

7 CFR 1b Environmental Policies and Procedures

Environmental Information/Environmental Report

**345kV Transmission Structure Replacements: Center – Maple River 345kV (Structure 602)
Stutsman County, ND**

Minnkota Power Cooperative

June 22, 2026

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The following attachments are not included:

Section 106 Historic Properties and Tribal Consultation—This information has been submitted to the agency under separate cover to protect sensitive resources.

Project Name: 345kV Transmission Structure Replacements: Center – Maple River 345kV (Structure 602)

Applicant: Minnkota Power Cooperative (MPC)

RUS Loan: 1055.1.2025.0.3

Project Description: Minnkota Power Cooperative (MPC) is working to obtain US Department of Agriculture Rural Utilities Services (RUS) funding and a siting exclusion certificate from the North Dakota Public Service Commission (NDPSC) to replace Structure 602 and its access route, located in Stutsman County (Project).

The Project area comprises 3.1 acres within an existing MPC right-of-way (ROW), within which the proposed improvements are anticipated to disturb 0.9 acres of soil. As proposed, the existing structure, comprised of three poles on eroded cement foundations, will be replaced with three new directly embedded poles placed without foundations. Access to the structure will occur via a temporary two-track route across the existing ground surface, without grading or construction of a formal roadway, and will be maintained at a maximum width of approximately 30 feet.

Tree clearing is not expected, as the Project area is not wooded. Existing public roads would be used to transport equipment to the site. To the extent practical, MPC will coordinate these activities with state and local highway departments as appropriate for loads.

Project Location: Structure 602 is located approximately 16.5 miles west of Buchanan, North Dakota. Specifically, the structure is approximately 2,450 feet south and 1,450 feet east of the intersection of 24th Street SE and 62nd Avenue SE, along MPC's existing Line 12 transmission line. It is in Section 4, T141N, R67W, on the Goldwin SW North Dakota 7.5' U.S. Geological Survey (USGS) topographic map (1984). Its coordinates are 47.059971, -99.179536. A Project vicinity and location map is attached.

Project Purpose and Need: The purpose of the Project is to replace Structure 602 due to its eroding cement foundations. Failure of this structure would impact electrical service to the larger service area. The repair of Structure 602 is integral to securing Line 12 reliability to meet the surrounding area's long-term electrical needs.

Level of Review: The RUS has determined that the Project is categorically excluded in accordance with 7 CFR 1b.4(d)(24)(iii)(B)(3).

Historic Properties and Cultural Resources

In early July 2025, Barr Engineering Co. (Barr) completed a Class I literature review for the Project. On July 10, 2025, MPC, on behalf of RUS, distributed the Class I literature review report and Section 106 finding letters to consulting parties, including the North Dakota State Historic Preservation Office (SHPO) and Tribal Historic Preservation Officers (THPOs). No THPO comments were received in response. By letter dated August 5, 2025, the North Dakota SHPO requested that a Class III survey be completed for certain structures along the Center – Maple River 345kV, including Structure 602, due to the potential for native prairie, the lack of previous survey, and the potential for intact cultural deposits within the work areas.

A Class III survey was completed at structure 602 in October 2025. No new archaeological sites or isolated finds were identified within the Project area and because no previously recorded cultural resources will be impacted by the proposed undertaking, Barr recommended a finding of *No Historic Properties Affected* for the Project. RUS submitted the Class III report on Nov 13, 2025, and received concurrence from the North Dakota SHPO on November 17, 2025 (SHPO Reference: 25-0320).

Threatened and Endangered Species

On behalf of MPC, Meadowlark Environmental LLC (Meadowlark) conducted desktop reviews, obtained an official species list via the US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) report, prepared a Natural Resources Report (July 2025) to summarize in-field surveys (May 2025) conducted to characterize habitat suitability for protected species, and prepared an Occupancy Report (August 2025) to describe the results of Dakota skipper (*Hesperia dacotae*) occupancy surveys (July 2025) and an associated Biological Assessment (December 2025).

Five federally listed species, three species proposed for federal listing under the Endangered Species Act, and two eagle species, protected under the Bald and Golden Eagle Protection Act, were evaluated in Meadowlark's Natural Resources Report. A determination of "no effect" was concluded for all but three species.

A determination of "may affect, not likely to adversely affect" was made for the endangered whooping crane (*Grus americana*) and threatened rufa red knot (*Calidris canutus rufa*) because potentially suitable migratory stopover habitat is present in the Project vicinity. However, the Project would replace existing infrastructure within an existing transmission line corridor, would not result in new conversion of stopover habitat, and is planned outside the primary migration periods for these species; therefore, the likelihood of exposure to Project-related disturbance is low and adverse effects are not anticipated..

In addition, suitable and occupied habitat for the threatened Dakota skipper (*Hesperia dacotae*) was identified within the Project area and an Occupancy Report prepared. Consequently, RUS initiated formal Section 7 consultation with USFWS on January 7, 2026, determining the Project "may affect, is likely to adversely affect" the species and designating MPC to carry out consultation with USFWS on its behalf. The USFWS issued a project-specific biological opinion (BO) on May 22, 2026 (Attachment A). The BO concludes that the Project is not likely to jeopardize the continued existence of the Dakota skipper as long as the commitments, conservation measures, avoidance measures and reclamation measures established in the BO are implemented.

North Dakota does not have state-level endangered and threatened species regulations.

Floodplain Management

The area is mapped by the Federal Emergency Management Agency (FEMA) and occurs in Zone X, an area of minimal flood risk. As shown on the FEMA-sourced map in Attachment B, there are no special flood hazard areas within the immediate vicinity of the Project area. The Project is not expected to alter existing area base flood elevations.

Wetlands Protection

Barr reviewed desktop sources to identify any federal or state-mapped wetlands in the Project area (see Attachment C). Several National Wetland Inventory-mapped wetlands and ponds are in the Project vicinity but outside of the Project area. Therefore, the Project is not anticipated to impact wetlands .

Formally Classified Lands

Formally classified lands are properties administered by federal, state, or local agencies. They may also include lands given legislative protection. Such lands include national and state monuments, landmarks, wild and scenic rivers, wilderness areas, reservations, recreational areas, parks, federally administered lands, wildlife refuges, national forests and grasslands, military parks, and areas of state or local interest.

The Project is located within a USFWS wetland easement; however, the Project will not impact any protected basins within said easement. Within 1 mile of the Project area, there are also North Dakota Department of Trust Surface Trust Lands and additional USFWS grassland easements and a waterfowl production area. A map of classified lands is included in Attachment D.

Important Farmland

Soil information for the Project area was obtained from the Natural Resource Conservation Service Web Soil Survey. Two soil mapping units comprise the Project area: Zahl-Williams loams, 9 to 15 percent slopes, and Zahl-Max-Bowbells loams, 6 to 35 percent slopes. Neither is classified as prime farmland or farmland of statewide importance. The Project area is surrounded by agricultural lands, but the work location is not cultivated. No conversion of prime farmland from agricultural uses to non-agricultural uses would occur, and no farmland conversion impact rating is needed.

Contamination and Toxic Substances

There are no sites reporting to the United States Environment Protection Agency (USEPA) within 1 mile of the Project area, according to the USEPA Enviromapper webtool. The results of an Enviromapper multiple program search are depicted on a map in Attachment F.

All construction would be implemented in accordance with standard industry safety and handling methods. Typical best management practices would prevent the release of fuel or other hazardous materials associated with substation components, heavy machinery, or other equipment.

The Project is not expected to result in a release of hazardous substances.

Coastal Resources

No coastal resources are near the Project area (see Vicinity and Location Map).

Air Quality

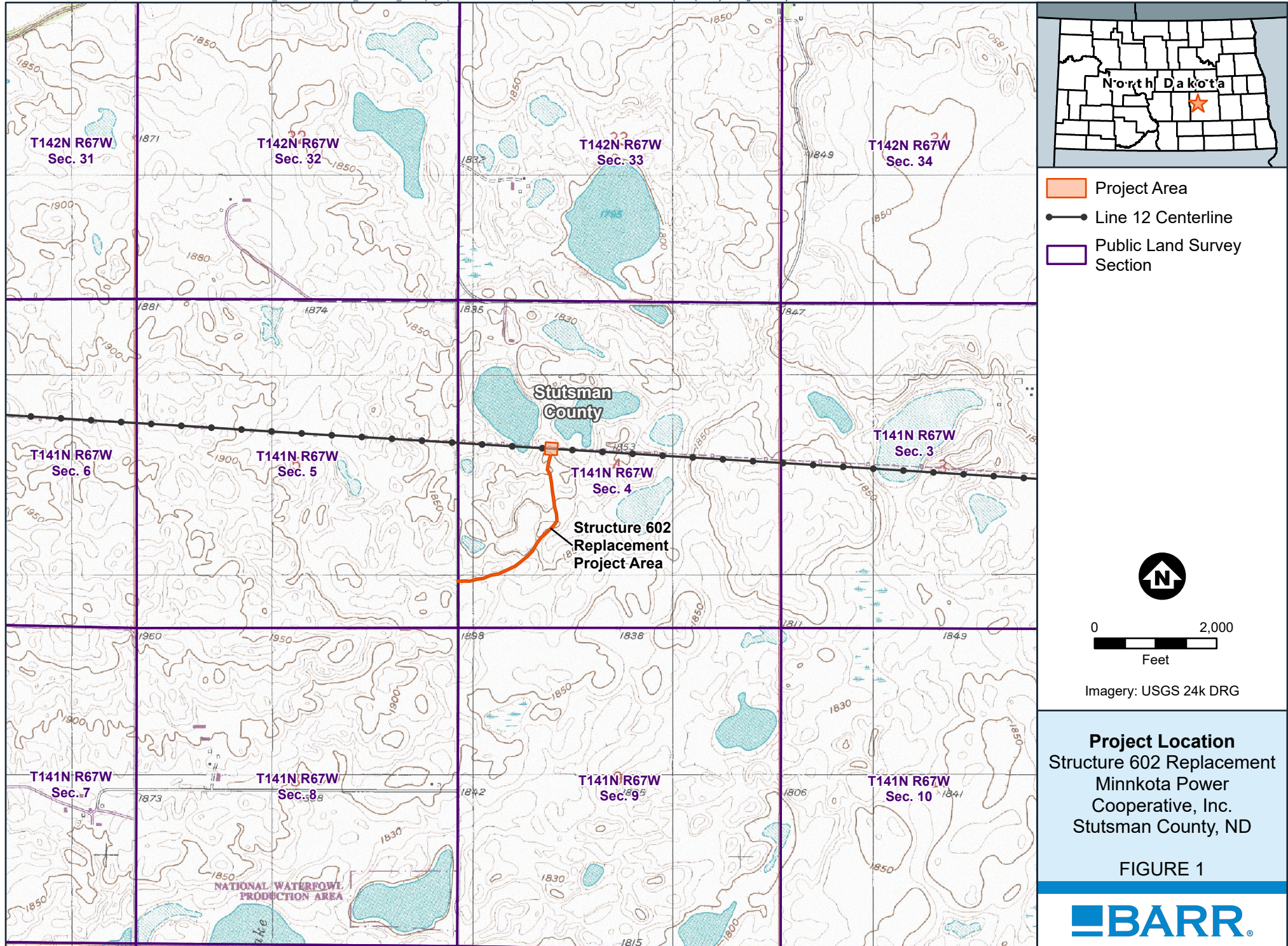
The Project is located in an attainment area. There are no USEPA stationary sources with an air pollution permit within 1 mile of the Project. A map depicting air quality attainment and permitting findings for the area is in Attachment G. The Project could have minor, temporary, and localized impacts on air quality, such as those associated with dust from grading and construction equipment emissions. All construction machinery will be compliant with applicable state and local emissions standards. No significant or permanent Project-related impacts on air quality are anticipated.

Water Quality

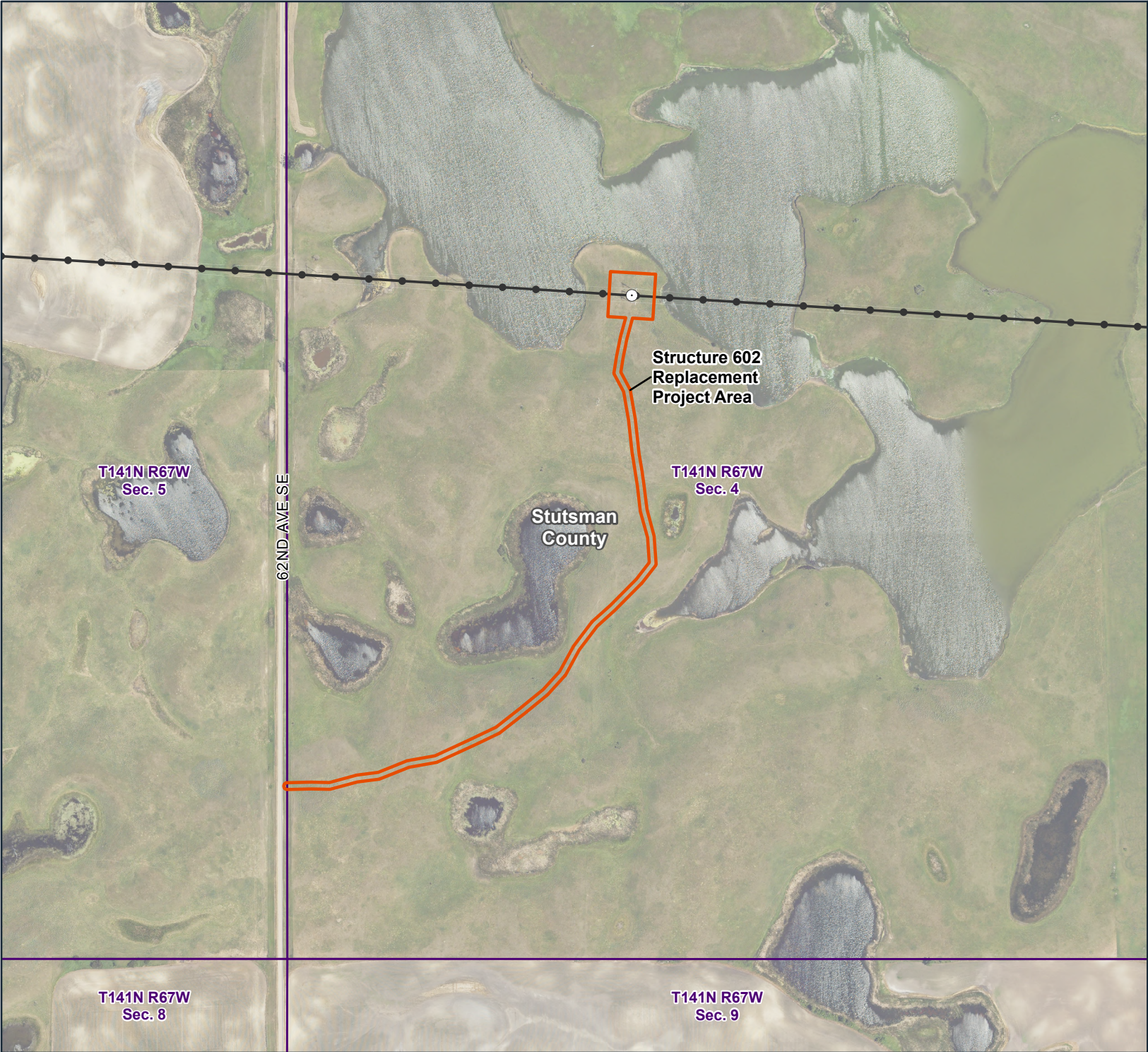
The Project is not within a 1-mile radius of a sole source aquifer. A map of water resources in the vicinity of the Project area is provided in Attachment H. Several large ponds and smaller lakes are within 1 mile of the Project. The nearest impaired waterbody (according to the North Dakota Department of Environmental Quality) is over a mile to the north of the Project area. According to NRCS soil ratings, the depth to groundwater at the Project area is over 80 inches. Excavations needed to install new poles would exceed this depth and saturated soils may be encountered. However, with the implementation of best practices to prevent spills and require the use of properly maintained equipment this is not likely to adversely impact groundwater. The Project is not expected to impact area water resources.

Less than 1 acre of soil disturbance is expected, and the Project is not part of a common plan of development. Therefore, the Project is not expected to require construction general permit coverage or the preparation of a stormwater pollution prevention plan to comply with National Pollutant Discharge Elimination System stormwater discharge regulations.

PROJECT LOCATION MAP



SITE LAYOUT MAP



-  Project Area
-  Structure 602
-  Line 12 Centerline
-  Public Land Survey Section



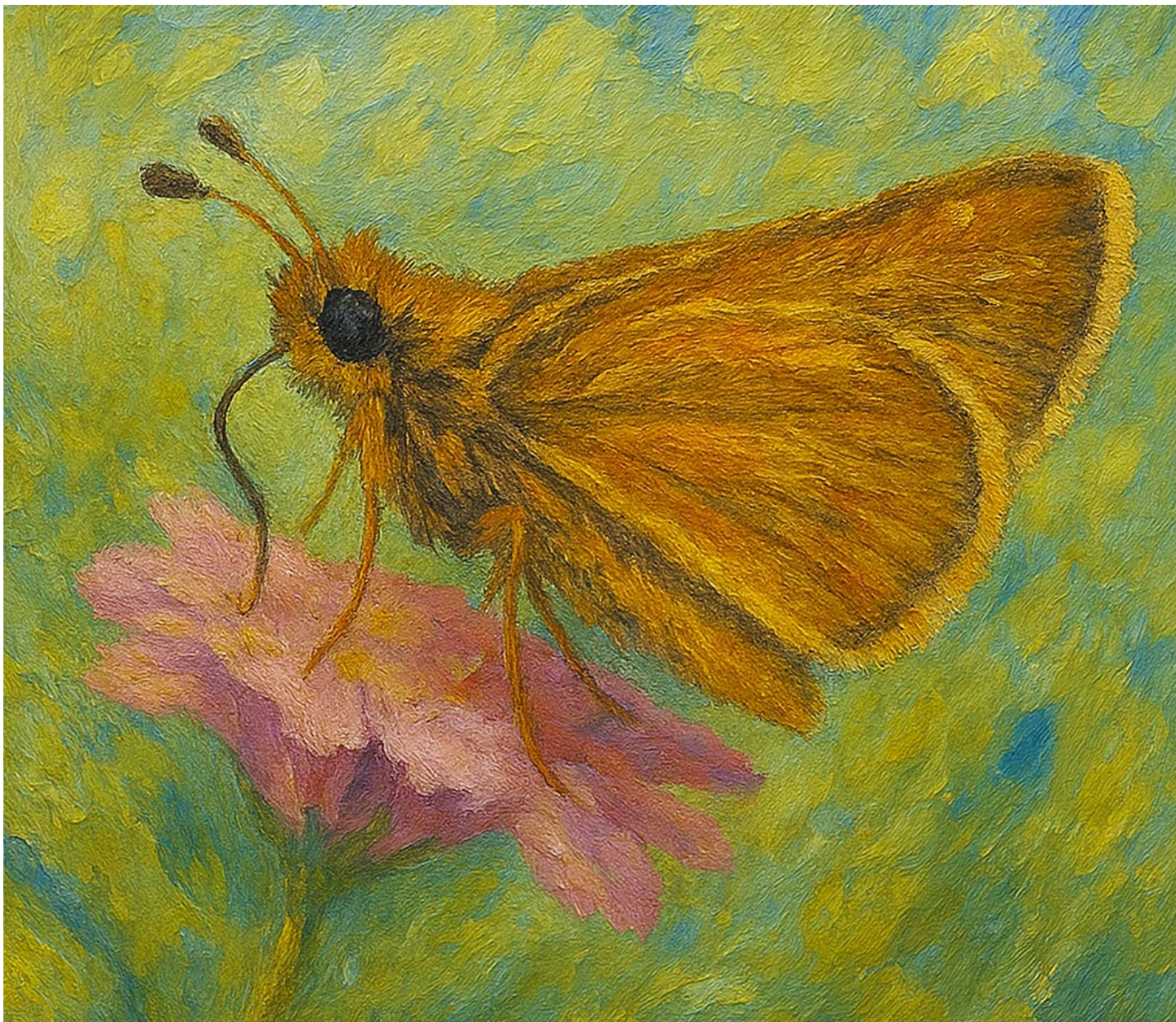
0 600
Feet

Imagery: USDA NAIP (2025)

Site Layout
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND

FIGURE 2

ATTACHMENT A: THREATENED AND ENDANGERED SPECIES



Biological Opinion

On the effects to the Dakota skipper from the replacement of three poles on a high-voltage transmission line in Stutsman County, ND.

USFWS North Dakota Ecological
Services Field Office

May 2026

Federal Action Agency: USDA
Rural Utilities Service

Artwork credit: AI-generated image (Microsoft Copilot, 2026)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

North Dakota Ecological Services
3425 Miriam Avenue
Bismarck, ND 58501



May 22, 2026

IN REPLY REFER TO:
Line 12 Structure
Replacement
2025-0108925

Russell Japuntich
Environmental Protection Specialist
Rural Utilities Service, Rural Development
1400 Independence Avenue, SW
Washington, DC 20250
Sent Via Email: Russell.Japuntich@usda.gov

Dear Mr. Japuntich:

Thank you for your consultation initiation package dated January 7, 2026, with the final biological assessment (BA) and your request for formal consultation with the U.S. Fish and Wildlife Service (USFWS or “Service”) under Section 7(a)(2) of the Endangered Species Act (ESA). The request concerns the proposed replacement of structure #602 part of Minnkota Power Cooperative’s existing Line 12 high voltage transmission line (the “Proposed Action”), which may be the recipient of financial assistance from the U.S. Department of Agriculture, Rural Utility Service (RUS). The structure’s cement foundation is severely degraded and needs replacement for continued operation. The structure is 25 miles NW of Jamestown in Stutsman County, North Dakota

The submitted BA analyzed effects of the Proposed Action on the federally threatened Dakota skipper (*Hesperia dacotae*), piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), and the federally endangered northern long-eared bat (*Myotis septentrionalis*), and whooping crane (*Grus americana*). The formal consultation request concerns your determination that the Project **“may affect, is likely to adversely affect”** the Dakota skipper. This letter transmits the Service’s biological opinion (BO) based on our review of the Proposed Action, as described in the BA.

