APPENDIX J

Dakota Skipper Habitat Assessment Survey Report

Minnesota Power

Dakota Skipper Habitat Assessment and Occupancy Survey Report

Oliver County, North Dakota

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November 2024

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MIDWEST NATURAL RESOURCES

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1.0 INTRODUCTION

Midwest Natural Resources, Inc. (MNR) is pleased to provide the following habitat assessment/delineation and occupancy report for the federally listed Dakota skipper (*Hesperia dacotae*) in support of the proposed HVDC Minnesota Power Project (Project). The Project is located southeast of the town Center in Oliver County, North Dakota (**Figure 1**).

Survey efforts were conducted over multiple years, from 2022 through 2024, within a cumulative survey area totaling approximately 2,109 acres. Dakota skipper habitat assessment/delineation efforts were initiated in the fall of 2022, followed by occupancy surveys in 2023. Additional project areas were evaluated for habitat in the fall of 2023, and occupancy surveys were conducted in these areas during the 2024 flight period. Further changes in the Project footprint were made and these areas were assessed for habitat in fall 2024.

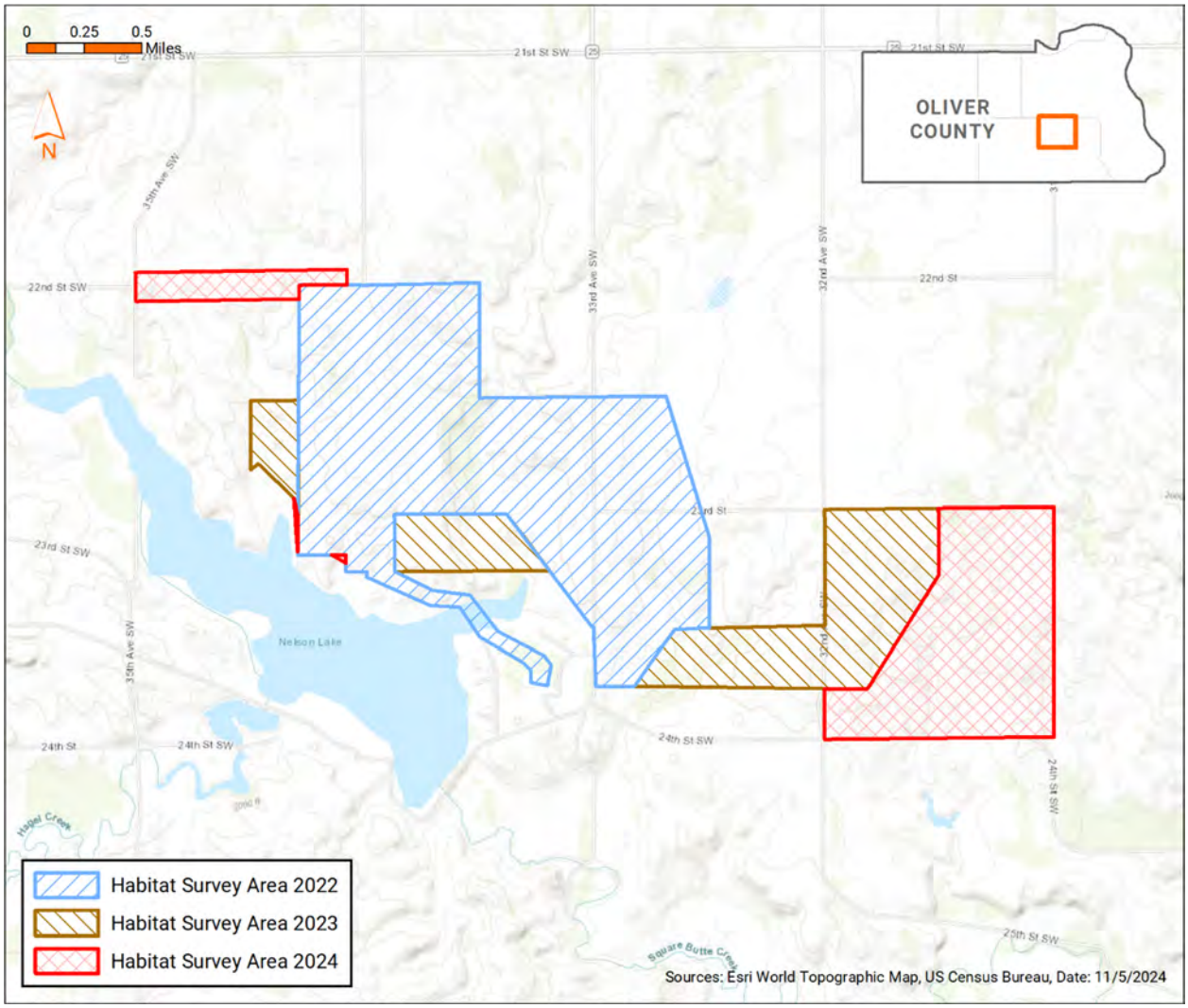


Figure 1. Proposed project location and survey areas

2.0 GRASSLAND DESKTOP ANALYSIS

Prior to all field efforts, MNR conducted a preliminary grassland desktop analysis using Geographic Information Systems (GIS) to identify potential grassland habitats within the entire survey area. This initial analysis utilized publicly available land cover data, including the National Agricultural Imagery Program (NAIP) 2017 aerial imagery, the National Land Cover Dataset, the National Agricultural Statistics Service Cropland Data Layer, and aerial and infrared imagery.

