



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

May 1, 2025

Katie Lueth
HDR Inc.

RE: Natural Heritage Review of the proposed Mankato – Mississippi River Transmission Project (Project) Refresh of initial request MCE 2023-00832,
Blue Earth, Goodhue, Le Sueur, Olmsted, Rice, Wabasha, and Waseca Counties

Dear Katie Lueth,

For all correspondence regarding the Natural Heritage Review of this project please include the project ID **MCE-2025-00029** in the email subject line.

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 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. **The DNR recommends avoidance of old growth forests.** If avoidance is not feasible, please coordinate with your DNR Regional Ecologist (Megan Benage, megan.benage@state.mn.us) to avoid or minimize disturbance.
- 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 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 Sites of Biodiversity Significance within the vicinity of the proposed project. Sites of Biodiversity Significance (MBS Sites) 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. **The DNR recommends avoidance of MBS Sites ranked *High* or *Outstanding*.** A Conservation Planning Report, which includes a list of MBS Sites in the proposed project area, has been created and uploaded to the project page (2025-00029-CPR).

DNR Native Plant Communities (NPCs) have been documented within the vicinity of the proposed project. A native plant community is a group of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms. Native plant communities are classified and described by considering vegetation, hydrology, landforms, soils, and natural disturbance regimes. DNR NPC types are given a Conservation Status Rank that reflects the relative rarity and endangerment of the community type in Minnesota. Conservation Status Ranks range from S1 (*critically imperiled*) to S5 (*secure, common, widespread, and abundant*); NPCs with a Conservation Status Rank of S1 through S3 are considered rare in Minnesota. **The DNR recommends avoidance of rare NPCs (ranked S1-S3).** A Conservation Planning Report, which includes a list of NPCs in the proposed project area, has been created and uploaded to the project page (2025-00029-CPR).

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 NPCs (ranked S1, S2, or S3).
- 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 measures.
- Revegetate disturbed soil with [native species suitable to the local habitat](#) as soon after construction as possible.
- Use only weed-free mulches, topsoils, and seed mixes. Of particular concern is birdsfoot trefoil (*Lotus corniculatus*) and crown vetch (*Coronilla varia*), two invasive species that are sold commercially and are problematic in prairies and disturbed open areas, such as roadsides.

Construction in streambeds, lakes, and wetlands should be avoided whenever possible. We recommend spanning waterbodies and wetlands to avoid such areas. We also recommend:

- Work in watercourses should be conducted during low flow whenever possible.
- Winter construction on 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.
- Buffer wetlands and watercourses by at least 10 feet.

There are other areas that were determined to be Below the minimum biodiversity threshold for statewide significance. These areas, 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.**

Ecologically Significant Areas can be viewed using the Explore page in [Minnesota Conservation Explorer](#) (MCE) or their GIS shapefiles can be downloaded from the [MN Geospatial Commons](#). Reference the [MBS Site Biodiversity Significance](#) and [Native Plant Community](#) websites for information on interpreting the data. To receive a list of Ecologically Significant Areas in the vicinity of your project, create a Conservation Planning Report using the Explore page in MCE. A Conservation Planning Report has been created and uploaded to the project page (2025-00029-CPR).

- If the Wetland Conservation Act (WCA) is applicable to this project, please note that native plant communities with a Conservation Status Rank of S1 through S3 or wetlands within *High* or *Outstanding* MBS Sites of Biodiversity Significance may qualify as Rare Natural Communities (RNC) under WCA. Minnesota Rules, part 8420.0515, subpart 3 states that a wetland replacement plan for activities that modify a RNC must be denied if the local government unit determines the proposed activities will permanently adversely affect the RNC. If the proposed project includes a wetland replacement plan under WCA, please contact your [DNR Regional Ecologist](#) for further evaluation. Please visit [WCA Program Guidance and Information](#) for additional information, including the [RNC Technical Guidance](#).

State-listed Species

- Many rare plant species, including state-listed endangered and threatened species, have been documented in the project vicinity. The table below shows state-listed plant species within the project vicinity; species found within the proposed project area are marked with an asterisk (*). 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. **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) conduct a habitat assessment to determine if suitable habitat exists within the activity impact area and, if so, conduct a rare plant survey prior to any project activities. The goal of the habitat assessment is to identify potential locations where endangered (END) and threatened (THR) species may occur to help formulate an avoidance plan. Species of special concern (SPC) are also rare and an important component of Minnesota's natural heritage; we strongly encourage project alternatives that avoid or minimize impacts to known occurrences of these species as well.