Based on the Service’s analysis within the enclosed BO, it is our determination that the Proposed Action and its associated activities are not likely to jeopardize the continued existence of the Dakota skipper. Up to 0.1 acres of soil disturbance and 2.4 acres of soil and vegetation compaction to suitable reproductive habitat, and up to 0.6 acres of soil and vegetation compaction in dispersal habitat is expected as part of the incidental take for the Proposed Action as long as the specific terms and conditions outlined in the BO are followed.

The Proposed Action should be re-analyzed if any of the following occur:

- New information reveals effects of the action that may affect listed species in a manner or to an extent not previously considered.
- The identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation.
- A new species is listed, critical habitat is designated, or a change occurs to the listing status of a species or designated critical habitat that may be affected by this Proposed Action.

We appreciate your efforts to ensure the conservation of listed species as part of our joint responsibilities under the ESA. If you have any additional questions or concerns, please contact Jessica Johnson at (701) 355-8507 or via email at jessica_n_johnson@fws.gov or me at (720) 793-6797 or via email at luke_toso@fws.gov.

Sincerely,

Luke Toso
Acting Field Supervisor
North & South Dakota Field Office

CC: Kacey Borin, Environmental Specialist, Minnkota Power Cooperative, Grand Forks, North Dakota
Sara Simmers, Natural Resources Specialist, Meadowlark Environmental, Mandan, North Dakota

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ACRONYMS and ABBREVIATIONS

2025 BA-----	Biological Assessment for Line 12
Action Area-----	1-mile buffer around the Project Boundary
APE-----	Area of Potential Effect
Barr-----	Barr Engineering, Co
BA -----	Biological Assessment
BLM -----	Bureau of Land Management
BMPs -----	Best Management Practices
BO -----	Biological Opinion [“Opinion”]
C.F.R.-----	Code of Federal Regulations
DASK Model-----	Dakota Skipper Habitat Suitability Model (Barnes et al. 2024)
eDNA -----	Environmental DNA
ESA -----	Endangered Species Act
Ft-----	Feet
FR -----	Federal Register
IPaC-----	Information for Planning and Consultation
Meadowlark-----	Meadowlark Environmental, LLC
Minnkota-----	Minnkota Power Cooperative, Inc.
N.D. Cal-----	U.S. District Court for the Northern District of California
NDFO -----	North Dakota Field Office
NDGF -----	North Dakota Game and Fish Department
NDNRT -----	North Dakota Natural Resources Trust
NLCD -----	National Land Cover Database
Proposed Action -----	Replacement of Structure #602 of Line 12
Project Boundary -----	Footprint of the Proposed Action and boundary of on-site field assessments
ROW-----	Right of Way
RPM -----	Reasonable and Prudent Measures
RUS-----	U.S.D.A Rural Utilities Service
SSA -----	Species Status Assessment
U.S.C. -----	United States Code
USFS -----	U.S.D.A Forest Service
USFWS-----	U.S. Fish and Wildlife Service [“Service”]
USGS -----	U.S. Geological Survey

1.0 INTRODUCTION

The Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. §§ 1531 et seq.), section 7(b)(3)(A), requires the Secretary, to issue a written opinion detailing how the Federal agency action(s) may affect listed species or critical habitat. Specifically, a written opinion determines whether the action is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat (regulatory definitions found at 50 C.F.R. § 402.02). The jeopardy determination is made by evaluating the consequences of the proposed Federal action in the context of the species' current range-wide status, considering any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild. The key to making this finding is clearly establishing the role of the action area in the conservation of the species, and how the effects of the proposed action, taken together with cumulative effects, are likely to alter that role and the continued existence (i.e., survival) of the species. Therefore, in accordance with implementing regulations (50 C.F.R. § 402.14), the analytical framework for the jeopardy analysis relies on four components:

- 1) The **Status of the Species**, which evaluates the range-wide condition of the species, the factors responsible for that condition, and the species' survival and recovery needs.
- 2) The **Environmental Baseline**, which evaluates the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species.
- 3) The **Effects of the Action**, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on each species; and
- 4) **Cumulative Effects**, which evaluates the effects of future, non-Federal activities in the action area on the species.

Furthermore, ESA section 7(b)(3)(A) requires the Secretary to suggest reasonable and prudent alternatives for any action that is found likely to jeopardize the continued existence of listed species or result in the adverse modification of designated critical habitat. If the Secretary determines “no jeopardy,” then implementing regulations (50 C.F.R. § 402.14) require the Director to specify “reasonable and prudent measures” (RPMs) and “terms and conditions” necessary or appropriate to minimize the impact of any “incidental take” resulting from the action(s).

This Biological Opinion—referred throughout as ‘BO’ or the ‘Opinion’—addresses related effects to the threatened Dakota skipper (*Hesperia dacotae*) from the proposed project activities. The activities under review are structure replacements on the high voltage electric transmission Center-Maple River Line #12, specifically structure #602 (the “Proposed Action”) in Stutsman County, ND. U.S. Department of Agriculture Rural Utilities Service (RUS) would be funding the project and is the lead federal agency. Minnkota Power Cooperative, Inc. (Minnkota) owns the structures and would be managing the project to completion. Because of the potential for impacts that may adversely affect the Dakota skipper, further analysis was necessary. RUS, along with Minnkota, Barr Engineering, Co. and Meadowlark Environmental, LLC, completed a Biological Assessment (BA) for the threatened Dakota skipper that may be present in the action area; used herein to

further inform the Opinion analysis of effects of the Proposed Action on federally protected species pursuant to the ESA.

1.1 CONSULTATION HISTORY

June 16, 2025 –Kacey Borin (Minnkota Environmental Specialist) emailed the Luke Toso (ND Field Supervisor) requesting a meeting.

June 17, 2025 –Sara Simmers (Meadowlark Co-owner) was informed L. Toso is out of office and emailed Bowen Gutknecht (USFWS Fish and Wildlife Biologist) and Jerry Reinisch (USFWS Fish and Wildlife Biologist).

June 17, 2025 –Jerry Reinisch called Meadowlark and advises Dakota skipper occupancy surveys for Line 12 structure #602.

August 11, 2025 –S. Simmers submitted the Dakota skipper occupancy survey results to USFWS.

December 15, 2025 –S. Simmers talked to L. Toso and he was not as concerned about small acreage of impact and equipment crossing.

December 17, 2025 –Meadowlark informally submitted the BA to USFWS.

December 18, 2025 –S. Simmers and B. Gutknecht discussed the need for RUS to initiate consultation in writing and that RUS can designate Meadowlark as the non-federal representative. The timeline of the project and reporting requirements were also discussed.

December 19, 2025 –S. Simmers called Russell Japuntich (RUS Environmental Protection Specialist)-RUS will designate Meadowlark as the federal representative via letter.

January 7, 2026 –R. Japuntich submitted the final BA and initiated formal consultation on behalf of RUS.

January 21, 2026 –Jessica Johnson (USFWS Fish and Wildlife Biologist) requests a meeting with RUS, Minnkota and Meadowlark for introductions, and to go over the scope of the project and timelines.

January 28, 2026 –A kickoff meeting was held between RUS, Minnkota, Meadowlark and USFWS. Key items included verifying acreage, incorporating a high-quality seed mix, minimizing ground disturbance from vehicles and providing additional guidance on habitat assessment.

January 28, 2026 –Veronica Parsell (Senior Cultural Specialist, Barr Engineering) provided RUS, Minnkota, Meadowlark and USFWS with meeting notes from the project kickoff meeting.

January 28, 2026 -The Service issued a letter to RUS accepting submission of the BA as complete with indication that a BO is being drafted by USFWS.

January 29, 2026 –Sarah Simmers submitted a disturbance acreage summary table to the Service to resolve noted discrepancies.

March/April/May 2026 –Various emails and chat exchanges between the Service and proponents for BA clarifications, questions, and further data requests.

May 15, 2026 –Draft BO provided to the Federal action agency for review.

May 22, 2026 –Finalization of BO with signatures.

1.2 CHANGES TO REGULATIONS – MARCH 2026

On March 30, 2026, in *Center for Biological Diversity v. Burgum*, No. 24-cv-04651 (N.D. Cal.), the U.S. District Court for the Northern District of California vacated aspects of four provisions from the 50 C.F.R § part 402 regulations governing interagency consultation under section 7 of the ESA and reinstated the provisions that were previously in effect. Consistent with the Court’s ruling, these are the governing provisions for this consultation:

- “Destruction or adverse modification” means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.” 50 C.F.R § 402.02 (2018)
- “Effects of the action” refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the Action Area, the anticipated impacts of all proposed Federal projects in the Action Area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. Indirect effects are those that are caused by the proposed action and are later in time but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration.” ¹ 50 C.F.R § 402.02 (2018)
- “In formulating its biological opinion, any reasonable and prudent alternatives, and any reasonable and prudent measures, the Service will use the best scientific and commercial data available and will give appropriate consideration to any beneficial actions taken by the

¹ This definition includes the second sentence of the definition of “effects of the action.” That sentence provided the definition of “environmental baseline” in effect as of 2018. In the 2019 rule amending the 50 CFR part 402 regulations, the Services established “environmental baseline” as a stand alone definition. 84 Fed. Reg. 44976, 45016 (August 27, 2019). In the 2024 rule, the Services made minor revisions to the “environmental baseline” definition. 89 Fed. Reg. 24268, 24298 (April 5, 2024). The Court’s ruling did not touch upon that definition of “environmental baseline,” and it therefore remains valid. The definition is also fully consistent with the definition of “effects of the action” from 2018.

Federal agency or applicant, including any actions taken prior to the initiation of consultation.” 50 CFR 402.14(g)(8) (2018)

- “(a) Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and” 50 CFR 402.16(a) (2023)

We considered whether the effects analysis and the conclusions drawn from that analysis contained in this biological opinion and its incidental take statement would be different under either regulatory scheme (i.e., either the version of the provisions in place before the March 30, 2026, decision or the reinstated versions after the decision, as described above). We have concluded that our determinations would not differ under either regulatory scheme. Nor have we identified any additional effects to the listed species or designated critical habitat that are not already appropriately considered in this biological opinion.

To illustrate this conclusion, we have provided the following examples to show how the analysis under the reinstated regulations does not change our conclusions. For example, this biological opinion addresses effects that are likely to occur due to the removal of occupied suitable habitat. Effects that are likely but uncertain, such as habitat degradation from introduced or invasive species, are addressed using the best available science and the analysis is thorough. This biological opinion does not contain non-binding mitigation. The project proponent has proposed and committed to conservation measures (section 2.5) to minimize the effects of the Project. The Proposed Action also does not result in adverse modification to Critical Habitat. Our analysis is unchanged given the revised definitions.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 PROJECT OVERVIEW

This Biological Opinion analyzes the effects of replacing Structure #602 on the high voltage Center-Maple River Electric Transmission Line #12. The structure is approximately 25 miles NW of Jamestown in Stutsman County, ND on private land that is protected under a USFWS wetland easement.

The existing structure consists of three poles in a cement foundation. Due to weathering and age, the poles require replacement as part of proactive maintenance. The three new poles would be installed approximately ten feet from the existing structure, within the existing right-of-way (ROW). The new poles would be embedded 15 feet into the subsoil and would not require a concrete foundation. Once the new poles are in place, the old poles and cement foundation would be excavated and removed.

This total project footprint is approximately 3.1 acres. Of this area, 2.2 acres are associated with the access road, and 0.9 acres are within or adjacent to the Area of Potential Effect (APE) as shown in Table 1.

Table 1. Estimated Project Surface Disturbance Area²– Source: Meadowlark 2025 BA supplemental email 1.29.2026

Type of Disturbance	Estimated Project Surface Disturbance Area				
	APE		Access Route		Total
	Suitable Habitat	Dispersal Habitat	Suitable Habitat	Dispersal Habitat	
Soil Disturbance	0.1	-	-	-	0.1
Soil/Veg Compaction	0.8	-	1.6	0.6	3.0
Total	0.9	-	1.6	0.6	3.1

2.2 LOCATION

The proposed project, Replacement Structure #602, is located in Section 4, Township 141 North, Range 67 West, Stutsman County, North Dakota (**Figures 1 and 2**).

² Disturbance calculations are preliminary and are the maximum total disturbance for the proposed project. Actual disturbance may be less depending on construction techniques.

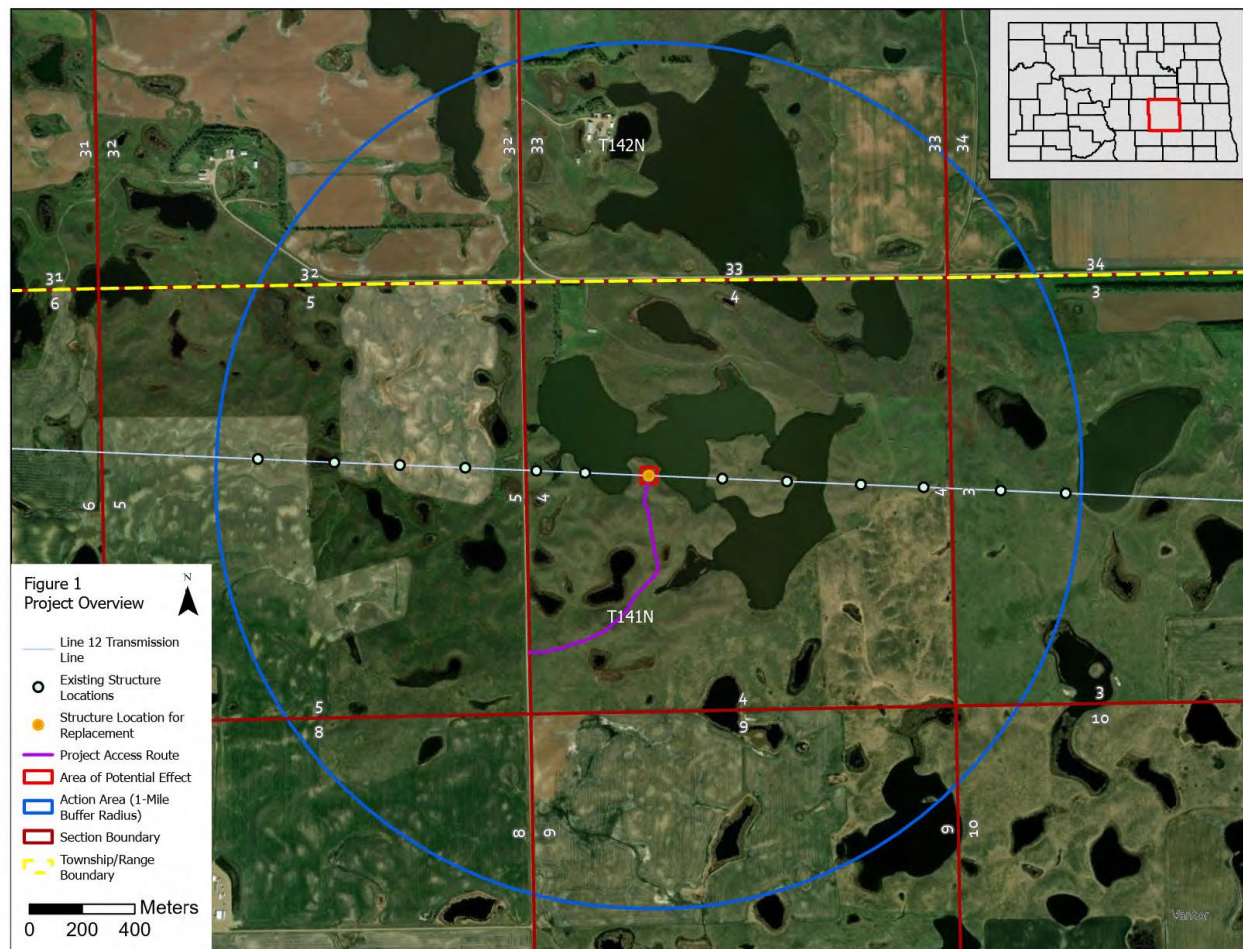


Figure -1. Map of the Proposed Action. *Source: Meadowlark 2025 BA.*

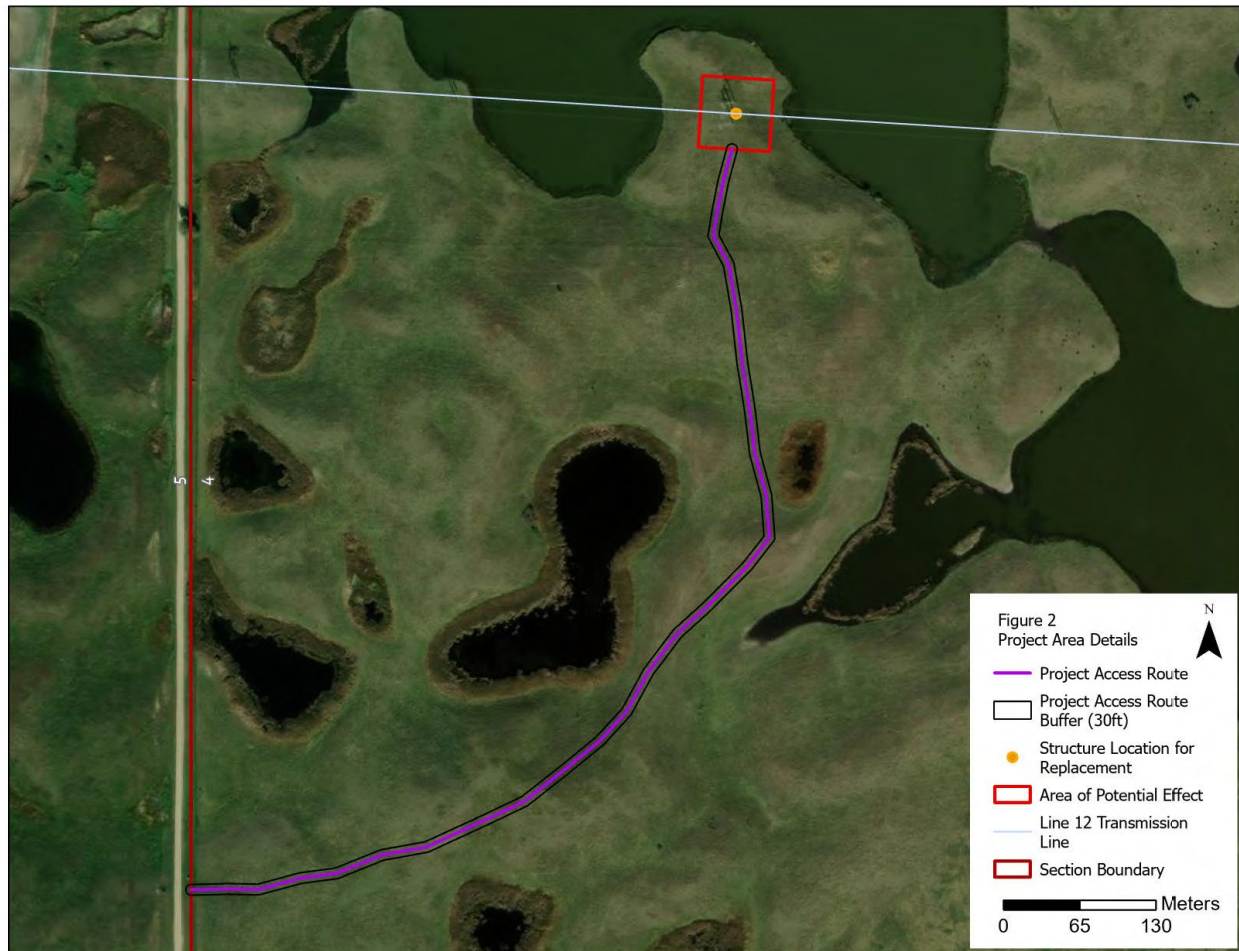


Figure 2. Map of Project Area Details. *Source: Meadowlark 2025 BA*

2.3 ALTERNATIVES CONSIDERED AND DISMISSED

The project did not consider alternative sites, as the replacement structure's location is constrained by the current transmission line centerline, ROW and geography of the site. A potential project alternative involved applying temporary repairs to the failing cement foundations. This option was dismissed because it would only provide a short-term remedy, require ongoing upkeep, and leave the structure at risk of failure. The proposed project offers a proactive solution to prevent severe line disruptions.

2.4 SUMMARY OF PROJECT CONSTRUCTION ACTIVITIES

The Proposed Action involves replacing three existing transmission poles with three new poles. The new poles would be positioned about ten feet west from the existing poles and would be along the current centerline and within the Minnkota ROW. The new poles would not require concrete foundations. Construction would utilize heavy equipment for installation and removal and is expected to take five days for installation plus one day for foundation removal.

The following descriptions of expected construction activities are from information provided during project meetings and notes, and the 2025 BA. The work is proposed to take place in August 2026 or later, prior to freezing conditions. Because of the high voltage, an outage will be required and will need to be coordinated with neighboring utilities and the Midcontinent System Operator Grid.

2.4.1 Heavy Equipment

For the proposed project, heavy equipment would be mobilized to the site and subsequently demobilized in a single coordinated effort to ensure efficiency and minimize disruption. The primary equipment roster would include a crane for lifting operations, two bucket trucks for elevated work, a digger truck for excavation tasks, and either a Lo-drill or highway digger to accommodate subsurface requirements. Additional machinery would consist of a skid steer for versatile site handling, a semi-truck equipped with a pole trailer for transporting structural components, and a rock truck for material movement.

To support daily operations, up to three service trucks would make routine trips to the site, providing necessary tools, personnel, and maintenance support. All other major equipment would remain stationed on-site for the duration of the construction phase to optimize workflow and reduce logistical delays.

Following the installation phase, a secondary trip would be required to remove existing cement foundations. This process would involve deploying an excavator for demolition and a dump truck for hauling debris off-site.

Access to the work area would be facilitated via a simple two-track path across the natural ground surface. This route would not be graded or converted into a formal roadway, thereby minimizing environmental disturbance and preserving the integrity of the surrounding landscape.

Preparatory staging of equipment and materials would occur during the week preceding the scheduled outage to ensure readiness and avoid downtime. The active construction window is anticipated to span approximately five days for the installation of the new structure, followed by an additional day dedicated to foundation removal and site restoration activities.

