Spike, also known as the lady finger, is a dark brown to black elongated, moderately thick mussel up to six inches long. It is found in small to large rivers, but also inhabits reservoirs and lakes, and is usually associated with outlet habitats dominated by swift

Butterfly Mussel *(Ellipsaria lineolata)* State T, no federal status
The butterfly mussel is a freshwater mussel with a somewhat triangular shell with rounded dorsal, anterior, and ventral margins. The mussel inhabits areas of large rivers with swift currents in sand or gravel substrates.

Tuberous Indian Plantain *(Arnoglossum plantgineum)* State T, no federal status
The tuberous Indian plantain is a flowering plant with a distinctive branched flat-topped flowering cluster that is whitish in appearance. This species is largely restricted to native mesic prairies.

Elktoe *(Alasmidonta marginata)* State T, no federal status
The elktoe is a triangular shaped freshwater mussel that can be up to 14 centimeters long. The mussel inhabits medium to large rivers with sand and gravel substrates in areas with moderate to fast velocities.

Timber Rattlesnake *(Crotalus horridus)* State SC, no federal status
The timber rattlesnake is a threatened venomous snake that is found along forested bluffs, bluff prairies, and south-facing rock outcrops. Primary threats to this species include habitat destruction, road mortality, and human persecution. This species was documented within the Route 3 Right-of-Way in Wabasha County.

Appendix O-5

Request for Project Review by SHPO

Sedarski, Joe

From: Bring, Jennifer
Sent: Friday, February 16, 2024 1:21 PM
To: MN_ADM_ENV Review SHPO
Cc: Heine, Ellen L; Sedarski, Joe; Koski, Laura Joreen
Subject: Mankato to Mississippi River Transmission Project - Cultural Resources Literature Review

Hello,

In May of 2023, initial introductory letters regarding the Mankato to Mississippi River Transmission Project. Since them we have continued cultural resources studies for the project to inform evaluation of routes and the Route Permit Application. A Cultural Resources Literature Review has been completed for the project. The literature review report and a Request for Review form can be access at the link below:

Literature Review to SHPO_20240216

Please let us know if you have issues accessing the files or have any questions. We look forward to continued coordination with your office.

Best,
Jenny

Jennifer Bring
Environmental Section Manager MN/WI
Senior Environmental Scientist/Project Manager

HDR
1601 Utica Ave. S. Suite 600
St. Louis Park, MN 55416
M 651.324.0432
Jennifer.Bring@hdrinc.com

hdrinc.com/follow-us

Please mail the completed form and required material to:

ENReviewSHPO@state.mn.us

DEPARTMENT OF ADMINISTRATION

Request for Project Review by the State Historic Preservation Office (SHPO)

◉ This is a new submittal
○ This is additional information relating to SHPO Project #: _____ **DATE:** 2/9/2024

I. GENERAL PROJECT INFORMATION

Project Title: Mankato to Mississippi River Transmission Project

Project Address (or Location): Mankato, Faribault, North Rochester, Pine Island, Kellogg, MN (south central to south east Minnesota)

City / Township (circle one): See attached report and GIS data Zip: _____ County: _____

Legal Description: Township _____ Range _____E/W (circle one) Section _____ Quarter-section _____

II. PROJECT CONTACT INFORMATION

Project Contact Name: Ellen Heine Title: Principal Siting and Land Rights Agent

Company/Agency: Xcel Energy, Inc.

Street Address: 414 Nicollet Mall, 414-6A Phone Number: 612.330.6073

City: Minneapolis State: MN Zip: 55401 Email: ellen.l.heine@xcelenergy.com

III. FEDERAL AND/OR STATE INVOLVEMENT

Federal Agency (if applicable): Federal Agency permits/approvals may be needed (e.g., USACE, USFWS, etc.)
(Agency providing funds, licenses, or permits)
Permit or Project Reference #: NA

State Agency (if applicable): Minnesota Public Utilities Commission (Certificate of Need and Route Permit), other State Agency permits/approvals may be needed (e.g., MnDNR, MPCA, etc.)
(Agency providing funds, licenses, or permits)
Permit or Project Reference #: MPUC Docket Nos. E002/CN-22-532 & E002/TL-23-157

Local Agency (if applicable): NA

(Continued on Reverse Side)

Please refer to *Instructions for Completing the Request for Project Review* form on our website. Submit one *Request for Project Review* form for each project. For questions regarding the SHPO review process, please visit our website or contact Kelly Gragg-Johnson (651-201-3285) or Leslie Coburn (651-201-3286) or by email at ENReviewSHPO@state.mn.us.

IV. PROJECT DESCRIPTION AND BOUNDARIES

A) REQUIRED FOR ALL PROJECTS

☑ Write a detailed description of the proposed project. (See attached.)

See attached literature review report.

☑ Attach a map of project location, with project area(s) clearly marked. Road names must be included and legible.
See attached report figures for the cultural resources review area boundary, which encompasses more area than will be needed for the proposed project.

B) Architecture

Are there any buildings or structures within the project area? ◉ Yes ○ No

If **No**, continue to the Archaeology section below. If **Yes**, submit all of the following information:

☑ List all buildings and structures within the project area and the year they were built. (See attached.)

See attached report - the literature review encompasses a larger review area than will be needed for the proposed Route. This literature review was completed to facilitate evaluation of alternatives.

☑ Photographs of ***each*** building and structure located within the project area, along with a photo key. Include streetscape images, if applicable. All photographs must be clear, crisp, focused, and taken at ground level. Aerial photos are insufficient. **Review of architecture/history properties, if needed for compliance with applicable cultural resources laws, would be completed at a later date.**

☑ List known historic buildings or structures located within the project area (i.e., individual properties or districts which are listed in the National Register or which meet the criteria for listing in the National Register). (See attached.)

Attached literature review covers a larger review area than will be needed. Known architecture/history structures within the Route and ROW for proposed alignments will be summarized in the Route Permit Application, currently being drafted.

C) Archaeology

Does the proposed undertaking involve ground-disturbing activity? ◉ Yes ○ No

If **No**, this form is complete. If **Yes**, submit all of the following information:

☑ Attach the relevant portion of a 1:24000-scale USGS topographic map (photocopied or computer generated) ***with the project boundary marked***. **See attached report figures for the cultural resources review area boundary, which encompasses more area than will be needed for the proposed project.**

☑ Description of current and previous land use and disturbances: (See attached.)

Attached literature review covers a larger review area than will be needed. Known archaeological sites within the Route and ROW for proposed alignments will be summarized in the Route Permit Application.

☑ Any available information concerning known or suspected archaeological resources within the project area. (See attached.)

See attached report - the literature review encompasses a larger review area than will be needed for the proposed Route. This literature review was completed to facilitate evaluation of alternatives.