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. Survey proposals should be submitted to Reports.NHIS@state.mn.us prior to initiating survey work. 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 Review.NHIS@state.mn.us if you have any questions regarding this process.

Common Name	Scientific Name	State Status	Federal Status	Habitat
Dwarf Trout Lily	<i>Erythronium propullans</i>	END	END	Floodplain Forest, Mesic Hardwood Forest
Sweet-smelling Indian Plantain	<i>Hasteola suaveolens</i>	END		Wet Meadow/Carr, Marsh, River Shore
Butternut	<i>Juglans cinerea</i>	END		Mesic Hardwood Forest
Tuberous Indian Plantain *	<i>Arnoglossum plantagineum</i>	THR		Upland Prairie
Clasping Milkweed	<i>Asclepias amplexicaulis</i>	THR		Upland Prairie, Savanna
Stream Parsnip *	<i>Berula erecta</i>	THR		Wet Meadow/Carr, Non-forested Rich Peatland, Small Rivers and Streams
Davis' Sedge	<i>Carex davisii</i>	THR		Floodplain Forest

Prairie Bush Clover	<i>Lespedeza leptostachya</i>	THR	THR	Upland Prairie, Rock Outcrop
Glade Mallow *	<i>Napaea dioica</i>	THR		Floodplain Forest, Small Rivers and Streams
One-flowered Broomrape	<i>Orobanche uniflora</i>	THR		Upland Prairie, Savanna, Fire Dependent Forest, Mesic Hardwood Forest
Tuberclad Rein Orchid	<i>Platanthera flava</i> var. <i>herbiola</i>	THR		Savanna, Lowland Prairie, Wet Meadow/Carr
Hair-like Beak Rush	<i>Rhynchospora capillacea</i>	THR		Non-forested Rich Peatland
Hooded Arrowhead	<i>Sagittaria montevidensis</i> ssp. <i>calycina</i>	THR		River Shore, Rivers and Streams, Lake Shore, Marsh
Edible Valerian	<i>Valeriana edulis</i> var. <i>ciliata</i>	THR		Upland Prairie, Lowland Prairie, Non-forested Rich Peatland, Rock Outcrop, Wet Meadow/Carr, Cliff
Green Dragon	<i>Arisaema dracontium</i>	SPC		Wet Forest, Floodplain Forest
White Wild Indigo *	<i>Baptisia lactea</i> var. <i>lactea</i>	SPC		Upland Prairie, Savanna
Plains Wild Indigo	<i>Baptisia leucophaea</i>	SPC		Upland Prairie, Savanna
Prairie Moonwort	<i>Botrychium campestre</i> var. <i>campestre</i>	SPC		Upland Prairie
Yellow-fruit Sedge	<i>Carex annectens</i>	SPC		Lowland Prairie, Upland Prairie, Savanna
Gray's Sedge *	<i>Carex grayi</i>	SPC		Floodplain Forest
Muskingum Sedge *	<i>Carex muskingumensis</i>	SPC		Floodplain Forest
Cattail Sedge *	<i>Carex typhina</i>	SPC		Floodplain Forest
Hill's Thistle	<i>Cirsium pumilum</i> var. <i>hillii</i>	SPC		Upland Prairie, Savanna
Late Hawthorn	<i>Crataegus calpodendron</i>	SPC		Mesic Hardwood Forest
Small White Lady's-slipper	<i>Cypripedium candidum</i>	SPC		Upland Prairie, Wet Meadow/Carr, Lowland Prairie
Prairie Mimosa *	<i>Desmanthus illinoensis</i>	SPC		Lake Shore, Upland Prairie
Rattlesnake Master *	<i>Eryngium yuccifolium</i>	SPC		Upland Prairie
Kentucky Coffee Tree *	<i>Gymnocladus dioicus</i>	SPC		Mesic Hardwood Forest
Twinleaf	<i>Jeffersonia diphylla</i>	SPC		Mesic Hardwood Forest
Old Field Toadflax	<i>Nuttallanthus canadensis</i>	SPC		Savanna, Upland Prairie
Rhombic Evening Primrose	<i>Oenothera rhombipetala</i>	SPC		Upland Prairie, Savanna
Swamp White Oak *	<i>Quercus bicolor</i>	SPC		Floodplain Forest
Yellow Pimpernel *	<i>Taenidia integerrima</i>	SPC		Fire Dependent Forest, Savanna, Cliff, Mesic Hardwood Forest
Goat's Rue	<i>Tephrosia virginiana</i>	SPC		Savanna, Upland Prairie
Snow Trillium	<i>Trillium nivale</i>	SPC		Mesic Hardwood Forest, Floodplain Forest
* = Known to occur within the project area. Please see your license for specific locations.				