2.4.2 Structure Replacement and Removal

The current configuration includes three poles (Figure 3), all of which would be removed and replaced with three new poles. The replacement structure would be positioned approximately ten feet west of the existing alignment, following the transmission line centerline within the Minnkota ROW. The new poles would be embedded directly into the subsoil at a depth of about fifteen feet,

eliminating the need for concrete foundations. This approach reduces material use and minimizes the permanent project footprint.

Prior to initiation of any ground disturbing activities, a work zone area would be established, traffic control signage would be placed, erosion control devices would be installed and utility coordination would occur. Temporary lighting may also be placed for utilization during early morning and evening construction. As necessary, ROW, temporary construction easements, and/or permanent easements would be acquired. The total combined existing ROW, proposed ROW, and temporary easement acreage along the Proposed Action by land use type is outlined in Table 2.

Following the initial construction activities, the next phase would involve the excavation and removal of the existing transmission poles along with their associated concrete foundations. This process would require specialized equipment. Excavated materials, including concrete debris and pole remnants, would be moved off-site.



Figure 2. Photograph of line 12 Structure #602 existing structure. *Source: Meadowlark 2025 BA.*

2.4.3 Access Road

The designated access route would consist of a minimally developed two-track road across the natural surface. A two-track road, or "double-track," is typically formed by the repeated passage of off-road vehicles, trucks, or agricultural machinery, creating two parallel, unpaved ruts in the ground. There would be no grading or conversion into a formal roadway, thereby minimizing ground disturbance.

2.4.4 Total Acres

The total project footprint is estimated at approximately 3.1 acres. Within the defined Area of Potential Effect (APE), roughly 0.1 acres are anticipated to experience direct soil disturbance due to excavation and foundation removal. Additionally, a total of approximately 3.0 acres of soil compaction is expected for the project. In addition to the direct soil disturbance at the APE, there would be approximately 0.8 acres of soil compaction in the APE. There would also be a projected 2.2 acres of soil compaction along the proposed access route, which would follow a two-track path across the natural ground surface. The compaction footprint assumes a maximum route width of 30 feet along its entire length (Figure 4).

Table 2. Estimated Project Surface Disturbance Area by habitat classification .Source: Meadowlark 2025 BA supplemental email 1.29.2026

Habitat Classification	Project Component	Estimated Project Surface Disturbance Area		
		Soil Disturbance	Soil/Veg Compaction	Total
Suitable Habitat	APE	0.1	0.8	0.9
	Access Route	-	1.6	1.6
<i>Subtotals</i>		<i>0.1</i>	<i>2.4</i>	<i>2.5</i>
Dispersal Habitat	APE	-	-	-
	Access Route	-	0.6	0.6
<i>Subtotals</i>		<i>-</i>	<i>0.6</i>	<i>0.6</i>
<i>Totals</i>		<i>0.1</i>	<i>3.0</i>	<i>3.1</i>

2.5 PROPOSED CONSERVATION MEASURES

Used in context of the ESA, the proposed "conservation measures" represent the actions pledged by the Federal action agency that would be implemented to avoid and/or minimize effects to any federal protected resource that potentially occurs, and further the recovery of the species under review. Since these conservation measures are part of the Proposed Action, their implementation is required under the terms of the consultation (USFWS & NMFS 1998). The listed conservation

measures are:

2.5.1 General Environmental Commitments and Conservation Measures:

In order to minimize and mitigate for impacts to federally protected resources including but not limited to migratory birds, Minnkota plans to implement the following general conservation measures:

- The boundaries of approved work areas (i.e., the APE), the designated access route, and sensitive areas such as wetland boundaries and sensitive habitat would be clearly marked on engineering plans prior to construction.
- All construction-related vehicles must adhere to speed limits of **15 mph or less** and remain on designated access routes to minimize resource damage.
- Construction is planned for late July to early September (currently planned between July 25 to September 10) to avoid the migratory bird nesting season (February 1 to July 15).

2.5.2 Reclamation

The soil that is disturbed near the APE would be re-contoured to match topography of the original landscape, to the extent possible, reseeded with a seed mixture consistent with surrounding plant species and fitted with erosion controls. Maintenance of seeded areas would continue until the productivity of the stand is consistent with surrounding undisturbed vegetation and is free of noxious weeds.

2.5.3 Federally Protected Species Avoidance and Minimization Measures:

In order to minimize and mitigate potential impacts to federally protected species and habitats under the ESA—including, but not limited to, listed migratory birds and other sensitive wildlife, Minnkota would implement the following measures designed to avoid disturbance during critical periods, respond appropriately to species observations, and ensure compliance with all applicable federal requirements.

- Implementation of the *General Environmental Commitments and Conservation Measures* (Section 2.5.1)
- Construction is scheduled for late July through early September (currently July 25 to September 10) to avoid migration periods for the whooping crane (March 15–May 15 and September 10–November 15) and the rufa red knot (mid-May and mid-September to October).
- If a whooping crane is observed within one mile of the project area during construction, all work within that radius or within line of sight of the bird(s) would stop immediately. The Service would be contacted right away, and work may resume only after coordination with Service and once the bird(s) have left the area.

- North Dakota does not currently have documented northern long-eared bat roosts or foraging habitat. Evidence of a maternity colony was detected in 2024; however, the potential colony location does not overlap with the Proposed Action (USFWS 2025a; Hanna Edens, *pers. comm.* 2026). In addition, no trees or other suitable habitat are present near the replacement structure or access road, no conservation measures are required for the northern long-eared bat.

2.5.4 Dakota Skipper Species-Specific Avoidance and Minimization Measures:

RUS and Minnkota have determined the Proposed Action is likely to adversely affect the Dakota skipper. In order to minimize and mitigate for impacts to this species, Minnkota plans to implement the following species-specific conservation measures in addition to implementation of the *General Environmental Commitments and Conservation Measures* (Section 2.5.1):

- Construction would not occur between June 10 and July 25 to avoid the flight period of adult Dakota skippers.³
- Insecticide use is strictly prohibited within the project area. Herbicide applications would be limited to spot-spraying, and all applicators must be trained to accurately identify target species. Mechanical methods for controlling noxious weeds or invasive plants may be used instead of herbicides when work is near suitable Dakota skipper habitat or where herbicide drift could occur.
- Construction vehicles must adhere to speed limits of less than 15 mph and remain on designated access routes to reduce the risk of collisions with adult Dakota skippers and minimize dust impacts on plants essential to the species. Identified suitable Dakota skipper habitat that would not be directly impacted during construction activities would be fenced and avoided.
- Disturbed areas of occupied Dakota skipper habitat would be reseeded with a seed mix composed of native species and include grasses and forbs necessary for Dakota skipper lifecycle needs.

2.6 ACTION AREA

An action area encompasses “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 C.F.R. § 402.02). Determination of the action area relates to the *action* (“...modifications to the land, water, or air...” 50 C.F.R. § 402.02) proposed by the Federal action agency (USFWS & NMFS 1998). The action area encompasses the

³ Based on the Service’s analysis of effects, the primary driver of incidental take is surface disturbance within reproductive habitat. Visual disturbance and increased human presence in this area may result in adverse effects, but would not rise to the level of incidental take. If this timing stipulation is applied, it may prolong construction activities and extend interim reclamation activities. Our analysis assumes that this timing stipulation is *not* included as part of the Proposed Action, and the USDA RUS may apply this measure at their discretion.

project footprint, additional project components (e.g., staging areas access road), and the geographic extent of all stressors associated with the action. Stressors that define the action area may include, but are not limited to produced noise, vibrations, light and other visual disturbances, chemical pollution, silt and dust erosion and deposition, and/or ground disturbing activities.

For the Line 12 Structure #602 replacement project, the action area was developed with specific consideration of potential effects on the Dakota skipper, including the types and timing of potential stressors, species-specific habitat requirements, and relevant species-specific information and guidelines. Based on available data for road construction, the greatest distance construction noise would travel before attenuating back to background levels is approximately 5,482 ft (~1 mile) (Knauer et al. 2006; WSDOT 2025). The construction noise from the Proposed Actions would be similar to road construction noise, therefore, the Service has determined that a 1-mile buffer surrounding the project footprint appropriately defines the action area and sufficiently encompasses all reasonably foreseeable construction-related and road-related stressors (Figure 1).

The action area was further refined by Meadowlark using three terms that distinguish the different types of project-related impacts expected to occur within the action area. The areas are the Area of Potential Effect, the Project Area and the Dakota Skipper Survey Area. Together, these three delineations provide a structured framework for defining how and where the project may influence environmental resources and ensure that effects to Dakota skipper habitat are fully and appropriately evaluated.

2.6.1 Area of Potential Effect (APE)

The APE represents the smallest of the three analysis areas used for Line 12 and is used specifically to identify where direct project-related effects are expected during the replacement of Structure #602. The APE includes the immediate project footprint, which is the location of the structure to be replaced, the area of the replacement structures and adjacent areas with soil disturbance and compaction related to the construction. The APE captures where land disturbance, vegetation removal, ground compaction, equipment operation could measurably affect resources

2.6.2 Project Area

The Project Area includes the Area of Potential Effects (APE), the access road itself, and a 30-foot buffer surrounding the access road, representing the portion of the landscape disturbances are reasonably certain to occur and may affect Dakota skipper individuals or habitat. The access road is included because vehicle and construction equipment travel along this corridor could result in direct take of adult skippers through collision or displacement during the flight period, and because ground disturbance on and around the road alters vegetation conditions relied upon by both adults and larvae. The 30-foot buffer is included because it captures the zone where road-associated dust, soil disturbance, and microclimatic changes measurably alter prairie habitat conditions (EPA 1995). Dust generated by vehicle tires and equipment settles most heavily within roughly 5–10 meters of the road surface, coating vegetation in a manner that reduces photosynthesis, nectar production, and the quality of larval host grasses (Van der Ree et al. 2015); these effects diminish rapidly with distance, making a 30-foot buffer an ecologically meaningful boundary. Soil compaction associated with vehicle movement and equipment operation is also most severe immediately adjacent to the road and reduces soil infiltration and moisture

availability, which in turn diminishes the vigor of native bunchgrasses needed by the species. In addition, localized microclimate shifts—such as changes in heat, wind exposure, and humidity near the disturbed road edge affect sensitive early life stages of prairie butterflies. Because these impacts are strongest close to the road and dissipate quickly outward, the 30-foot zone appropriately represents the area where the project’s construction and operational activities are expected to have the greatest influence on Dakota skipper habitat. Although the access route would be temporary in nature and habitat degradation within both reproductive and dispersal habitat is expected to be short-term, this impact analysis area ensures that all direct and indirect effects within the Project Area are properly evaluated.

2.6.3 *The Dakota Skipper Survey Area*

The Dakota Skipper Survey Area consists of the Project Area plus a 500-meter buffer extending outward from the project footprint. This buffer represents the species’ potential movement and dispersal zone. Including it in surveys and habitat assessments helps ensure that impacts to both breeding habitat and dispersal pathways are fully understood (USFWS 2025a). This approach aligns with the species’ limited mobility, as adult Dakota skippers typically travel only short distances, making populations highly sensitive to disturbances near occupied habitat.

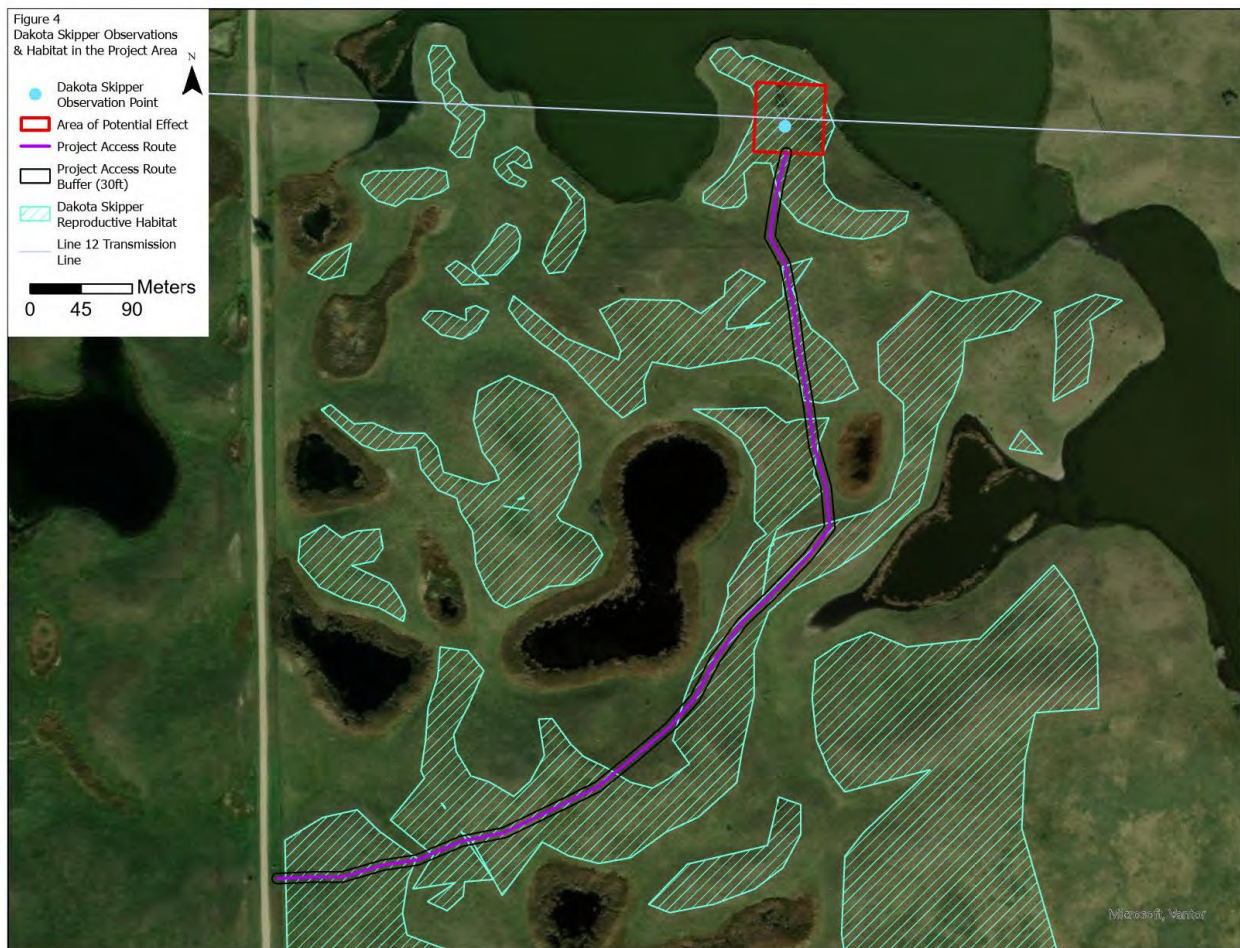
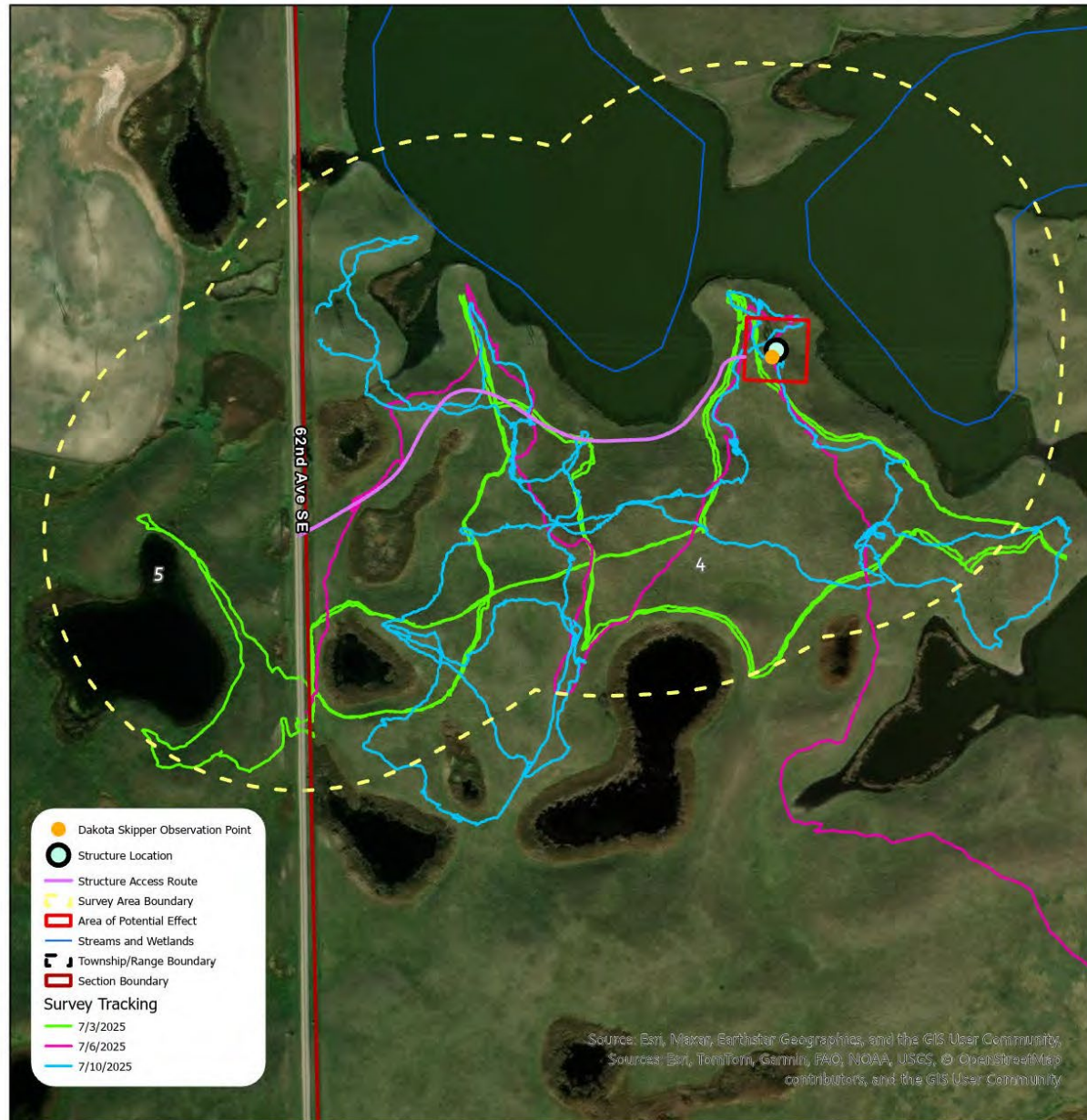


Figure 4. Dakota Skipper Habitat in the Project Area. *Source: Meadowlark 2025 BA.*

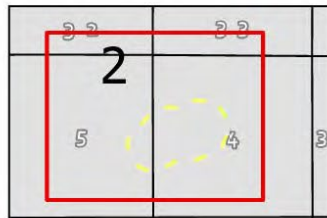


0 0.13 0.25 Miles

Project No. 005-054

Date: 07/31/25

Drawn by: TAA



Occupancy Survey Tracklog Coverage

Line 12 Structure Replacement
Pole 602
Minnkota Power Cooperative, Inc.
Stutsman County, North Dakota

Figure

2

Figure 5. Dakota Skipper Survey Tracklog. *Source: Meadowlark 2025 BA.*

3.0 STATUS OF THE SPECIES & CRITICAL HABITAT: DAKOTA SKIPPER

Pursuant to implementing regulations (50 C.F.R. § 402.14 (g)(2)), the Service has a responsibility to “evaluate the current status...of the listed species or critical habitat” during formal consultation. The status of the species is based on an analysis of appropriate information, such as the species’ life history, habitat and distribution, and other data on factors related to its survival and recovery. This analysis considers the effects of past human and natural activities or events that have led to the current status of the species. Pertinent information is gathered from various materials such as listing rules – including critical habitat designations, recovery plans, scientific studies and databases.

3.1 LEGAL STATUS

The Federal Register (FR) notice of a final rule for the Dakota skipper (*Hesperia dacotae*) was published on October 24, 2014, which established the species as threatened species status under the ESA with a 4(d) rule (79 FR 63672). The listing of the Dakota skipper and the 4(d) rule became effective November 24, 2014. The Service designated 19,903 acres (8,054 hectares) of critical habitat for this species on October 1, 2015 (80 FR 59247).

3.2 SPECIES DESCRIPTION

The Dakota skipper is a member of the “branded” skipper family Hesperiidae, first described in 1911 from collections taken at Volga, South Dakota, and Grinnell, Iowa (Skinner 1911 *in* Royer and Marrone 1992). It is a small to medium-sized butterfly with a robust body, narrow angular forewings, shorter more rounded hind wings, with a wingspan of 2.4-3.2 centimeters (cm) [0.9 to 1.3 inches (in)] and hooked antennae (Royer and Marrone 1992). The dorsal surface of adult male wings ranges in color from tawny orange to brown and with prominent marks on the forewing; the ventral surface is a dusty yellow-orange (Royer and Marrone 1992). The dorsal surface of adult females is darker brown with diffused tawny orange spots and a few diffused white spots restricted to the margin of the forewing; the ventral surface is a dusty gray-brown with a faint white spotband across the middle of the wing (Royer and Marrone 1992). Dakota skipper pupae are reddish-brown, and the larvae are light brown with a black collar and dark brown head (McCabe 1981) with early instars being described as green with a dark head and collar (Dana 2018, pers. comm. *in* USFWS 2018).



Figure 6. A) Larva emerging from egg; B) Later stage larva; C) Adult female; D) Adult Male, stigma hidden. *Source: USFWS 2018.*

3.3 SPECIES GENERAL LIFE HISTORY

Dakota skippers undergo four fundamental life stages: egg, larva, pupa, and adult. Dakota skippers are univoltine (having a single flight per year), with an adult flight period that may occur from the middle of June through the end of July (McCabe 1979, 1981; Dana 1991; Royer and Marrone 1992; Skadsen 1997; Swengel and Swengel 1999; Rigney 2013). This flight period varies across the range, and from year-to-year depending on climatic conditions, but within a locality it usually lasts 2 to 4 weeks; the adult lifespan is potentially 3 weeks long, but the average life span is typically between 3 and 10 days (McCabe and Post 1977; McCabe 1979, 1981; Braker 1985; Dana 1991, Swengel and Swengel 1999).

Mating occurs during the Dakota skipper flight period. Adult males can be observed exhibiting perching behavior (sitting on a tall plant) or patrolling in search of mating opportunities (Royer and Marrone 1992; Royer et al. 2014). In Minnesota, perched males were found on flowers growing 0.3-0.5 meters (m) above the grass canopy from which they left to chase any potential mating opportunity (Dana 1991). Each adult female can lay between 180 and 250 eggs throughout the flight period (Dana 1991). Eggs are laid on various broadleaf plants and grasses, where they incubate for approximately 7 to 20 days prior to hatching – a process likely completed before the end of July (Dana 1991, Runquist 2014, pers. comm. *in* 79 FR 63672). Under controlled captive rearing conditions, Dakota skipper eggs hatched after 11 to 16 days with most of the caterpillars hatching on the 13th and 14th day (Runquist 2014, pers. comm. *in* USFWS 2018).

After hatching, Dakota skipper larvae crawl to the base of grass plants where they form shelters at or below the ground surface (between 0-2 cm deep). The shelters are built with silk, fastened together with plant tissue and are reconstructed 2 or 3 times to accommodate larval growth (Dana 1991). At night, Dakota skipper larvae emerge from constructed shelters to forage and appear to clip blades of grass to bring with them back to their shelters to consume (Dana 1991, Dana 2012 pers. comm. *in* 79 FR 63672; McCabe 1979, 1981; Royer and Marrone 1992).

During their life cycle, Dakota skippers have six or seven larval stages (instars) and overwinter (diapause) in their ground level or subsurface shelters during their fourth or fifth instar (Dana 1991). In the spring, larvae emerge to resume feeding and undergo two additional molts before they pupate. During these last two instars, larvae shift from construction of buried shelters to

horizontal shelters at the soil surface (Dana 1991).

3.4 SPECIES HABITAT REQUIREMENTS

Dakota skippers have been documented throughout wet-mesic tallgrass prairies and dry-mesic mixed grass prairies (Royer and Marrone 1992; Royer et al. 2008). Adult Dakota skippers need regular access to nectar sources, which provides the necessary water and carbohydrates to support survival and reproduction (Dana 1991). Unlike other skipper species, adult Dakota skippers do not obtain water from mud, pond margins, or other surface water features (Dana 1991). Larval Dakota skippers' survival partly relies on the microclimate (i.e., relative humidity and temperature) at the soil surface/subsurface (0-2 cm deep), which makes it an important larval habitat element (USFWS 2018). During spring and winter, Dakota skipper larvae are especially vulnerable to desiccation (drying out) from drought (Royer 2016 per. comm. in USFWS 2018). During the summer months larval desiccation can also be a concern if vertical water distribution, movement of shallow groundwater to the soil surface, is not present; and if severe enough, direct adult mortality can occur due to a lack of nectar sources (USFWS 2018). Over winter, it is thought humidity may be an essential component for larval survival since the larvae cannot take in water during that time (Royer et al. 2008, Dana 2013 pers. comm. in 79 FR 63672).

Dakota skipper larvae require native grasses with dense clusters of erect blades with abundant edible leaf tissue for them to forage and build their shelters (Dana 1991). Dakota skipper larvae feed on several native grass species, such as *Panicum* spp., *Poa* spp., and *Dichanthelium* spp., with little bluestem (*Schizachyrium scoparium*) observed as a frequent food source (Dana 1991, Royer and Marrone 1992). Large leaf blades, leaf hairs, and the distance from larval ground shelters to palatable leaf parts preclude the value of certain native grasses, such as big bluestem (*Andropogon gerardii*) and Indiangrass (*Sorghastrum nutans*), as larval food plants, particularly at younger larval stages (Dana 1991). Morphological unsuitability for shelter building and foraging was shown by a captive rearing study where some Dakota skipper larvae were only given access to certain native and introduced grass species. Two invasive species, Kentucky bluegrass (*Poa pratensis*) and smooth brome (*Bromus inermis*), used as host grasses resulted in reduced survivorship, reduced weight, and delayed pupation (Runquist & Nordmeyer 2018).

In 2008, an extensive categorization of the non-biotic environmental features found in prairies with Dakota skipper populations was completed (Royer et al. 2008). From this study, researchers were able to define Dakota skipper "suitable habitat": habitat that contains the necessary elements for breeding, feeding and sheltering behaviors into two core types, "Type A" and "Type B" (further defined below) (Royer et al. 2008). Other herbaceous habitats that do not meet "suitable habitat" (i.e., Type A or Type B habitat) can be important, such as "dispersal/foraging habitat" – habitat lacking some components necessary for reproduction. Dispersal/foraging habitat usually consists of undeveloped open areas dominated by perennial grass with limited or no barriers to dispersal and tree or shrub cover usually less than 25 percent of the area.

Type A habitat consists of low wet-mesic prairie with little topographic relief that occurs on near-shore glacial lake deposits. These areas can have a high-water table and be subject to intermittent flooding in the spring. However, there is sufficient relief, via depressional wetlands (low topographical areas that allow for surface water collection), extensive flat areas, and convex

landforms, to provide necessary non-inundated habitat during the spring larval growth period (Royer et al. 2008). Type A habitat occurs primarily in North Dakota, central and western Manitoba, Canada – specifically the “Interlake” region (between lakes Winnipeg and Manitoba) of central Manitoba (Westwood 2018 per. comm. in USFWS 2018) – and potentially portions of northeastern South Dakota (Skadsen 1997; Royer et al. 2008; USFWS 2018). This core habitat type is typically dominated by bluestem grasses and has three primary forb species: wood lily (prairie lily; *Lilium philadelphicum*); bluebell bellflower (*Campanula rotundifolia*); and mountain death camas (smooth camas; *Zigadenus elegans*), which are always present and blooming during the Dakota skipper flight period (McCabe 1981). Other forbs that are present in this community include Rocky Mountain blazing star (*Liatris ligulistylis*), Canada goldenrod (*Solidago canadensis*), strict blue-eyed grass (*Sisyrinchium montanum*), common goldstar (*Hypoxis hirsuta*), and black-eyed Susan (*Rudbeckia hirta*) (Lenz 1999). Type A habitat will also usually contain small patches of dry-mesic prairie that contains forbs such as, stiff sunflower (*Helianthus pauciflorus*) and candle anemone (*Anemone cylindrica*) (Lenz 1999).

Not only is there some variation in the plant species composition of Type A habitat across the range, but Dakota skipper nectaring preferences also appear to vary. Reported use of the three primary forbs indicative of Type A habitat differed between North Dakota and Manitoba populations. North Dakota populations showed use of bluebell bellflower and mountain death camas but McCabe added that “at no stage is the skipper dependent on camas...” (McCabe 1981). Manitoba populations, however, showed no use of bluebell bellflower or wood lily as a nectar source and mountain death camas comprised <1% of all nectaring observations (Rigney 2013). Though Dakota skippers have been overwhelmingly observed using native forbs, there have been observations of some nonnative forb use, such as white sweet clover (*Melilotus alba*) in Manitoba (Rigney 2013). For both North Dakota and Manitoba populations, observations of nectaring were more frequently reported for black-eyed Susan than on any other on-site plant species (McCabe 1981; Rigney 2013) indicating its importance as a Type A habitat nectar source across the range. These observations indicate that Dakota skippers appear opportunistic in their foraging, habitats, and appear to nectar on flowers that are blooming during their flight period.

Type B habitat occurs primarily on rolling terrain over gravelly glacial moraine deposits in Minnesota, North Dakota, South Dakota, and western Manitoba (USFWS 2018). Type B habitat is dominated by little bluestem (*Schyzachirum scoparium*), needle or porcupine grasses (*Hesperostipa* spp.), big bluestem, and sideoats grama (*Bouteloua curtipendula*) (Royer et al. 2008); prairie dropseed (*Sporobolus heterolepis*) is also common in the eastern portion of the range (Skadsen 2006). Similar to Type A habitat, wood lily and bluebell bellflower are present, but purple coneflower (*Echinacea angustifolia*) appears to be the most visited forb species used as a nectar source during the adult flight in this core habitat type (McCabe 1981; Dana 1991; Swengel and Swengel 1999). Other Type B habitat forb species include upright prairie coneflower (*Ratibida columnifera*) purple prairie clover (*Dalea purpurea*), white prairie clover (*D. candida*), yellow sundrops (*Calylophus serrulatus*), lambs tongue groundsel (*Senecio integerrimus*), groundplum milkvetch (*Astragalus crassicaarpus*), eastern pasqueflower (*Pulsatilla patens*), old man's whiskers (prairie smoke, *Geum triflorum*), western silver aster (*Symphyotrichum sericeum*), dotted blazing star (*Liatris punctata*), tall blazing star (*Liatris aspera*), meadow zizia (heartleaf golden alexanders; *Zizia aptera*), blanket flower (*Gaillardia* sp.), prairie sagewort (*Artemisia frigida*), leadplant (*Amorpha canescens*), and prairie milkvetch (*Astragalus laxmannii*) (Dana 1997; Skadsen 2006).

3.4.1 North Dakota Habitat

In North Dakota, these wet- and dry-mesic prairie habitats (i.e., Type A and Type B) can be found along the rolling terrain of river valleys, glacial lake shores, and the Missouri Coteau typified by bluestem and needle grasses, with typical forbs such as wood lily, bluebell bellflower, coneflowers, and other asters as nectar sources (Royer and Marrone 1992; Royer et al. 2008). Many of the suitable prairie remnants found throughout North Dakota have persisted over time due to the steep topography and unsuitable soils for agriculture use (Royer and Marrone 1992). However, many of these prairie remnants are undergoing invasion from introduced species, such as Kentucky bluegrass and smooth brome, that have unsuitable morphology for adequate larval shelter building (Runquist & Nordmeyer 2018) and displace or extirpate native larval food plants (78 FR 63578).

3.5 SPECIES RANGEWIDE DISTRIBUTION

Dakota skippers were historically found in native prairies across five U.S. states (Illinois, Iowa, Minnesota, North Dakota, and South Dakota) and two Canadian provinces (Manitoba and Saskatchewan) (Figure 7). It was speculated that Dakota skipper populations might also occur in far eastern Montana and southeastern Saskatchewan, as habitats similar to those occupied by the species in northwestern North Dakota exists there (Royer and Marrone 1992). After 40 years of searching, the Dakota skipper was subsequently found in Saskatchewan in 2001 (Hooper 2002, pers. comm. in 79 FR 63672); no actual records have been found in Montana and Royer (2002, pers. comm. in 79 FR 63672) no longer thinks the species has occurred in Montana. The last known occurrence record of the species in Illinois was 1911 and in Iowa it was 2000 (USFWS 2018). The species is presumed to be extirpated from Illinois, Iowa, and southeastern Minnesota (79 FR 63672).

The Service's ability to precisely define the species' historic distribution is limited due to widespread conversion of prairie to other land uses before the first reported record of the species. Prior to the 1960s, few records exist. As such, these historically known populations are likely a fragmented remnant of what was once a larger panmictic Dakota skipper population. This presumption, that Dakota skippers formerly had a relatively continuous distribution across the historic range, is supported by an analysis that found small genetic divergence (genetic distance) among sites in Minnesota and South Dakota, indicating these populations were once connected (Britten and Glasford 2002). Today, the Dakota skipper and its habitat continue to experience declines. Habitat destruction and degradation has and continues to be the main threat, limiting populations to the current, sometimes fragmented, native prairie remnants in three U.S. states (Minnesota, North Dakota and South Dakota) and two Canadian provinces (McCabe 1981; Royer and Marrone 1992; Schlicht and Saunders 1994; Royer 1997; Schlicht 1997, 1997a; Skadsen 1997, 1999; Swengel and Swengel 1999; 79 FR 63672; USFWS 2018).

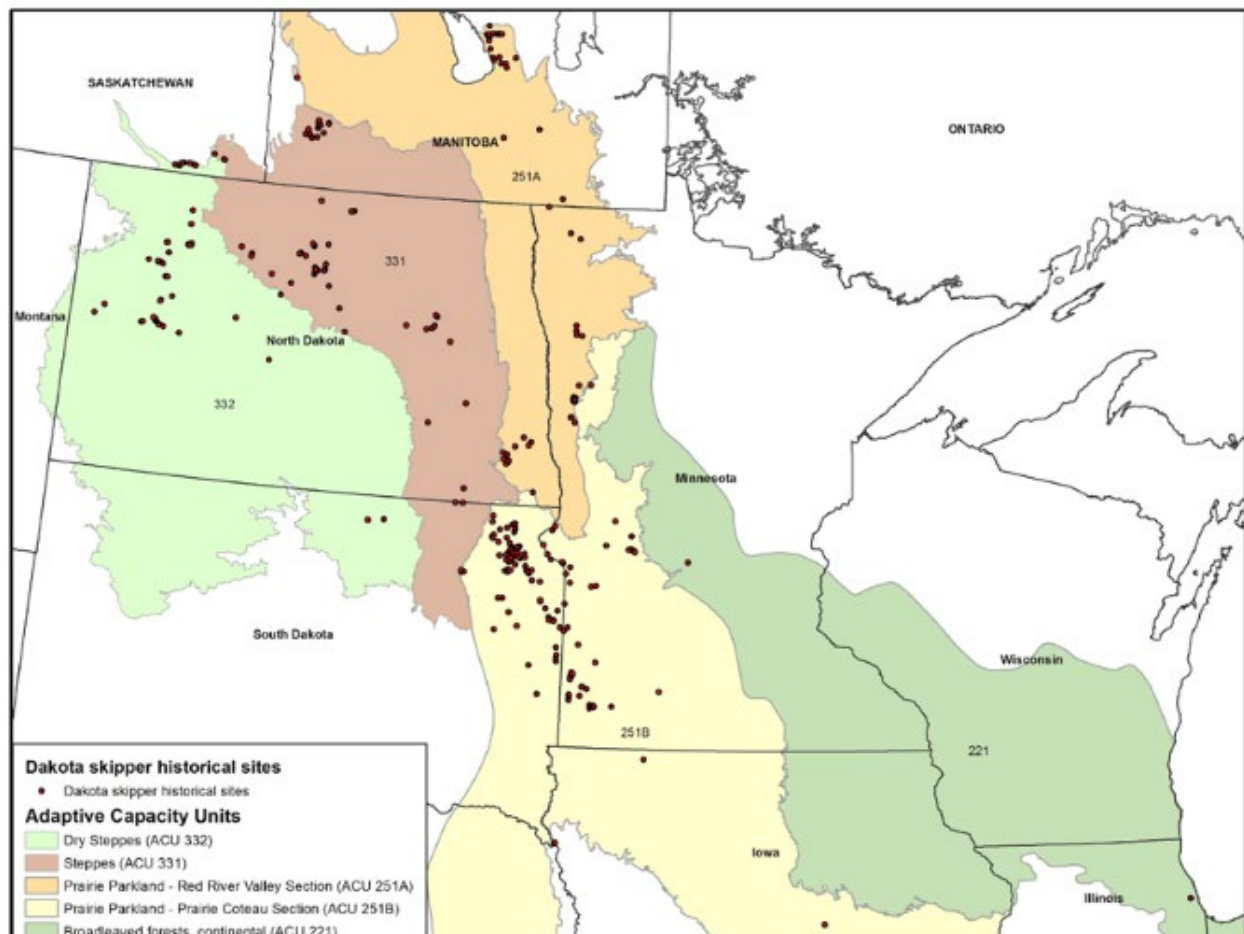


Figure 7. Adaptive Capacity Units (colored zones) represent the presumed historic distribution of the Dakota Skipper; Dots represent historic Dakota skipper survey sites up to 2017. Source: USFWS 2018.

To aid ESA consultations in the United States, the Service has defined the current Dakota skipper range using course grassland modeling and Dakota skipper observations (USFWS 2023). The current range consist of approximately 18,550,274 acres across Minnesota, North Dakota, and South Dakota; approximately 14,995,575 acres of the current U.S. range resides in North Dakota (Figure 8).

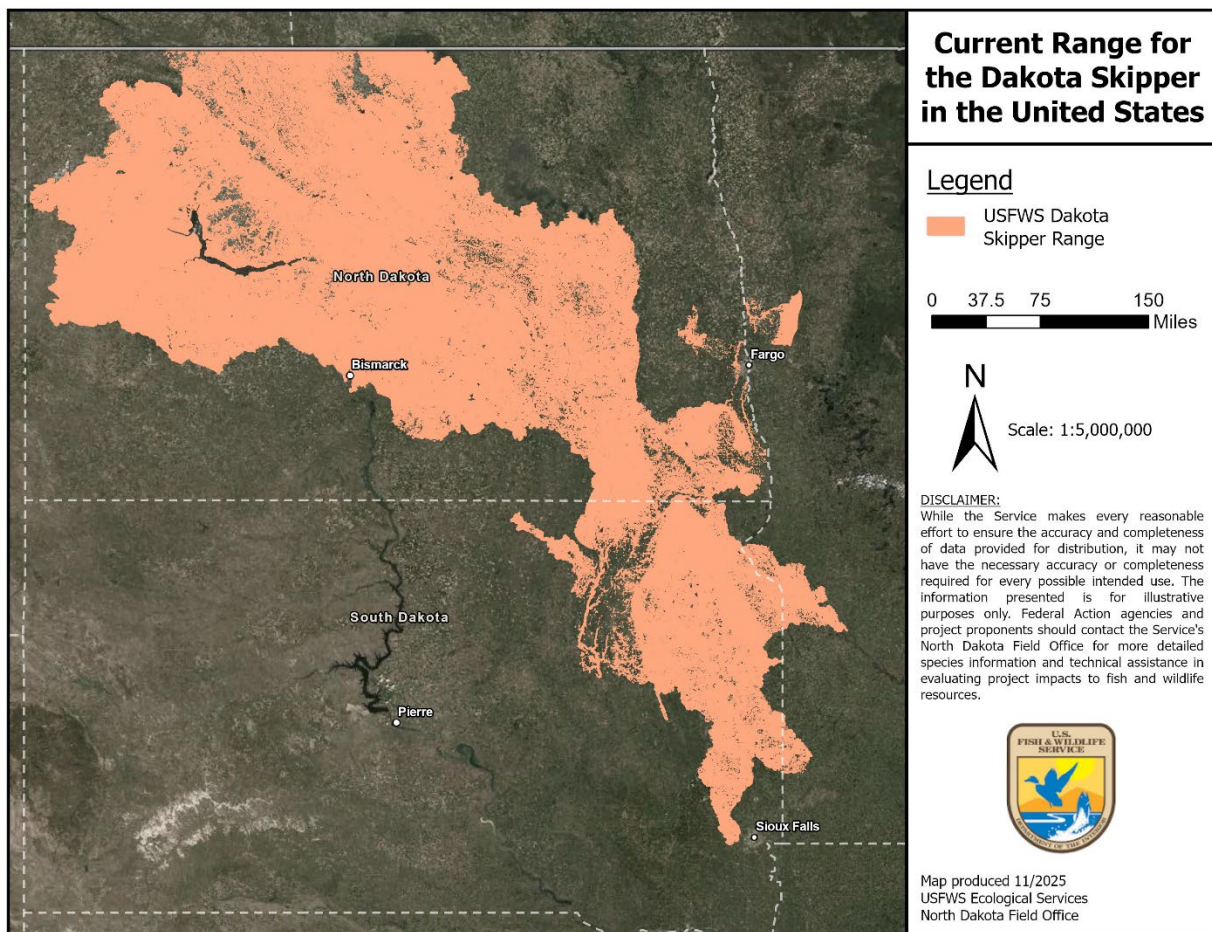


Figure 8. Current Dakota Skipper Range in the United States. *Source: USFWS 2023.*

Though Dakota skippers have a faster, more powerful flight than most butterflies due to a thick, well-muscled thorax (Scott 1986), they are not known to disperse widely due in part to a short adult life span and single annual flight. Experts estimate the Dakota skipper has a mean mobility of 3.5 (standard deviation = 0.7) on a scale of 0 (sedentary) to 10 (highly mobile) (Burke et al. 2011; Fitzsimmons 2012 pers. comm. in 79 FR 63672). In a mark-recapture study, the average adult movement of Dakota skippers was less than 300 m (984 ft) over a 3-to-7-day period. This is reduced to less than 200 m (656 ft.) when unsuitable habitat is located between two prairie patches (Dana 1991). Furthermore, Dakota skippers are observed moving along ridges more frequently than across valleys, even less so when those valleys contain other suspected impediments for movement such as roads and crop fields. One researcher did report adult Dakota skipper movement of at least 800 m (2625 ft) between two sites, connected by native vegetation of varying quality interspersed with roads; however, the site they moved into had unusually heavy purple coneflower growth that year (Skadsen 1999; Skadsen 2001 pers. comm. in 79 FR 63672). Therefore, it is generally understood that Dakota skippers may be incapable of movements greater than 1 kilometer (km) (3281 ft) between patches of prairie habitat; and, though not inclined to disperse, activity areas likely shift in response to nectar source availability or perceived mating opportunity (Royer and Marrone 1992; McCabe 1979, 1981; Cochrane and Delphey 2002). Thus, species' extirpation from a site is likely permanent unless they are near (~1 km) another site that

can supply enough dispersing individuals, or they are artificially reintroduced to a site (79 FR 63672).

To better understand population level status, the Service grouped confirmed Dakota skipper observation records into metapopulations, comprised of subpopulations occupying habitat patches that are on average less than 5 km but no more than 6.5 km from one another (USFWS 2018). At this distance, uncertainties regarding the shape and extent of the habitat patch containing an observation point are addressed (see USFWS 2018 for more details).

Based on all known historical records, at least 145 metapopulations, comprised of approximately 303 subpopulations have existed across the range (USFWS 2018). However, the historical distribution of the Dakota skipper may never be precisely known because "much of the tallgrass prairie was extirpated prior to extensive ecological study" (Steinauer and Collins 1994), such as butterfly surveys, and likely before the species was first described in 1911 (Skinner).