- Loggerhead shrikes (*Lanius ludovicianus*), a state-listed endangered bird, have 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 is required to be avoided during the breeding season, April through July.**

Please contact Review.NHIS@state.mn.us to confirm that the above avoidance measure will be implemented or to inform us that avoidance is not feasible. If avoidance is not feasible, a qualified surveyor needs to conduct a survey for active nests before any trees or shrubs are removed. Requirements for surveys and lists of DNR certified surveyors can be found on the [Natural Heritage Review website](#).

- 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.
- Limit erosion and sediment control to [wildlife friendly erosion control](#).
- Check bare ground within construction areas for turtles before the use of heavy equipment or any ground disturbance.
- Inspect trenches, holes, or depressions prior to starting work **each day** and immediately prior to filling. Upon completion, holes must be filled.
- The [Blanding's turtle flyer](#) must be given to all contractors working in the area.
- Report any sightings using the [Quick Species Observation Form](#).
- If turtles are in imminent danger, move them by hand out of harm's way; otherwise, they are to be left undisturbed. Directions on how to move turtles safely can be found at [Helping Turtles Across the Road](#).

Additional Blanding's turtle avoidance measures may include, but are not limited to, the following recommendations:

- Recommendations from List 1 of the [Blanding's turtle fact sheet](#). If greater protection for turtles is desired, implement recommendations from List 2.
- Avoid hydro-mulch products that contain any materials with synthetic (plastic) fiber additives, as the fibers can re-suspend and flow into waterbodies.

Please contact Review.NHIS@state.mn.us to confirm that the above required avoidance measures will be implemented or to inform us that they are not feasible. If the measures are not feasible, a project-specific avoidance plan will likely be needed.

- Timber rattlesnakes (*Crotalus horridus*), a state-listed threatened species, have been reported in 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**:
 - Advise crews working in the area that if they encounter any snakes, the snakes must not be disturbed.
 - Limit erosion and sediment control to [wildlife friendly erosion control](#) to avoid the inadvertent take of timber rattlesnakes.
 - Report any sightings using the [Quick Species Observation Form](#).

Additional 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 and existing riprap as snakes may be using these materials as shelter.

Please contact Review.NHIS@state.mn.us to confirm that the above required avoidance measures will be implemented or to inform us that they are not feasible. If the measures are not feasible, a project-specific avoidance plan will likely be needed.

- 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 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.
- The little brown myotis (*Myotis lucifugus*) and tricolored bat (*Perimyotis subflavus*), both state-listed as species of special concern, have been documented in the vicinity of the proposed project. During the active season (approximately April-November) bats roost underneath bark, in cavities, or in crevices of both live and dead trees. Tree removal can negatively impact bats by destroying roosting habitat, especially during the pup rearing season when females are forming maternity roosting colonies and the

pups cannot yet fly. To minimize these impacts, **the DNR recommends that tree removal be avoided from June 1 through August 15.**

- Please visit the [DNR Rare Species Guide](#) for more information on the habitat use of these species and recommended measures to avoid or minimize impacts.

Federally Protected Species

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

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.

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 native plant communities, rare species, and other rare features. However, the NHIS is not an exhaustive inventory and does not contain the locations of all rare features in 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.** Resubmit by selecting *Clone Project as Draft* on the project page in MCE.

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 [Natural Heritage Review](#) for additional information regarding this process, survey guidance, and other related information. For information on the environmental review process or other natural resource concerns, please 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,

James Drake

Natural Heritage Review Specialist

james.f.drake@state.mn.us

Cc: Melissa Collins, Haley Byron, Amanda Weise, Megan Benage, Jennie Skancke, Keylor Andrews, Samantha Bump