As of 2017, the fragmented Dakota skipper population consists of 75 metapopulations comprised of approximately 157 subpopulations (USFWS 2018). Many of these identified metapopulations (42 out of 75 (56%)) have a less than 0.5 predicted probability of persistence; however, the actual health of these populations may be overstated (USFWS 2018). Subpopulation health can further inform status of the species. Of the 157 subpopulations identified only five (5) have more than a 70% chance of survival, with a vast majority (78%) of subpopulations having less than a 50% chance of survival, over the next 10 years (USFWS 2018).

It's important to note here that since the 2014 ESA listing (79 FR 63672) and publication of the Service's Species Status Assessment (SSA; USFWS 2018), survey efforts have significantly increased, and new Dakota skipper occurrence locations have been documented. The Service does not attempt herein to re-distinguish these larger spatially separated populations (i.e., metapopulation) and their inter-connectivity (i.e., subpopulations) with the survey data acquired post-publication of the Service's SSA (USFWS 2018).

To allow for the incorporation of all data here in the Service's assessment of the species status, all locations with Dakota skippers historic or current occupancy will hereafter be referred to as either a "site", "documented site", or "occurrence site" (i.e., a location in which a survey has occurred and indicated presence of the Dakota skipper at one time, either historically or currently). These sites will then be further distinguished into status classifications such as "present", "unknown", "possibly extirpated", or "extirpated" (see 79 FR 63672 p. 63675, *Species Occupancy* section for details on status classification distinctions).

The Service's Dakota skipper database (USFWS 2025 unpubl. geodatabase) contains 352 historically documented sites across the range of the species. Currently, the Service considers the status for 158 sites to be present; 2 possibly present but inconclusive; 68 sites as unknown; 5 possibly extirpated; and 119 extirpated. Approximately 25 percent (40 of 158) of these sites where the species is considered to be present are located in Canada, mostly within 3 isolated complexes consisting of observations between 2002 and 2012 with no subsequent survey information since 2012 (USFWS 2025 unpubl. geodatabase).

3.6 SPECIES NORTH DAKOTA DISTRIBUTION

At the time of listing (79 FR 63672), the Service's Dakota skipper database (USFWS 2014 unpubl. geodatabase) indicated North Dakota contained approximately 21% (54 sites distributed among 18 counties) of all known historic locations range wide. Of those sites, the Dakota skipper was considered present at 16 sites in 12 North Dakota counties; possibly extirpated in three counties, and presumed extirpated from 4 counties, likely due to heavy grazing, weed control, and other disturbance stressors (Royer 1997; 79 FR 63672). The average encounter frequencies observed across the State in 2014 was 2.67 encounters per hour. This continued a downward trend being lower than the 1996-1997 state-wide surveys (ND State average = 17.39 encounters per hour) and 2012 state-wide surveys (ND State average = 9.36 encounters per hour) using the same methodology (Royer et al. 2014). A majority of sites with presence during this time were in either the Towner-Karlsruhe complex or Sheyenne National Grassland complex.

3.6.1 Towner-Karlsruhe Complex

The Towner-Karlsruhe complex, found in McHenry County, North Dakota, has been considered a state stronghold for the species with long-standing sites that have been surveyed dating back to the 1970s (Cochrane and Delphey 2002; Royer et al. 2014). Of the 16 identified North Dakota sites with Dakota skipper presence, in the 2014 listing decision, 11 occur in the Towner-Karlsruhe complex (79 FR 63672). These sites are found on a combination of North Dakota state land and privately owned land comprised of Type A habitat linked by native prairie remnants and highway ROW that contains native prairie vegetation (Royer and Marrone 1992; Royer et al. 2008; Royer and Royer 2012). In 1999, it was estimated that about 30% of the Towner-Karlsruhe complex still contained native prairie (Lenz 1999). Though in 2002, none of these sites were described as secure since each is subject to private or state management options that could extirpate Dakota skippers from the site (Cochrane and Delphey 2002). More recent observations indicate that several of the native prairie sites have been invaded, to varying extents, by nonnative species and several are subject to intense grazing or early haying (Royer and Royer 2012, 2012a; Royer et al. 2014). However, a number of other factors suggest a general deterioration in amount and quality of Dakota skipper habitat since the 1990s (Royer and Royer 2012). Factors noted include frequent or continuous grazing pressure history, lack of proper forb dominance, leafy spurge incursion, regular spraying, and improper haying timeframes.

3.6.2 Sheyenne National Grasslands

The Sheyenne National Grasslands complex, in southeastern North Dakota, contains a mix of Type A and Type B habitat. However, this complex has experienced significant invasion from introduced species, particularly from leafy spurge, which has resulted in significant degradation of the native prairie habitat in this region. Other effects, such as grazing pressure and pesticides used to control nonnative plants and grasshoppers, may also have influenced the degradation of native patches. For these reasons, Royer (1997) indicated that extirpation of Dakota skippers from the Sheyenne National Grasslands complex is almost certain to occur.

Between the 1980's and early 2000's, researchers continued to survey for Dakota skippers in the Sheyenne National Grasslands but found the habitat and populations to be diminishing. For example, the McLeod Prairie – considered by McCabe (1979) as one of the best sites for Dakota

skippers in North Dakota – has since been significantly modified by leafy spurge invasion, resulting in the Dakota skipper being entirely extirpated from the site (Royer 1997). Furthermore, the Brown Ranch site in Ransom County, North Dakota which was once suggested as having the potential to support a metapopulation of Dakota skippers (Orwig 1995), had its Dakota skipper population in 2003 described as either disappearing or having a bad year; by 2012 Dakota skippers were no longer found on site likely due to the frequent intense grazing rotation and patchy distribution of habitat islands (Spomer 2003; Royer and Royer 2012). The most recent surveys in the Sheyenne National Grasslands complex were conducted in 2022 by the U.S Forest Service (USFS) but no Dakota skippers have been observed in the complex since 2003. As it is now post-three years of negative occupancy surveys at each historic site in the Sheyenne National Grasslands complex, the Service considers the Dakota skipper to be currently extirpated throughout the Sheyenne Grasslands.

3.6.3 Post-Listing North Dakota Distribution

North-central and western North Dakota may play a significant role in the species' long-term conservation, particularly the Bakken region. Since the 2014 listing decision, survey efforts in North Dakota have significantly increased the number of new populations and corresponding sites where the species has been found, most occurring in McKenzie, Mountrail, and Dunn counties. A review of the Service's most recent database shows the Dakota skipper to now be considered present at 102 sites in 13 North Dakota counties, unknown at 12 sites, possibly extirpated at 2 sites, inconclusive at 2 sites, and extirpated at 25 sites (USFWS 2025, unpubl. geodatabase).

Between 2014 and 2022, the amount of North Dakota sites with Dakota skipper presence increased nearly sevenfold (from 16 to 102); though it should also be noted that many other sites, approximately 255, were surveyed that did not detect Dakota skipper presence (USFWS 2025, unpublished. geodatabase). Most of the new observations (86 sites) were found outside the Towner-Karlsruhe and Sheyenne National Grassland complexes, with most occurring in McKenzie and Dunn counties. This increase in observations was likely aided by a combination of efforts from oil and gas companies conducting surveys prior to developments and the recent modeling efforts that show locations across the range with habitat that should contain all the constituent elements necessary for Dakota skipper presence (Seidle et al. 2020; Barnes et al. 2024). These new models provide researchers with starting points for surveys in areas that have a high likelihood of detection and continue to be used to aid ongoing survey efforts.

3.7 THREATS

In the most recent Species Status Assessment (SSA), the Service reviewed negative impacts that have affected the Dakota skipper either historically, currently, or are likely to in the future (USFWS 2018). Factors identified as negatively impacting the Dakota skipper are collectively referred to as "risk factors". The risk factors of occupied and historically occupied Dakota skipper sites between 1905 and 2017 were assessed to understand what led to the species' current condition (USFWS 2018). It is understood that loss and degradation of the remaining native prairie patches pose the biggest threats to the species' continued existence. Factors responsible for continued habitat loss, fragmentation, and degradation includes: conversion of native prairie for agriculture or urbanization; ecological succession of native prairie to habitats dominated by brush or trees; impacts from oil and gas development; invasive species; direct and indirect effects of pesticides,

including herbicides; flooding; and land management regimes (e.g., grazing, haying, or fire) if done in a fashion that degrades the species' habitat (USFWS 2021). A thorough analysis of the potential threats impacting the Dakota skipper has been published in the final listing rule and the SSA (79 FR 63672; USFWS 2018).

3.8 RECOVERY NEEDS AND EFFORTS

Used in context of the ESA, the terms “conserve,” “conserving” and “conservation” mean those methods and procedures necessary to bring a listed species to a point where it no longer needs ESA protection (ESA § 3(3)). For purposes of this Opinion, conservation is considered synonymous with the species' survival and recovery needs.

The recovery vision for the Dakota skipper is founded on three ecological principles, “redundancy,” “representation” and “resiliency,” which are common building blocks used to develop robust conservation strategies (Redford et al. 2011).

- *Redundancy* is defined as multiple, geographically dispersed populations and habitats across a species' range, such that the loss of one population or one unit of habitat will not result in total loss of the species. It provides a margin of safety for a species and/or its habitat to withstand threats, including unforeseen catastrophes.
- *Representation* is defined as the retention of genetic, morphological, physiological, behavioral, habitat, or ecological diversity of the species so its adaptive capabilities are conserved.
- *Resilience* is defined as the ability of the species and/or its habitat to recover from disturbances. In general, species are likely to be more resilient if large populations exist in large blocks of high-quality habitat across the full breadth of environmental variability to which the species is adapted.

Therefore, the best conservation strategies anticipate and protect species by ensuring high quality habitat and healthy populations, distributed throughout the geographic range, can withstand and/or adapt to novel or negative changes in their environment. The way redundancy, representation, and resilience can be achieved for the Dakota skipper is to maintain and actively manage the native grasslands that provide the habitat necessary to complete their life cycle (USFWS 2021). Identified conservation needs include evaluation of reintroduction success and habitat restoration success, genetics research, metapopulation boundary establishment and identification of habitat most likely to contain undiscovered populations. Specifically, actions to create a resilient population include focusing on grassland restoration efforts for the Dakota skipper near known extant populations, which if successful, would create a larger footprint of suitable habitat that could be expanded into by extant populations.

Significant conservation efforts are being undertaken in cooperation with the USFS, Bureau of Land Management (BLM), North Dakota Game and Fish Department (NDGF) and the North Dakota Natural Resources Trust (NDNRT) to monitor known populations, determine the status of historic populations, and discover new populations. Other significant conservation efforts have included development of the Dakota skipper habitat suitability model, captive rearing at the Minnesota Zoo, reintroduction and augmentation efforts in North Dakota and Minnesota, Environmental DNA research (eDNA) and habitat restoration efforts.

One of the most significant survey efforts over the last five years has been facilitated through the NDNRT. The NDNRT has annually contracted permitted Dakota skipper surveyors to survey for the species including monitoring of known populations; revisiting historic, unconfirmed, or presence only populations; and discovering new populations on school trust lands across the state of North Dakota. This effort has been undertaken in partnership with the Service and has led to the discovery of numerous populations over the last several years.

A recent effort involved habitat modeling to predict locations across the species' range that encompass all the constituent elements necessary for Dakota skipper presence (Seidle et al. 2020; Barnes et al. 2024). Specifically, the Barnes et al. (2024) range-wide Dakota skipper habitat suitability model modeled broad-scale habitat suitability by relating 2010-2021 occurrence data and pseudo-absences to a variety of environmental predictors for the species using a machine learning approach. Compared to the currently defined USFWS Dakota skipper range (USFWS 2023), this model provides a more precise estimation of the probability that Dakota skippers may be present at a particular site and how habitat at the particular site may be connected to the surrounding landscape. This tool is now widely used for conservation planning purposes as well as predicting relative probability of the species occurrence.

To restore extirpated sites, artificial reintroduction has been pursued. The Minnesota zoo has provided support by successfully breeding captive Dakota skippers from 2014-2025. This effort has resulted in several reintroductions with one occurring in North Dakota and the rest in Minnesota. It is yet to be determined whether reintroductions or augmentations have been successful.

In 2022, the Service and USGS underwent an eDNA research study. Field crews collected floral resources in areas where Dakota skippers have been observed and if possible, collected the exact flowers they were observed nectaring on for eDNA analysis. The Minnesota Zoo also collected plant samples from Dakota skippers reared in a controlled environment to further proof of concept. All samples collected from the controlled environment were observed having the species land on them. The results of this study are still preliminary but show some level of ability to detect the species using eDNA.

Habitat restoration efforts are currently underway. This includes work with the NDNRT, USFS, BLM, the USFWS National Wildlife Refuge System, oil and gas companies, North Dakota State University, Ducks Unlimited and multiple conservation bankers. Resulting plant community restoration success or Dakota skipper use of restored habitat to any extent is yet to be determined.

4.0 ENVIRONMENTAL BASELINE

Pursuant to implementing regulations (50 C.F.R. § 402.14 (g)(2)), the Service has a responsibility to “evaluate the...environmental baseline of the listed species or critical habitat” during formal consultation. The environmental baseline “refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation and the impact of State or private actions which are contemporaneous with the consultation in process. The impacts to listed species or designated critical habitat from Federal agency activities or existing Federal agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.” (50 C.F.R. § 402.02). In other words, this section is an analysis of past and ongoing human and natural factors leading to the status of the species and its habitat (including any designated critical habitat) within the action area, providing a “snapshot” of the species’ health at a specified point in time (USFWS & NMFS 1998). The environmental baseline analysis does not consider the effects of the action under review herein.

4.1 BASELINE DEVELOPMENT WITHIN THE ACTION AREA

The Proposed Action is located within the Northern Glaciated Plains Level III ecoregion (Bryce et al. 1996), specifically within the Drift Plains Level IV ecoregion (Bryce et al. 1996). The Drift Plains are characterized by their gently rolling terrain with a higher prevalence of seasonal wetlands compared to semi-permanent wetlands. Historically, the region supported a mosaic of tallgrass and shortgrass prairie, but much of this native vegetation has since been converted to cropland (Bryce et al. 1996). This portion of the prairie pothole region is among the most important waterfowl production landscapes in North America.



Figure 9. Action Area Landscape Photos. *Source: Meadowlark 2025 BA*

The project site itself consists of grassland situated next to prairie pothole wetlands, reflecting the typical conditions of the broader action area (Figure 1). Vegetation includes patches of native prairie (Figures 9 and 10) areas dominated by introduced grasses and portions where shrubs made up the primary cover.

Within the action area (Figure 1), an existing power line (Line 12) and 13 related transmission

structures create a small amount of previously disturbed ground. The area also contains roughly 4 miles of roads and 10 buildings, which includes a combination of homes, sheds, and farm buildings.

Based on current and historical aerial imagery and the North Dakota unbroken lands GIS layer (NDGF 2014; Figure 10), about 1,100 acres appear to have been broken at some point, either historically or in ongoing use. Approximately 800 of these acres are active cropland. The remaining 300 acres of previously broken land include about 60 acres of developed sites and roughly 240 acres managed for grazing, haying, or left idle.

The rest of the action area, approximately 1,110 acres, consists of grasslands and wetlands. Grassland quality varies, and field observations indicate it is used primarily for cattle grazing. About 200 acres qualify as native prairie. When considering adjacent prairie parcels, portions of the native prairie within the action area contribute to a larger contiguous block totaling approximately 284 acres.

Within and around the project area, patches of high-quality native prairie were present. These upland areas supported a mix of native grasses, most commonly little bluestem (*Schizachyrium scoparium*), porcupine grass (*Hesperostipa spartea*), Junegrass (*Koeleria macrantha*), and western wheatgrass (*Pascopyrum smithii*) (Figure 9). A variety of flowering plants provided nectar resources, ranging from sparse to abundant stands of purple coneflower (*Echinacea angustifolia*), common to abundant prairie coneflower (*Ratibida columnifera*), black-eyed Susan (*Rudbeckia hirta*), common yarrow (*Achillea millefolium*), wood lily (*Lilium philadelphicum*) and death camas (*Zigadenus elegans*). These higher-quality prairie communities were mainly found on the rolling hills throughout the survey area, while the low-lying areas between hills tended to support introduced grass species.

Prairie in poor quality was characterized by dominance of nonnative grasses such as Kentucky bluegrass (*Poa pratensis*) and smooth brome (*Bromus inermis*), or by shrub encroachment, particularly western snowberry (*Symphoricarpos occidentalis*) and silverberry (*Elaeagnus commutata*). Additional habitat types observed within the action area included wetlands. A summary of the vegetation community in the Action Area is provided in Table 3.

Table 3. Line 12C Structure #602 Vegetation Community (May 29, 2025) Source: *Meadowlark 2025 BA*⁴

Common Name	Scientific Name	Approximate Cover
Kentucky Bluegrass	<i>Poa pratensis</i>	30%
White Sagewort	<i>Artemisia ludoviciana</i>	25%
Prairie Violet	<i>Viola pedatifida</i>	
Common Dandelion	<i>Taraxacum officinale</i>	
Curly-top Gumweed	<i>Grindelia squarrosa</i>	
Purple Locoweed	<i>Oxytropis lambertii</i>	
Field Milkvetch	<i>Astragalus agrestis</i>	
Pasque Flower	<i>Anemone patens</i>	
Wavy-Leaf Thistle	<i>Cirsium undulatum</i>	
Stiff Goldenrod	<i>Solidago rigida</i>	
Yellow Sweet Clover	<i>Melilotus officinalis</i>	
Silky Wormwood	<i>Artemisia dracunculus</i>	
Small-Leaf Pussytoes	<i>Antennaria parvifolia</i>	
Field Chickweed	<i>Cerastium arvense</i>	
American Vetch	<i>Vicia americana</i>	
Common Yarrow	<i>Achillea millefolium</i>	
Fringed Sagewort	<i>Artemisia frigida</i>	
Torch Flower	<i>Geum triflorum</i>	
Purple Coneflower	<i>Echinacea angustifolia</i>	
Sun Sedge	<i>Carex inops</i>	20%
Western Wheatgrass	<i>Pascopyrum smithii</i>	10%
Little Bluestem	<i>Schizachyrium scoparium</i>	
Junegrass	<i>Koeleria macrantha</i>	
Western Snowberry	<i>Symphoricarpos occidentalis</i>	10%
Smooth Brome	<i>Bromus inermis</i>	5%
Silverberry	<i>Elaeagnus commutata</i>	5%

⁴ Introduced species are indicated in bold font (North Dakota Department of Agriculture 2025).

4.2 STATUS OF THE SPECIES IN THE ACTION AREA

4.2.1 Action Area

A landscape-level approach was used to evaluate the action area and understand where Dakota skipper habitat is most likely to occur within the broader vicinity of the proposed project. A desktop assessment integrated field data collected in the proposed project area with landscape-scale information to identify potential habitat patches, dispersal corridors, and areas of population connectivity. This multi-scale analysis supports evaluation of potential effects on the individual, subpopulation, population, and metapopulation scales.

At the landscape scale, potential Dakota skipper habitat and dispersal pathways were identified by delineating native prairie within the action area using aerial imagery and the ND GIS Hub Unbroken Lands GIS layer (NDGF 2014). Although native prairie varies in suitability depending on vegetative structure, species composition, land use, topography, and other factors that require field verification, this screening provides a conservative estimate of where Dakota skipper habitat may occur. Current and historic imagery, along with the Unbroken Lands Layer, were used to assess land cover, land-use history and evidence of past disturbance such as cultivation, grading, or seeding of introduced grasses. Grasslands exhibiting signs of mechanical disturbance or those absent from the Unbroken Lands layer were not considered native prairie. Areas dominated by shrubs or trees, as well as wetlands, were considered unsuitable for the species.

Aerial imagery and field surveys show that the action area is characterized by rolling terrain interspersed with prairie pothole wetlands and previously cultivated lands (Figure 10). Native prairie persists primarily on the upland hills between and adjacent to these features and is concentrated near the central portion of the action area. Overall, native prairie comprises less than half of the action area; the remainder is dominated by unsuitable habitat such as wetlands, active cropland, and other previously disturbed lands.

4.2.2 Project Area

The proposed project area contains suitable habitat in the form of high-quality native prairie that shows no evidence of past tillage. This prairie supports the native bunchgrasses and forbs required by Dakota skipper for larval development and nectaring and is therefore considered reproductive habitat. Within the APE for replacement structure #602, most of the APE consists of suitable habitat that cannot be avoided during construction.

A single male Dakota skipper was observed during occupancy surveys directly adjacent to the existing structure and within the footprint of anticipated disturbance (Figure 11). Although additional suitable habitat occurs within the project area and broader survey area, no other

individuals were detected in either reproductive or dispersal habitat.

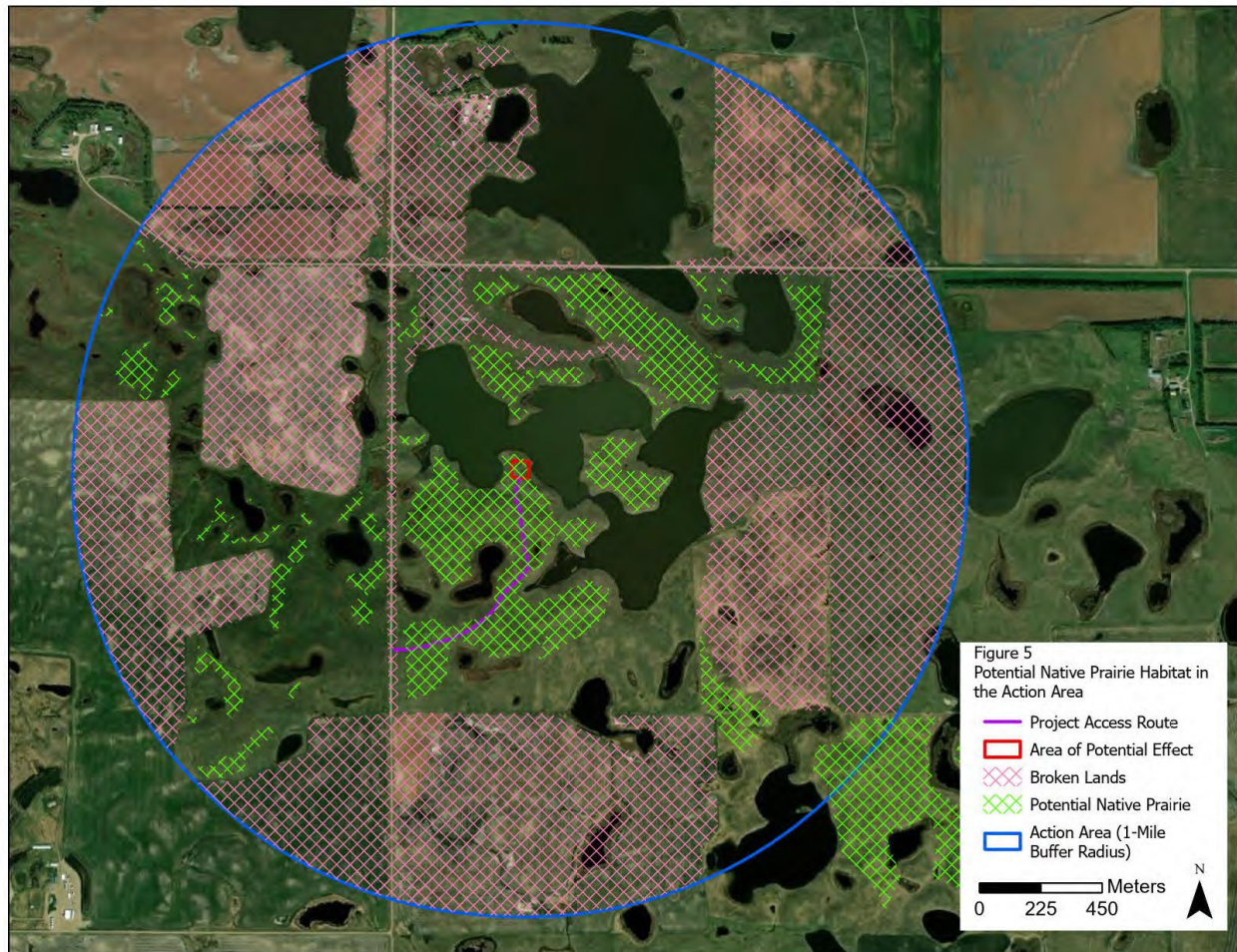


Figure 10. Potential Native Prairie Habitat in the Action Area: *Source: Meadowlark 2025 BA*



Figure 11. Dorsal view of the male Dakota skipper present within the survey areas taken 7.06.25 – Source: Meadowlark 2025 BA

4.2.3 Flight Surveys

To determine appropriate timing for flight surveys, Meadowlark coordinated with other Dakota skipper researchers and the USFWS North Dakota Field Office. The first confirmed Dakota skipper of the season in North Dakota was recorded on June 24 in McHenry County. Flight activity peaked around July 4 and concluded before July 16.

Surveys were conducted by permitted biologists Sara Simmers and Taleigh Adrian with up to one additional supervised surveyor. The survey area encompassed approximately 126 acres of Type B Dakota skipper habitat. Three rounds of adult occupancy surveys were completed on July 3, 6, and 10, 2025, following the 2024 Survey Protocol (Option 2), which requires three surveys spaced at least 48-hours apart during one flight season. Surveys were performed under acceptable weather conditions between 10:00 a.m. and approximately 5:00–6:00 p.m. CDT.

Survey tracks are shown in Figure 5, and weather conditions met protocol requirements. The detection period overlapped with the confirmed Dakota skipper flight window in North Dakota for 2025 (June 24–July 16). Eighteen butterfly species were recorded, including several Hesperidae species commonly found with Dakota skippers.

Across the three surveys, one male Dakota skipper was observed (Figure 11). The individual was recorded at 4:02 PM on July 6, 2025, interacting aggressively with three tawny-edged skippers.

While only one Dakota skipper was detected, the rolling hills containing Type B habitat are widespread within and surrounding the survey area and likely support a population across the broader landscape.

4.2.4 Dispersal Evaluation

Native prairie in the central portion of the action area appears relatively continuous and extends outward into additional patches (Figure 10). Given the species' limited dispersal capability, natural barriers likely restrict movement between populations. Wetlands, cultivated lands, and large expanses of unsuitable habitat function as primary dispersal barriers.

Potential movement pathways include westward across the road, via a narrow constriction in a wetland, providing a short dispersal span to an isolated prairie "island" and northeastward, where another narrowing in the wetlands may allow additional dispersal. These connections suggest that the Dakota skippers occupying the proposed project area are likely part of a larger metapopulation extending beyond the immediate action area.

Within the proposed project area, field vegetation data and Dakota skipper occupancy survey results were used to identify locations where the species occurs and where primary reproductive and sheltering habitat is present. While additional grassland within the project area may serve as dispersal habitat, impacts to reproductive habitat pose the greatest risk of mortality to larvae or adults, as described in the effects analysis

4.3 FACTORS AFFECTING THE SPECIES WITHIN THE ACTION AREA

Stressors affecting the grasslands and associated biota of the action area include habitat loss and fragmentation, habitat degradation from grazing, invasion of nonnative plant species and fire suppression/woody plant expansion. Dakota skippers have been documented to be sensitive to these stressors (79 FR 63672).

5.0 EFFECTS OF THE ACTION

Pursuant to ESA section 7 regulation (50 C.F.R. § 402.14 (g)(3)) the Service has a responsibility to “evaluate the effects of the action...on the listed species or critical habitat” during formal consultation. “Effects of the action refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. Indirect effects are those that are caused by the proposed action and are later in time but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration.”¹ 50 CFR 402.02 (2018) In other words, this section is a reasonable prediction of the consequences to individuals of a species or critical habitat and the environmental changes brought about by implementation of the proposed action. This section is not an exploration of alternatives to the proposed action.

The Service previously identified and described the activities included as part of the Proposed Action herein (see DESCRIPTION OF THE PROPOSED ACTION). Our analysis of the consequences caused by these activities follows.

5.1 EVALUATION OF POTENTIAL STRESSORS

When evaluating potential stressors on listed species, the Service attempts to describe and characterize the expected number, gender, age/life stage, and populations that are anticipated to be exposed to any given stressor; further described in terms of timing, duration, frequency, magnitude, and location.

Given the inconspicuous nature of Dakota skippers and specialized experience required to accurately identify and detect this species in the wild, it is impractical for the Service to attempt to quantify the number of individual Dakota skippers that may be injured, killed, or have a response that significantly disrupts normal behavior from the Proposed Action. As a result, this analysis uses occupied suitable habitat as a surrogate for the species. However, some context of the redundancy, trend, and observed Dakota skipper encounter rates are necessary and appropriate to evaluate impacts from the Proposed Action on the survival and recovery of the species. Additionally, the within and between-year variability of weather conditions is considered, as this influences the species’ exposure risk—weather affects habitat conditions which then affects the foraging, reproduction, and dispersal ability of the Dakota Skipper.

Project stressors include activities that modify or remove native prairie, leading to Dakota skipper habitat loss, fragmentation, and/or degradation. Also discussed are stressors that could impact an individual Dakota skipper such as auditory, visual, and/or physical components caused by moving construction equipment and vehicle traffic throughout the life of the Proposed Action. Following a

review of intended activities, the Service has identified six (6) general categories (Section 5.1.1 – 5.1.6) of potential stressors associated with the Proposed Action. The intended activities and stressors are further broken down via an Impact-Exposure-Response-Effect analysis (Table 4)

5.1.1 Acoustic Stressors

The Proposed Action is expected to expose Dakota skippers to both above-ambient continuous and impulsive sound pressures of variable intensity and timing. Above-ambient sound levels are expected during all phases of construction from the increase of vehicles and small to heavy construction equipment (e.g. cranes, bucket trucks and excavators).

Though it can be rather difficult to clearly define an insect ear, around 85% of all adult butterflies and large moth species (i.e., lepidoptera) have some type of auditory organ (Minet & Surlykke 2012). For example, adult butterfly species in the Satyrini group have a unique inflated wing vein that contributes to hearing (Sun et al. 2018). At the larval life stage, many lepidoptera species detect airborne vibrations through specialized hairs on their bodies (Minet & Surlykke 2012). Detailed larval stage hearing studies appear to be limited to one species, the cabbage moth (*Mamestra brassicae*); however, the larval hearing capability of this one species may not be representative of all others (Taylor & Yack 2019)

The Service was unable to locate literature concerning Dakota skippers' ability to detect and response to acoustic stressors. However, several experts assert that sound is highly unlikely to impact the species or cause a response (Dana, Royer, and Westwood 2015 pers. comm.). While the species may be capable of sensing vibrations from other flying insects for the purposes of mate seeking (Dana 2015 pers. comm.), the Service found no evidence suggesting that noise generated from the construction activities herein would elicit a disruptive (positive or negative) behavioral response or injurious physiological impairment to adults or larvae of the species. Furthermore, the likelihood of detecting a measurable biological response from generated noise on an individual Dakota skipper is expected to be extremely low. Therefore, direct and indirect effects to Dakota skippers from exposure to above ambient noise levels generated by the Proposed Action are considered discountable.

5.1.2 Visual Stressors

The Proposed Action would involve visual stressors from the physical presence of humans, moving vehicles and construction equipment on the land surface that may be disruptive to the Dakota skipper. This section only analyzes the visual stressors of the associated activities and does not include an assessment of any potentially associated physical injury or mortality as those are discussed in the next section. Visual stressors would occur during all phases of the Proposed Action.

Visual stressors are expected to have no effect on the immobile egg stage and the larval stage of the Dakota skipper. Though Dakota skipper larvae likely have visual capability similar to other lepidoptera, they remain in ground surface shelters during the day and emerge at night to forage. Visual stressors from the Proposed Action would occur during the day, therefore, visual stressors to eggs and larvae are considered discountable.

Visual stressors during the adult life stage, typically occurring between June 10 and July 25 in North Dakota, may affect the Dakota skipper. The Service was unable to locate literature concerning the actual sight capabilities of an adult Dakota skipper; however, it has been noted that skipper butterflies (Lepidoptera: Hesperidae) generally exhibit a fast startle reflex to camera flashes (Sourakov 2009). Therefore, the Service assumes that an adult Dakota skipper likely has visual capabilities and startle responses to visual stressors similar to other skipper butterflies.

During pre-construction activities, there would be visual stressors from low intensity human presence and activity, such as surveyors completing staking and/or surveys on foot or by ATV. Visual stressors from human presence and activities would occur during the site preparation and construction of the Proposed Action. These phases of the project involve human activity in or directly adjacent to grassland habitat.

Regardless of intensity, human presence and associated activities occurring within the Action Area have the potential to visually disrupt adult Dakota skippers as they move about naturally within and between their habitat patches. This disruption could cause adult Dakota skipper individuals to more frequently move from resting/nectaring locations, resulting in energy expensive flight path changes or a flee responses. Visual stressors continuing over longer periods (i.e. days to weeks) may result in deleterious chronic effects like increased susceptibility to fatigue and disease from the increased energy expenditure. Continued disturbance could also potentially lead to a "stress" response such as avoidance or lower use of suitable habitat. However, measuring this type of response is likely not feasible nor is it considered biologically meaningful at the individual scale. Furthermore, the likelihood of detecting a measurable effect at the population level is expected to be extremely low. Therefore, direct and indirect effects to Dakota skippers from exposure to visual stressors during construction of the Proposed Action are considered insignificant.

5.1.3 Physical Injury

The Proposed Action involves activities that could result in physical injury to Dakota skippers. Physical injuries are expected to coincide with all Dakota skipper life stages and include, but are not limited to, crushing or damaging any parts of the egg, larva, pupa, and/or adult that would reduce fitness and/or lead to mortality. The potential for physical injury occurs during all phases of the Proposed Action from light to heavy duty construction equipment and vehicles driving through areas occupied by Dakota skippers.

Mechanized activities that could result in physical injury to the Dakota skipper are 1) movement of equipment through suitable habitat any time of year and/or adjacent grassland habitat during the adult flight period and 2) removal of suitable habitat and/or adjacent grassland topsoil. Topsoil/vegetation removal or equipment traveling through suitable habitat would impact developing eggs, larvae and pupae via crushing while in cover, ground shelter or nearby habitat.

The phases of the Proposed Action that have the highest expected magnitude and intensity of physical injury are those involving earthwork, during which construction equipment will be used for the removal of topsoil and vegetation. Site preparation for the Proposed Action would involve grading and clearing the construction area for the replacement of poles. Such activities will destroy any eggs, larvae, and/or pupae within suitable habitat. As the number of Dakota skipper individuals cannot be quantified, acreage is used as a surrogate. The Federal action agency has

determined that 0.1 acres of delineated suitable habitat fall within the grading limits. Thus, the Service expects all Dakota skipper eggs, larvae, and pupae that presumably occupy the 0.1 acres of delineated suitable habitat to be destroyed during construction of the Proposed Action and permanently lost from the population.

5.1.4 Habitat Loss: Removal and Fragmentation

Direct habitat loss is the most significant threat to the Dakota skipper (79 FR 63672). This threat is highly detrimental to their survival because Dakota skippers are obligate residents of native prairie (see Species Habitat Requirements). Indirectly, habitat loss can further impact Dakota skipper survival via fragmentation, which increases dispersal barriers on the landscape. When fragmentation occurs at a scale where it becomes a barrier to dispersal, meta population sustainability is lost. If population isolation occurs, those populations become highly vulnerable (due to low resilience) to stochastic events and extirpation. Thus, barriers to dispersal can set in motion a lethal sequence that begins with population fragmentation, transitions to isolation, and culmination in a net reduction in Dakota skipper abundance, population stability and reproduction, and the overall area of occupancy within the range.

The Proposed Action is expected to result in permanent and temporary habitat loss (direct consequence). Habitat loss activities include the removal of suitable and/or adjacent grassland habitat vegetation either temporarily (i.e., to be reseeded) or permanently (i.e., not reseeded). Habitat loss from the Proposed Action is expected to decrease Dakota skipper fitness and survival as suitable occupied habitat exists within the project boundary. Therefore, a construction project such as the Proposed Action could decrease available dispersal/foraging habitat leading to further fragmentation of extant populations (indirect consequence; 79 FR 63672).

During the construction phase, 0.1 acres of suitable habitat will be removed in the area used for new poles. Post-construction, the 0.1 acres that were previously cement for the old poles, will be reseeded by Minnkota with a seed mix high in native grasses and forbs. Successful reclamation will be deemed adequate when seeded areas attain consistent ground coverage similar to surrounding undisturbed vegetation, and control of noxious weeds is evident (Service-Applicant coordination meeting, January 28, 2026). After successful reclamation, the long-term result could result in a small increase in habitat quality compared to baseline conditions.

Temporary dispersal habitat loss from the Proposed Action activities will occur by driving on the access road while staging construction equipment and during project construction. It is expected that 0.6 acres of dispersal habitat will be temporarily removed due to soil and vegetation compaction from increased use of the access road during the construction period.

5.1.5 Habitat Degradation

For a prairie obligate species like the Dakota skipper, development has been documented to reduce the capability of adjacent habitat that supports the critical life history processes (breeding, feeding, and sheltering) of the species. Direct habitat degradation is expected via vegetation trampling from both equipment and foot traffic; while indirect consequences are expected from undesirable plant species encroachment and microclimate modifications (i.e., increased dust) associated with the

Proposed Action.

Vegetation trampling and soil compactions are an anticipated direct effect of the construction activities. The Proposed Action requires construction work and an increase in motorized vehicle use. These activities are expected to modify the plant communities by stunting growth, uprooting plants, and compacting soil. These impacts would likely reduce the number of available resources on the landscape for the species overall. However, the greatest extent of these impacts has likely already been captured by the Habitat Loss: Removal and Fragmentation section calculations.

An increase in construction equipment and vehicles may cause an increase in noxious and invasive plant species (i.e., undesirable plant species). This increase would subject habitat to an additional stressor that would reduce its capability of supporting Dakota skippers. Undesirable species could out compete native forbs that are food sources for the Dakota skipper (Royer and Marrone 1992). Studies have found that presence and abundance of undesirable species increase near development compared to undisturbed control sites, and development that leads to increased vehicle traffic offers more opportunities for the transport and dispersal of undesirable species (Bergquist et al. 2007; Preston 2015). Following construction, any decreases in the native plant species would lead to the reduction of available suitable habitat, loss of forage sources, increased growth of cool season grasses, and decreased forb density (Cochrane and Delphey 2002). Minnkota has committed to two best management practices to reduce the risk of noxious and invasive species increases in the Project Area. Vehicles and construction equipment will be cleaned prior to entering the proposed project area to remove plant propagules and straw or hay used for erosion control will be certified weed free. Due to the short duration of construction and the preventative measures used, the increase will be minimal, therefore indirect effects from invasive plant encroachment to Dakota skippers are considered insignificant for the Proposed Action.

Microclimate modification discussed in this section includes effects associated with fugitive dust. Fugitive dust is expected to be generated during construction traffic, though the accumulation amount will vary among project phases. Dust deposition on vegetation has been shown to reduce photosynthesis, interfere with stomata function (the exchange rate or efficacy of carbon dioxide and oxygen), increase incidences of plant pests and disease, increase PH (>10.0), increase leaf surface temperature, introduce contaminants (further discussed in the next section) and reduce leaf surface thus lowering primary production (Thompson et al 1984; Farmer 1993; Sharifi et al. 1997; Lewis 2013; Gedafa 2013). These changes are likely to result in altering the edaphic conditions and microclimate (temperature and humidity).

The Service has not determined a precise dust zone for the Proposed Action. It is assumed that fugitive dust deposits at a rate that has an inverse relationship to the distance from the dust source (i.e., larger quantities of dust accumulate nearer to the source). Thus, habitats closer to dust sources are likely to experience greater accumulations of fugitive dust than those further away. Based upon prevailing wind directions in North Dakota, we expect fugitive dust would be predominantly distributed in a southward, southeasterly, and eastward direction (Enz 2003), however dust can migrate in any direction within the action area as the wind direction can vary.

The reproductive phases of the Dakota skipper have narrow tolerances for temperature and humidity at or near the soil surface (between soil surface and 2 cm depth: mean soil surface

summer temperatures from 17.8 to 20.5 °C (64.0 to 68.9 °F), mean near soil surface dew point ranging from 13.9 to 16.8 °C (57.0 to 62.2 °F) and mean near soil surface relative humidity between 72.5 and 85.1 percent) (Royer et al. 2008). Of particular concern are the potentially lethal consequences to eggs, pupae, larvae, and plants from the increased PH associated with fugitive dust settling in areas important for Dakota skipper life cycle support.

It is reasonable to infer changes to the vegetative structure, species composition and ground cover are likely to affect the necessary, narrow range microclimatic conditions near the soil surface (McCabe 1981) where Dakota skippers reside during almost their entire life span. However, we found no way to assess the magnitude of change in either the microclimate or overall vegetative composition that would likely occur in the 30-foot buffer (Preston 2015) encompassing construction, making it even more difficult to predict how the species may respond to such vegetative changes later in time. Furthermore, the Proposed Action does occur along an existing two-track road, so the overall degradation experienced by habitat from fugitive dust may increase temporarily while construction activities are underway but in the long-term these adjacent habitats are not expected to be incrementally reduced in quality further than what is already being experienced. The Federal action agency has committed to implementing dust control measures as required under their general construction permit (Section 2.5.1). Therefore, the Service concludes fugitive dust effects from the Proposed Action to be discountable.

5.1.6 Contaminants

Several types of chemical contaminants may be introduced during different stages of the project, including those associated with equipment refueling, dust generated by construction activities, and chemical treatments used to control undesirable vegetation. The constructions phase is when contaminants pose the greatest threat of exposure to the Dakota skipper. This is also when the likelihood of spills or fluid leaks from excavators and other construction machinery is greatest, since equipment is being moved and operated throughout the project area.

Fugitive dust can contain heavy metals or other toxins. The Proposed Action does occur along an existing two-track road, so while fugitive dust may increase temporarily while construction activities are underway, adjacent habitats are not expected to be incrementally reduced in quality further than what is already being experienced from fugitive dust exposure.

Exposure to pesticides that could cause injury or mortality to Dakota skippers is possible: however, the use of insecticides would be prohibited in the Project Area. Herbicides would only be applied as spot treatments in areas where undesirable plant species have been identified, and only by trained applicators who can correctly identify targeted species. Mechanical control of noxious weeds would be used in areas near Dakota skipper habitat where herbicide drift could pose a risk. Because Dakota skippers are not generally associated with vegetation dominated by undesirable plant species, direct exposure to herbicides is not expected.

Both habitat destruction and degradation would be a possible impact from a large spill or discharge of oil or other contaminants, through the reduction of available habitat on the landscape, fragmentation of existing contiguous habitat, and the destruction of small remnant fragments altogether. While possible, large spills of sufficient magnitude that results in direct exposure are historically rare for this type of construction (based upon reporting frequency). With a spill prevention plan in place, dust control measures, and lack of association between Dakota skippers and undesirable plants to be sprayed, the effects to the Dakota skipper from contaminants are expected to be insignificant or discountable.

Table 4. Proposed Action Impact-Exposure-Response-Effect Analysis for the Dakota Skipper.

	ACTIVITY	TASK(S)	TOOLS EQUIPMENT METHOD	BIOLOGICAL IMPACT				CONSEQUENCE		
				IMPACT "STRESSOR"	EXPOSURE TO IMPACT			RESPONSE	EFFECT	
					Y	N	EXPLANATION	LIKELY RESPONSE	LIKELY EFFECT	DEGREE OF EFFECT
CONSTRUCTION	Construction and Removal of Poles	Heavy Equipment Mobilization and Demobilization Erecting new poles Excavation and Removal of Concrete	Cranes, digger trucks, bucket trucks, skid steers, lo-drill or digger, excavator, among other heavy to light weight trucks and trailers	Acoustic	X		Noise produced from activities in and adjacent to identified suitable habitat.	None.	None.	Discountable, conservation measure commitments make effects extremely unlikely to occur.
				Visual	X		From high intensity human presence/activity and machinery.	Flight path change response. Flee response.	Increased energy expenditure or a stress response.	None.
				Physical Injury	X		From high intensity human presence/activity and machinery use.	Physical injury may decrease survival rate and will often lead to mortality.	Mortality from crushing and/or damaging any parts of egg, larva and pupa.	Permanent loss of individuals from the population. Up to 3.1 acres of suitable habitat removed either temporarily or permanently.
				Habitat Loss	X		From clearing vegetation and topsoil within identified suitable habitat and adjacent grassland habitats both permanently and temporarily.	Relocate.	Removal of feeding, breeding, sheltering resources permanently and temporarily. Reduced fitness and survivorship.	Up to 0.1 acres of suitable habitat permanently removed and up to 2.4 acres of suitable habitat temporarily removed. Up to 0.6 acres of dispersal habitat temporarily removed

	ACTIVITY	TASK(S)	TOOLS EQUIPMENT METHOD	BIOLOGICAL IMPACT			CONSEQUENCE			
				IMPACT “STRESSOR”	EXPOSURE TO IMPACT		RESPONSE	EFFECT		
					Y	N	EXPLANATION	LIKELY RESPONSE	LIKELY EFFECT	DEGREE OF EFFECT
				Habitat Degradation	X		From high intensity human presence/activity and machinery use. Vegetation trampling from vehicles, and heavy equipment. Localized microclimate modification from fugitive dust from construction activities.	Relocate.	Altered feeding, breeding, sheltering resources from localized disturbance and microclimate modification.	Discountable, conservation measure commitments make effects extremely unlikely to occur.
				Contaminants	X		From equipment fuel, spills and fugitive dust.	Flee response. Relocate.	Mortality. Altered feeding, breeding, sheltering resources.	Insignificant, unable to meaningful measure effect. Discountable, conservation measure commitments make effects extremely unlikely to occur.

5.2 SUMMARY OF ADVERSE EFFECTS TO THE DAKOTA SKIPPER

Dakota skippers are expected to experience direct and indirect effects from implementation of the Proposed Action as currently proposed due to the species' dependency on high quality native mixed grassland communities. Direct adverse effects are expected to occur during construction of the Proposed Action (Table 1). Up to 0.1 acres of direct permanent impact and up to 2.4 acres of direct temporary impact to identified suitable habitat that could support all Dakota skipper life stages; and 0.6 acres of temporary impact to dispersal/foraging habitat that could support the adult life stage are expected from the Proposed Action. This will reduce the amount of feeding, breeding, and sheltering resources available to the species, leading to reduced fitness or mortality of individuals occupying these areas. These direct impacts also increase the risk of physical injury from activities within suitable habitat.

Other less detrimental effects to the species could result from anthropogenic presence, habitat fragmentation, exposure to contaminants, and habitat degradation. Anthropogenic presence has the potential to alter Dakota skipper behavior. Habitat fragmentation has the potential to cause isolation of Dakota skipper populations. Habitat degradation will mainly occur in the form of a decrease in plant species diversity and increase of invasive species ultimately decreasing the habitat's potential to support the full Dakota skipper life cycle.

Each stressor has the potential to reduce the carrying capacity of the species and its habitat in the action area. The Service anticipates the essential behaviors of breeding, feeding, and sheltering of the species will be significantly impaired due from the Proposed Action activities and it is reasonable to anticipate the abundance of the species will be reduced in the action area (due to direct mortality of adults, larvae, pupae, and/or eggs).

5.3 CUMULATIVE EFFECTS

Cumulative effects consider the effects of future state, tribal, local, or private actions that are reasonably certain to occur within the action area of the proposed action subject to consultation (50 C.F.R. § 402.02). "Reasonably certain to occur" is a rigorous standard that is not based on speculation or mere possibility that effects to the species may occur (73 FR 76272). If no information exists, is speculative or not credible, then effects are not reasonably certain to occur and are disregarded (73 FR 76272). Furthermore, the definition of "cumulative effects" applies only to Section 7 analyses and should not be confused with the broader use of the term in the National Environmental Policy Act or other environmental laws. Future Federal actions that are unrelated to the Proposed Action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA (USFWS & NMFS 1998). The Service is not aware of any additional action that met the ESA definition of cumulative effects within the action area.

6.0 CONCLUSION

The Service defines “jeopardize the continued existence of” as “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species” (50 C.F.R. § 402.02).

Recovery calls for improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria identified in section 4(a)(1) of the ESA (50 C.F.R. § 402.02).

After reviewing the current status of the species, the environmental baseline for the action area, and the effects of the Proposed Action, it is the Service’s biological opinion that the replacement of three utility poles as proposed, is not likely to jeopardize the continued existence of the Dakota skipper.

The Service reached this conclusion because:

1. Since the species was listed as threatened in 2014 and the Recovery Plan was developed in 2021, numerous additional Dakota skipper populations have been documented. These discoveries demonstrated greater resiliency, representation, and redundancy across the species, reducing the immediate risk of extinction.
2. Most Dakota skipper populations are not in the planning area and will not be affected by the action.
3. The project was developed in close coordination with the Service to ensure that all effects that could constitute take were fully identified and considered.
4. Using the Barnes et al. (2023) species distribution model, we estimated 0.1 acres of the 4,713,552 acres of potential Dakota skipper habitat in North Dakota and 5,329,542 potential acres across the species entire range will be impacted by the project. The affected area represents roughly 0.0000021% of the potential Dakota skipper habitat in North Dakota and only 0.0000019% of potential habitat range-wide. We based our habitat estimates on the $\geq 50\%$ probability threshold because, at this level the model indicates the species is as likely to be present as absent.
5. Methods used to predict take were conservative and likely overestimated, rather than underestimated potential impacts.
6. Avoidance and minimization measures will be used when applicable to further minimize take.
7. Most impacts will be temporary in nature and will be either naturally restored or manually reclaimed back to resemble pre-disturbed habitat within 5 years of the initial impact.
8. Dakota Skipper Occupancy surveys conducted as a conservation measure for the project resulted in a newly discovered Dakota skipper population on private lands and will help to achieve recovery criteria.
9. Dakota skipper mortality that occurs as a result of the project would constitute a short-term effect on the population, which would have minimal impact on the species as a whole.

The proposed action would not appreciably reduce the likelihood of survival or recovery of the Dakota skipper because conservation measures outlined in the BA will minimize impacts, reduce the level of take, and provide long-term mitigation through habitat restoration. These conclusions, which rely on full implementation of the proposed action as described in Section 2.0, are further supported by the small project footprint and the expectation that conservation measures will prevent direct or indirect effects from significantly affecting reproduction, behavior, or habitat of existing populations or leading to extirpation from the project area. We also anticipate that other areas within the habitat unit will continue to remain suitable and occupied, and that the impacts associated with the project will not reach a level that would inhibit or preclude recovery of the species.

Critical habitat is designated for this species; however, this action does not affect any critical habitat. No destruction or adverse modification of critical habitat is anticipated

7.0 INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal Regulations pursuant to section 4(d) of the ESA prohibits *take* of endangered and threatened species, respectively, without special exemption. *Take* is defined as to harass, *harm*, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. *Harm* is further defined by the Service as an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 C.F.R. § 17.3). *Incidental take* is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), take that is incidental to and not intended as part of the agency action is not considered to be prohibited take under the ESA provided that such take is in compliance with the terms and conditions of this Incidental Take Statement (ITS).

The measures described below are non-discretionary and must be undertaken by RUS so that they become binding conditions of any grant or permit issued to a state agency, local entity, or others, as appropriate, for the exemption in Section 7(o)(2) to apply. The Federal action agency has a continuing duty to regulate the activity covered by this incidental take statement. If the Federal action agency 1) fails to assume and implement the terms and conditions or 2) fails to require a state agency, local entity, and/or others to adhere to the terms and conditions of the ITS through enforceable terms that are added to the permit or grant document, the protective coverage of Section 7(o)(2) may lapse. To monitor the impact of incidental take, the Federal action agency and any state agency, local entity, or others involved with the Proposed Action must report the progress of the action and its impact on the species to the Service as specified in the ITS (50 C.F.R. § 402.14(i)(3)).

7.1 AMOUNT OR EXTENT OF TAKE

The Service anticipates the incidental take of Dakota skippers will be difficult to detect or quantify for the following reasons:

- The presence of individual Dakota skippers is extremely difficult to confirm due to the species' obscure life cycle; thus, incidental take of individuals is too difficult to monitor effectively and
- The incidental take of eggs, larvae, pupae, or adults (flight stage) will be difficult to track and quantify given the diminutive size and obscurity of individuals; thus, the total amount of injury or mortality will be highly uncertain.

However, take of this species from the Proposed Action can be approximated by quantifying the spatial extent (acres) of the habitat traversed, destroyed, and/or modified. Using the extent and location of Dakota skipper suitable habitat as a surrogate indicator of the amount or extent of take that will occur in the form of harm, the Service expects the incidental take of up to 0.1 acres permanently and 2.4 acres temporarily of Dakota skipper suitable habitat and 0.6 acres temporarily of dispersal habitat. Direct take is anticipated to occur during the pre-construction and construction phases of the Proposed Action.

The Service also expects indirect effects to occur to Dakota skippers from habitat alteration. Dakota skippers are expected to be harmed at these locations due to anthropogenic presence, habitat degradation, habitat fragmentation and physical impacts. These stressors will diminish the likelihood of individual survival for Dakota skippers at all life stages around the proposed action.

Table 5. Expected Incidental Take

Expected Incidental Take				
Impact Factor	Suitable Habitat		Dispersal Habitat	
	Permanent Impact (acres)	Temporary Impact (acres)	Permanent Impact (acres)	Temporary Impact (acres)
Access route	0	1.6	0	0.6
Construction and Removal of Poles	0.1	0.8	0	0
Total:	0.1	2.4	0	0.6

7.2 EFFECT OF THE TAKE

In the accompanying BO, the Service has determined that this level of anticipated take is not likely to appreciably reduce the survival of the Dakota skipper. Therefore, the Service concludes the action is not likely to result in jeopardy to the species.

7.3 REASONABLE AND PRUDENT MEASURES

The reasonable and prudent measures (RPM), and implementing terms and conditions, minimize the effects of incidental take that might otherwise result from the action. RPMs have been developed based on information presented in the Biological Assessment for the Proposed Action and the life history for the species. RPMs are non-discretionary and must be implemented so that they become binding conditions of the permit for the exemption in Section 7(o)(2) of the ESA to apply. Pursuant to 50 C.F.R. § 402.14(I)(1)(iii) and 402.14(I)(3), the Service believes the following RPMs are necessary and appropriate to minimize take of Dakota skippers.

1. Minimize direct and indirect effects to federally listed species and their habitats by controlling the timing, location, and extent of construction activities.
2. Prevent and reduce sedimentation, erosion, and pollutant runoff into wetlands and other sensitive habitats.
3. Prevent the introduction or spread of noxious weeds and invasive plant species that could degrade habitat for listed species.
4. Reduce chemical exposure risk to listed species and minimize herbicide drift or misapplication in suitable or occupied habitat.

7.4 TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the ESA, the Federal action agency must comply with the following terms and conditions, which implement the reasonable RPMs described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

To implement RPM 1:

- 1) The action agency shall ensure all construction plans clearly delineate the approved work limits, access routes, and sensitive resource areas (e.g., wetlands, native prairie, suitable Dakota skipper habitat) prior to the onset of any ground-disturbing activity.
- 2) The contractor shall restrict all construction vehicles to a maximum speed of 15 mph within the project area to minimize wildlife collisions and reduce dust impacts.

To implement RPM 2:

- 1) The action agency shall ensure appropriate BMPs and erosion-control structures (e.g., silt fencing, wattles, sediment traps) are installed prior to any soil disturbance and are maintained in effective condition throughout construction.
- 2) All disturbed areas shall be stabilized promptly after construction using appropriate native seed mixes or approved erosion-control materials.

To implement RPM 3:

- 1) All construction equipment, vehicles, and ground-disturbing machinery shall be thoroughly cleaned of soil and plant material before entering the project area and again prior to moving between discrete work areas.
- 2) Any straw, hay, or mulch used for erosion control must be certified weed-free. Documentation of certification shall be kept onsite and made available upon request.
- 3) Herbicide use shall be limited to spot treatments, and only personnel trained to identify target weed species may apply herbicides.
- 4) Mechanical control methods shall be used in lieu of herbicides when treatments occur adjacent to or within suitable Dakota skipper habitat where herbicide drift could pose a risk to that habitat.

To implement RPM 4:

- 1) No insecticides shall be used within the project footprint.
- 2) Herbicides, when used, shall be mixed, applied, and stored in accordance with the label requirements, state regulations, and Service recommendations to minimize the potential for drift or runoff into sensitive habitats.

Additional Terms and Conditions:

- 1) The Service is to be notified within three (3) working days upon locating any dead, injured, or sick endangered or threatened species specimen (see 50 C.F.R. § 402.14(I)(1)(v)). Initial notification must be made to the nearest U.S. Fish and Wildlife

Service Office of Law Enforcement. Notification must include the date, time, precise location of the injured animal or carcass, and any other pertinent information. Care should be taken in handling sick or injured specimens to preserve biological materials in the best possible state for later analysis of cause of death, if that occurs. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence associated with the specimen is not unnecessarily disturbed. Contact the North Dakota location of U.S. Fish and Wildlife Service Office of Law Enforcement at (701) 255-0593.

7.5 CONSERVATION RECOMMENDATIONS

Conservation recommendations are suggestions of the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 C.F.R. § 402.02). Section 7(a)(1) of the ESA directs the Federal action agency to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery programs, or to develop information. The Service suggests the following Conservation Recommendations:

To assist in meeting your responsibilities under Section 7(a)(1) of the ESA, we recommend that you work proactively with the Service and others on Dakota skipper recovery actions. This includes identifying and remedying potential threats to Dakota skipper recovery.

- We encourage the Federal action agency and project proponents to seek technical assistance from the Service throughout the entirety of the Proposed Action.
- Reestablish vegetation to the standard of successful reclamation by ensuring seeded areas attain consistent ground coverage similar to surrounding undisturbed vegetation, and control of noxious weeds is evident.
- Promote restoration and enhancement projects for Dakota skippers and other pollinator species.

7.6 REINITIATION NOTICE

This concludes formal consultation on your January 2026 request for consultation. As provided in 50 C.F.R. § 402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: 1) the amount or extent of incidental take is exceeded (0.1 acres permanently and 2.4 acres temporarily of suitable habitat and up to 0.6 acres temporarily of dispersal habitat); 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this BO; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this BO; or 4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

8.0 LITERATURE CITED

- 73 FR 76272. Interagency Cooperation Under the Endangered Species Act. U.S. Fish and Wildlife Service, National Marine Fisheries Service. Federal Register 73:242 (December 16, 2008) pp. 76272-76287.
- 78 FR 47590. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Graham's Beardtongue (*Penstemon grahamii*) and White River Beardtongue (*Penstemon scariosus* var. *albifluvis*). Federal Register 78:151 (August 6, 2013) pp. 47590-47611
- 78 FR 63578. Endangered and Threatened Wildlife and Plants; Threatened Status for Dakota Skipper and Endangered Status for Poweshiek Skipperling [Proposed Rule]. Federal Register 78:206 (October 24, 2013) pp. 63574-63625
- 79 FR 63672. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Dakota Skipper and Endangered Species Status for Poweshiek Skipperling [Final Rule]. Federal Register 79:206 (October 24, 2014) pp. 63672-63747.
- 80 FR 59247. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Dakota Skipper and Poweshiek Skipperling. Federal Register 80:190 (October 1, 2015) pp. 59247-59384.
- Barnes K.W., Toso, L., and N.D. Niemuth. 2024. Dakota skipper habitat suitability model for portions of North Dakota, South Dakota, and Minnesota. USFWS, Bismarck, ND. Available online at: <https://ecos.fws.gov/ServCat/Reference/Profile/159874>
- Bergquist, E., P. Evangelista, T. J. Stohlgren, and N. Alley. 2007. Invasive species and coal bed methane development in the Powder River Basin. Wyoming Environmental Monitoring Assessments. 128:381-394
- Braker, N. 1985. Felton Prairie. Minnesota Department of Natural Resources, Natural Heritage Program, St. Paul, MN.
- Britten, H.B. and J.W. Glasford. 2002. Genetic population structure of the Dakota skipper (Lepidoptera: *Hesperia dacotae*): A North American native prairie obligate. Conservation Genetics). 3:363-374.
- Bryce, S.A., J.M. Omernik, D.E. Pater, M. Ulmer, J. Schaar, J. Freeouf, R. Johnson, P. Kuck, and S.H. Azevedo. 1998. Ecoregions of North Dakota and South Dakota. (2-sided color poster with map, descriptive text, summary tables, and photographs). U.S. Geological Survey, Reston, VA. Scale 1:1,500,000. Available online at: [http://www.epa.gov/wed/pages/ecoregions/ndsd eco.htm](http://www.epa.gov/wed/pages/ecoregions/ndsd%20eco.htm).
- Burke, R., J. Fitzsimmons, and J. Kerr. 2011. A mobility index for Canadian butterfly species based on naturalists' knowledge. Biodiversity and Conservation 20:2273-2295.
- Center for Biological Diversity v. Burgum. 2026. U.S. District Court for the District of Northern California, Case No. 24. Order issued March 30, 2026.

- Cochrane, J. F. and P. Delphey. 2002. Status assessment and conservation guidelines: Dakota skipper [*Hesperia dacotae* (Skinner)], (Lepidoptera: Hesperidae): Iowa, Minnesota, North Dakota, South Dakota, Manitoba, and Saskatchewan. U.S. Fish and Wildlife Service, Bloomington, MN.
- Dana, R. P. 1991. Conservation management of the prairie skippers *Hesperia dacotae* and *Hesperia ottoe*. Station Bulletin 594-1991 (AD-SB-5511-S), Minnesota Agricultural Experiment Station, University of Minnesota, St. Paul, Minnesota.
- Dana, R. 1997. Characterization of three Dakota skipper sites in Minnesota, Minnesota Department of Natural Resources, Natural Heritage and Nongame Research Program, St. Paul, MN.
- Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified as amended at 16 U.S.C. §§ 1531–1544).
- Environmental Protection Agency (EPA). 1974. Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety. Prepared by U.S. EPA office of Noise Abatement and Control. EPA/ONAC 550/9-74-004.
- EPA. 1995. Chapter 13: Miscellaneous Sources, 13.2 Introduction to fugitive dust sources in AP 42. Fifth edition. Compilation of air pollutant emission factors. Volume I: Stationary point and area sources. Office of Air Quality Planning and Standards, Office of Air and Radiation, Research Triangle Park, NC.
- Enz, John. W. 2003. North Dakota Topographic Climatic, and Agricultural Overview. North Dakota State University.
<https://www.ndsu.edu/fileadmin/ndsco/documents/ndclimate.pdf>
- Farmer, A. M. 1993. The effects of dust on vegetation – a review. Environmental Pollution. 79: 63-75
- Gedafa, D. S. 2013. Measuring Dust from Unpaved Roads and Its Impact on Crops & Livestock. UND Civil Engineering, Grand Forks, ND. Available online at: <http://www.ndenergy.org/>.
- Gedafa, D. S., J. Page, and H. Gullicks. 2016. Dust from low-volume roads due to energy sector traffic in North Dakota. Consideration for presentation at the Transportation Research Board's 95th Annual Meeting and publication in the Transportation Research Record: Journal of the Transportation Research Board.
- Knauer, H. S., S. Pedersen, C. N. Rehman, J. L. Rochat, E. S. Thalheimer, M. C. Lau, G. G. Fleming, M. Ferroni, and C. Corbisier. 2006. FHWA Highway Construction Noise Handbook. Federal Highway Administration.
- Lenz, D. 1999. Characterization of Dakota skipper habitat in the Towner-Karlsruhe prairie complex, Natural Heritage Inventory, Nature Preserves Program, North Dakota Parks and Recreation Department, Bismarck, North Dakota.
- Lewis, M. 2013. Roads and the Reproductive Ecology of *Hesperidanthus suffrutescens*, an endangered shrub. Master of Science Thesis, Utah State University, 121 pp.

- McCabe, T. L. and R. L. Post. 1977. Skippers (Hesperiidae) of North Dakota. North Dakota Insects Publication No. 11, Department of Entomology, Agricultural Experiment Station, North Dakota State University.
- McCabe, T. L. 1979. Dakota skipper (Lepidoptera: Hesperidae; *Hesperia dacotae* (Skinner)) within the Garrison Diversion Unit, North Dakota
- McCabe, T. L. 1981. The Dakota skipper, *Hesperia dacotae* (Skinner): Range and biology, with special reference to North Dakota. Journal of the Lepidopterists' Society 35:179-193.
- McCrea, P. R. 1990. Effects of road dust on agricultural and horticultural production systems in New Zealand: A systems approach [Thesis]. University of Canterbury – Lincoln University.
- Meadowlark Environmental, LLC (Meadowlark). 2025. Natural Resources Report, Line 12. Structure Replacement. Kidder, Stutsman, and Barnes Counties, ND. July 2025. 107 pp.
- Meadowlark Environmental, LLC (Meadowlark). 2025. Biological Assessment Line 12 Structure Replacement Project-Structure 602 Stutsman County, ND. December 2025. 92 pp.
- Minet, J. and A. Surlykke. 2012. Auditory and sound producing organs. In Teilband/Part 36 Vol 2: Morphology, Physiology, and Development, Chapter 11, pp. 289-324. De Gruyter.
- North Dakota Department of Agriculture (NDDA). 2026. North Dakota Noxious Weed Law and Regulations. Plant Industries Division.
- North Dakota Game and Fish Department (NDGFD). 2014. North Dakota Macro Native Grassland Conservation Areas Digital Data Layer. Created April 4, 2014. Updated April 23, 2019. Available online: <http://ndgf.maps.arcgis.com/home/item.html?id=70d96593edad48d7999bb00b8c54c478>
- Orwig, T. 1995. Butterfly surveys in North Dakota: 1995. Unpublished report, The Nature Conservancy, Bismarck, ND November 1995. 13+ pp.
- Preston, T. 2015. Presence and abundance of non-native plant species associated with recent energy development in the Williston Basin. Environ. Monit. Assess. (2015) 187:200.
- Redford, K.H., G. Amato, J. Baillie, P. Beldomenico, E.L. Bennett, N. Clum, R. Cook, G. Fonseca, S. Hedges, F. Launay, S. Lieberman, G. M. Mace, A. Murayama, A. Putnam, J.G. Robinson, H. Rosenbaum, E. W. Sanderson, S. N. Stuart, P. Thomas, and J. Thorbjarnarson. 2011. What does it mean to successfully conserve a (vertebrate) species? Bioscience 61:39-48.
- Rigney, C. L. 2013. Habitat characterization and biology of the threatened Dakota skipper (*Hesperia dacotae*) in Manitoba. Masters of Science. The University of Winnipeg, Winnipeg, Manitoba, Canada.
- Royer, R. A. and G. M. Marrone. 1992. Conservation status of the Dakota skipper (*Hesperia dacotae*) in North and South Dakota. U.S. Department of the Interior, Denver, CO.

-
- Royer, R. A. 1997. A final report on conservation status of the Dakota skipper [*Hesperia dacotae* (Skinner 1911)] in the State of North Dakota during the 1996 and 1997 flights, including observations on its potential recovery in the state. Page 26. North Dakota Department of Parks and Recreation, Bismarck, ND.
- Royer, R. A., R. A. McKenney, and W. E. Newton. 2008. A characterization of non-biotic environmental features of prairies hosting the Dakota skipper (*Hesperia dacotae*, Hesperiiidae) across its remaining U.S. range. *Journal of the Lepidopterists Society* 62:1-17.
- Royer, R. A. and M. R. Royer. 2012. Dakota Skipper and Poweshiek Skipperling Field Survey and Habitat Assessment at Twenty-Nine North Dakota Sites during the 2012 Season. Minot State University, Minot, ND.
- Royer, R. A. and M. R. Royer. 2012a. Dakota Skipper and Poweshiek Skipperling Field Survey and Habitat Assessment for Twenty-Five North Dakota Sites during the 2012 Season: Preliminary Report. Division of Science, Minot State University, Minot, ND.
- Royer, R. A., M. R. Royer, and E. A. Royer. 2014. Dakota skipper field survey and habitat assessment at twelve North Dakota sites during the 2014 season. A final report submitted to Twin Cities Field Office, U.S. Fish and Wildlife Service, Bloomington, MN. Minot State University, Minot, ND. 53 p.
- Runquist, E. and C. Nordmeyer. 2018. Minnesota Zoo Prairie Butterfly Conservation Program 2017 Annual Report. Apple Valley, MN, Minnesota Zoo: 44pp.
- Schlicht, D. and M. Saunders. 1994. Completion of status surveys for the Dakota skipper (*Hesperia dacotae*) and the Poweshiek skipper (*Oarisma poweshiek*) in Minnesota (with additional data on the regal fritillary (*Speyeria idalia*)). Page 22 Final Report. U.S. Fish and Wildlife Service, Bloomington, MN.
- Schlicht, D. 1997. Surveys for the Dakota skipper in Minnesota: Final Report., Minnesota Department of Natural Resources, Natural Heritage and Nongame Research Program, Center Point, IA.
- Schlicht, D. 1997a. Population monitoring for prairie butterflies in Minnesota. Page 26 Final report. Minnesota Department of Natural Resources, St. Paul, MN.
- Scott, J. A. 1986. The butterflies of North America. Stanford University Press, Stanford, CA. 583 pp.
- Sharifi, M. R., A. C. Gibson, and P. W. Rundel. 1997. Surface dust impacts on gas exchange in Mojave Desert Shrubs. *Journal of Applied Ecology*. 34(4): 837-846
- Skadsen, D. R. 1997. A report on the results of a survey for Dakota skipper [*Hesperia dacotae* (Skinner, 1911)] in northeast South Dakota during the 1996 and 1997 flights. South Dakota Department of Game, Fish, and Parks, Pierre, SD.
- Skadsen, D. R. 1999. Addendum to a report on the results of a survey for Dakota skipper [*Hesperia dacotae* (Skinner 1911)] in northeast South Dakota: 1998 flight period. South Dakota Department of Game, Fish, and Parks - Wildlife Division, Pierre, SD.

- Skadsen, D. R. 2006. Surveys for Butterflies Listed as Endangered, Threatened or Species of Tribal Concern on the Sisseton-Wahpeton Oyate Lake Traverse Reservation., Natural History Investigations and Biological Services, Inc., Webster, SD.
- Sharifi, M. R., A.C. Gibson and P.W. Rundel. 1997. Surface dust impacts on gas exchange in Mojave Desert shrubs. *J. Appl. Ecol.* 34(4):837-846.
- Seidle, K. M., J. Kiss, A. U. Attanayake, JM DeVink, A. Bedard-Haughn, R. Westwood, E. G. Lamb. 2020. Extent of Dakota skipper, *Hesperia dacotae*, distribution in Southeastern Saskatchewan, Canada. *Journal of Insect Conservation*. 24:1073-1081.
<https://doi.org/10.1007/s10841-020-00276-6>
- Spomer, S.M. 2003. Butterfly and skipper survey, Dakota Prairie National Grassland, Ransom and Richland Counties, ND. 2002 Field Season Report. Submitted to Pamela J. Bell/Dan Svingen, Custer National Forest, 1310 Main, Billings, MT 59102. 18 pp.
- Steinauer, E. M. and S. L. Collins. 1994. Prairie ecology-The Tallgrass Prairie. Pages 39-52 in F.B. Samson and F. L. Knopf, editors. *Prairie Conservation: Preserving North America's Most Endangered Ecosystem*. Island Press, Washington, D.C.
- Sourakov, A. 2009. Extraordinarily quick visual startle reflexes of skipper butterflies (Lepidoptera: HesperIIDae) are among the fastest recorded in the animal kingdom. *Florida Entomologist*, 92(4):653-655. Florida Entomological Society.
<https://doi.org/10.1653/024.092.0420>
- Sun, P., N. Mhatre, A. C. Mason, and J. E. Yack. 2018. In that vein: inflated wing veins contribute to butterfly hearing. *Biology Letters*, 14(10), 20180496.
<https://doi.org/10.1098/rsbl.2018.0496>
- Swengel, A. B. and S. R. Swengel. 1999. Observations of prairie skippers (*Oarisma poweshiek*, *Hesperia dacotae*, *H. ottoe*, *H. leonardus pawnee*, and *Atrytone arogos Iowa*) (Lepidoptera: HesperIIDae) in Iowa, Minnesota, and North Dakota during 1988-1997. *Great Lakes Entomologist* 32:267-292.
- Taylor, C. J., and J. E. Yack. 2019. Hearin in Caterpillars of the Monarch Butterfly (*Danaus plexippus*). *Journal of Experimental Biology*. <https://doi.org/10.1242/jeb.211862>
- Thompson, J.R., P. W. Mueller, W. Fluckiger, and A. J. Rutter. 1984. The effect of dust on photosynthesis and its significance for roadside plants. *Environmental Pollution*. 34:171-190.
- U.S. Fish and Wildlife Service (USFWS) & National Marine Fisheries Service (NMFS). 1998. Consultation handbook, procedures for conducting consultation and conference activities under section 7 of the Endangered Species Act.
- USFWS & NMFS. 2025. Interagency cooperation—Endangered Species Act of 1973, as amended. 50 C.F.R. § 402. <https://www.ecfr.gov/current/title-50/section-402>
- USFWS. 2014. Dakota Skipper Database [Unpublished Geodatabase].
- USFWS. 2018. Dakota Skipper (*Hesperia dacotae*) report on the species status assessment (SSA). Version 2 – September 2018.

-
- USFWS. 2018a. Dakota Skipper/Poweshiek Skipperling Recovery Permit and Related Actions. 03E19000-2018-F-0915.
- USFWS. 2021. Recovery Plan for the Dakota Skipper (*Hesperia dacotae*). U.S. Fish and Wildlife Service, Great Lakes Region, Bloomington, Minnesota.
- USFWS. 2023. Dakota skipper Current Range [IPaC Shapefile]. Last Updated: April 6, 2023.
- USFWS. 2024. North Dakota Dakota Skipper Recovery Status Report and 2024 Proposed Survey Areas. U.S. Fish and Wildlife Service, Mountain-Prairie Region, Bismarck, North Dakota.
- USFWS. 2025. Dakota Skipper Database [Unpublished Geodatabase].
- USFWS. 2025a. USFWS NDFO Conservation Recommendations. U.S. Fish and Wildlife Service - North Dakota Ecological Services Field Office. Bismarck, ND. Version 8/21/2025
- U.S. Geological Survey (USGS), 2024, Annual NLCD Collection 1 Science Products: U.S. Geological Survey data release, <https://doi.org/10.5066/P94UXNTS>
- Washington Department of Transportation (WSDOT). 2025. Biological Assessment Preparation Manual.

ATTACHMENT B: FLOODPLAIN MANAGEMENT



-  Project Area
-  Line 12 Centerline
-  Area of Minimal Flood Hazard

Data Source:
FEMA National Flood Hazard Layer.
Map Effective Date: 5/24/2011



Imagery: USDA NAIP (2025)

Floodplain Management
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND

ATTACHMENT B



ATTACHMENT C: WETLANDS PROTECTION



- Project Area
- Line 12 Centerline
- Wetlands (National Wetlands Inventory)
 - Freshwater Emergent Wetland
 - Freshwater Pond
 - Lake

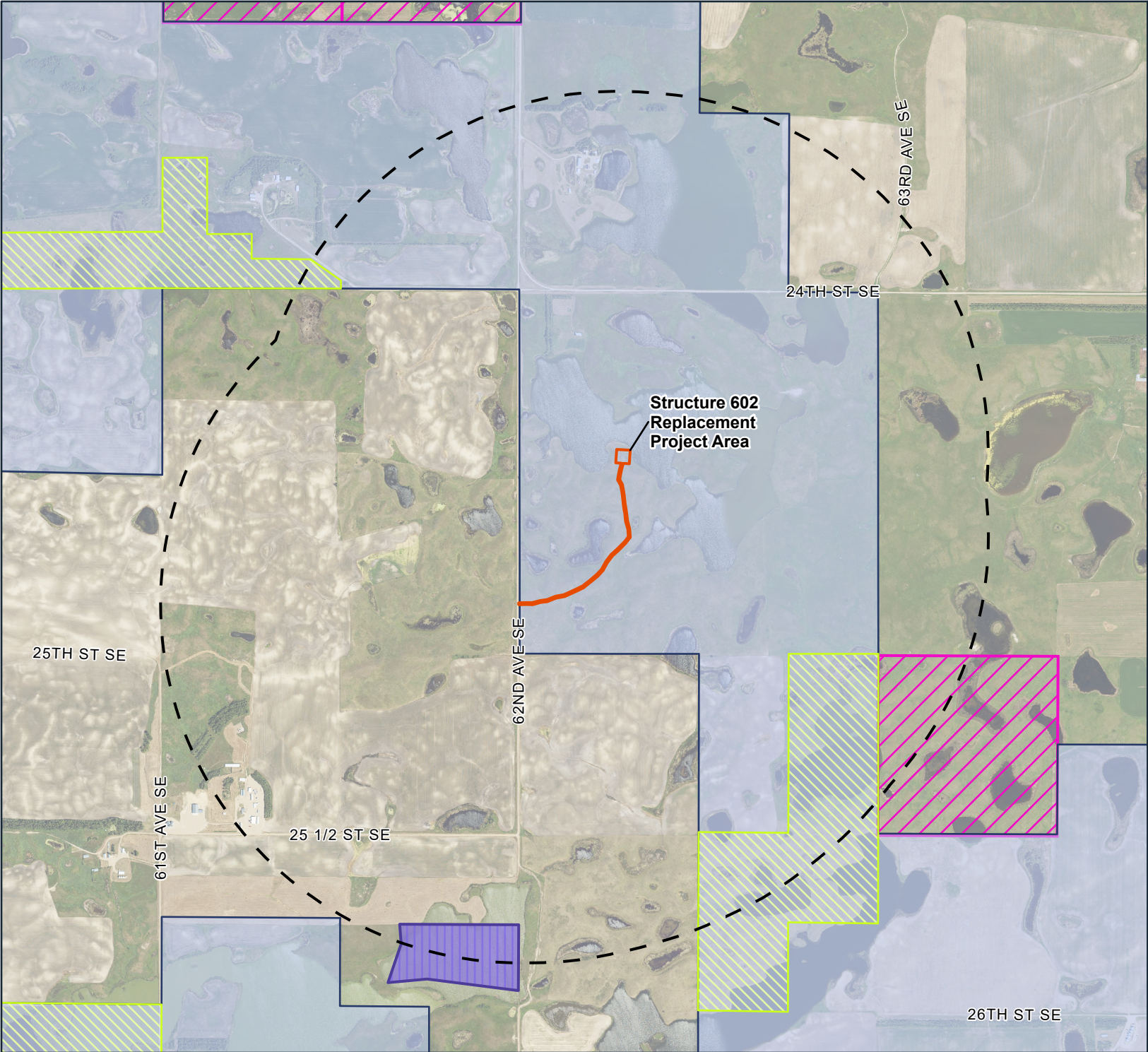


Imagery: USDA NAIP (2025)

Wetlands
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND
ATTACHMENT C



ATTACHMENT D: FORMALLY CLASSIFIED LANDS



 Project Area

 1-mile Buffer

 Surface Trust Lands
(ND Dept. of Trust Lands)

 Waterfowl Production Area (USFWS)

 USFWS Interest Lands
Wetland Easement

 Grassland Easement



0



2,000

Feet

Imagery: USDA NAIP (2025)

Formally Classified Lands
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND

ATTACHMENT D



ATTACHMENT E: IMPORTANT FARMLAND



- Project Area
- 1-mile Buffer
- All areas are prime farmland
- Farmland of statewide importance
- Prime farmland if drained
- Not prime farmland

Data Source:
USDA SSURGO Soils Database;
Accessed 3/25/2026



Imagery: USDA NAIP (2025)

Important Farmland
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND

ATTACHMENT E



ATTACHMENT F: CONTAMINATION AND TOXIC SUBSTANCES
(EPA FACILITIES)



-  Project Area
-  1-mile Buffer
-  0.5-mile Buffer

Notes:
No hazardous waste and toxic release sites from the EPA database are located within 1-mile of the Project Area.

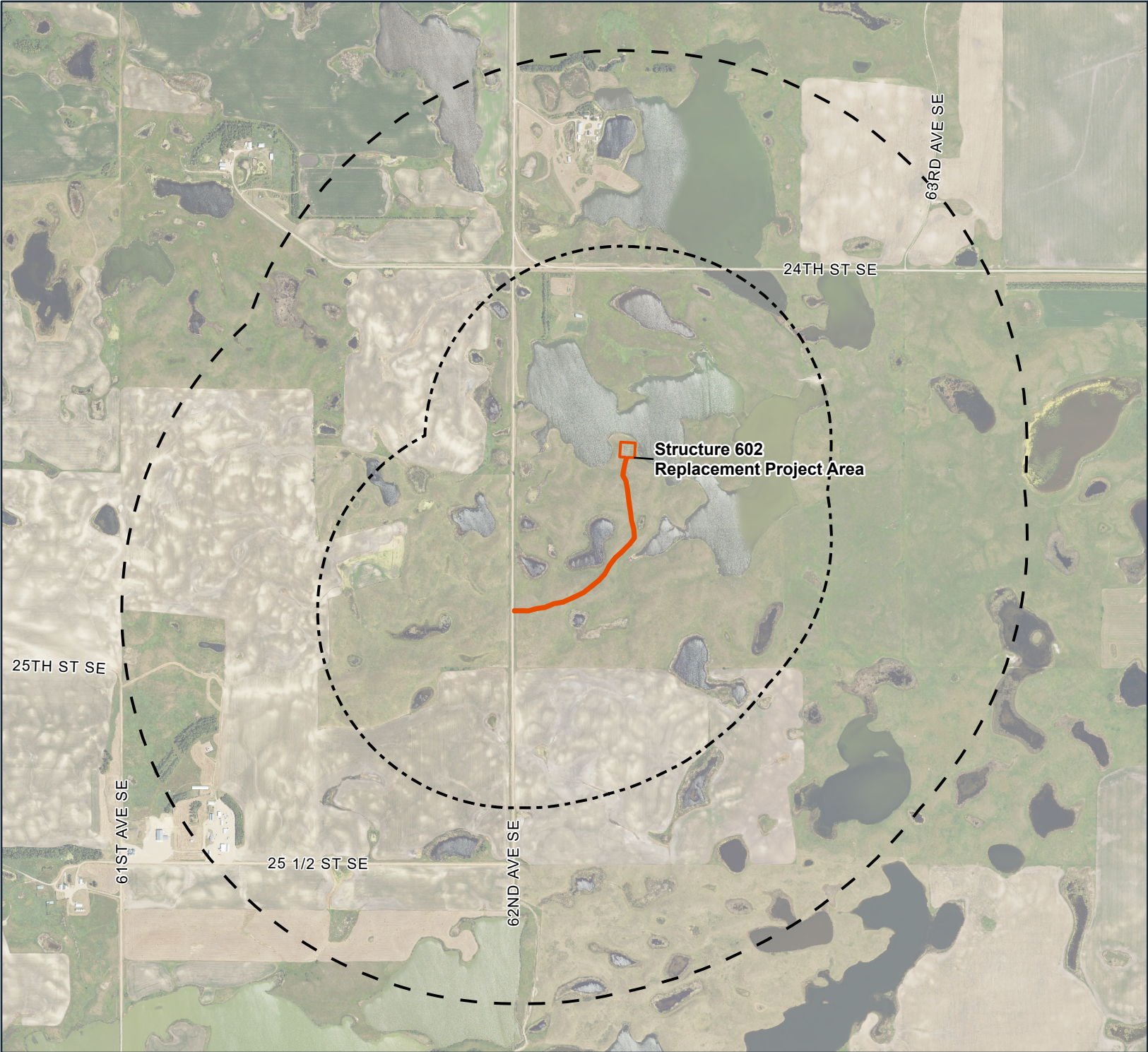


Imagery: USDA NAIP (2025)

Contamination and Toxic Substances
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND
ATTACHMENT F



ATTACHMENT G: AIR QUALITY



- Project Area
- 0.5-mile Buffer
- 1-mile Buffer

Notes:
No non-attainment areas or maintenance areas sites from the EPA database are located within 1-mile of the Project Area.



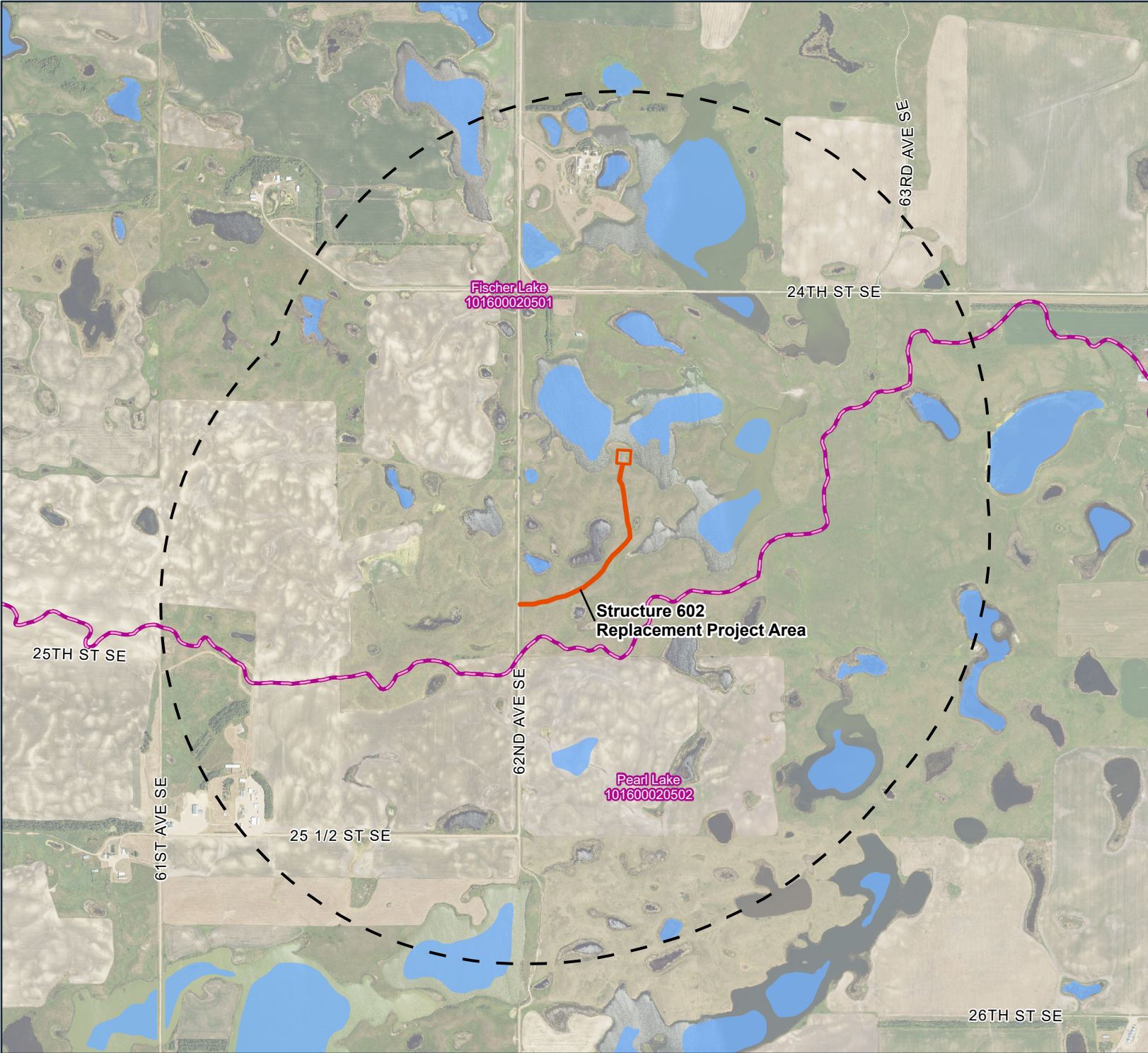
Imagery: USDA NAIP (2025)

Air Quality
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND

ATTACHMENT G



ATTACHMENT H: WATER QUALITY



- Project Area
- 1-mile Buffer
- HUC12 Watershed Boundary
- Waterbody (USGS NHD)

Notes:
No impaired waters were identified within 1-mile of the Project Area.



Imagery: USDA NAIP (2025)

Water Quality
Structure 602 Replacement
Minnkota Power
Cooperative, Inc.
Stutsman County, ND

ATTACHMENT H