The desktop assessment identified a total of 969 acres of potential grassland within the entire 2,109-acre Project footprint (**Figure 2**).

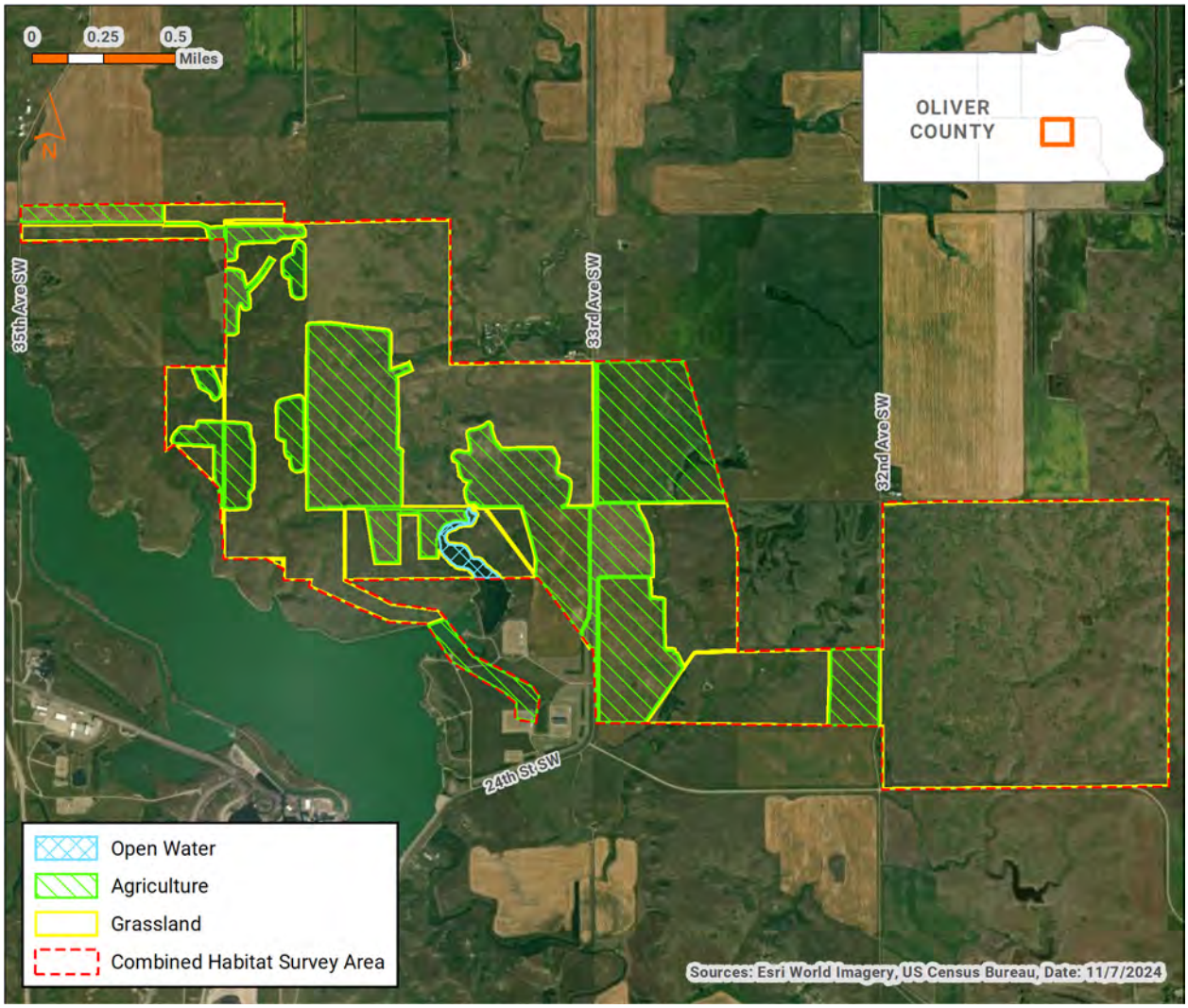


Figure 2. Grassland desktop assessment results

3.0 HABITAT ASSESSMENT AND DELINEATION

Dakota Skipper Habitat

According to the US Fish and Wildlife Service (USFWS), the Dakota skipper is an obligate of high-quality, untilled prairie habitat dominated by native species. The larvae of this skipper rely on a select few native bunch grasses for both a food source and shelter. Meanwhile, the adult skippers require flowering native forbs as nectar sources during their flight period (a roughly two-week period around July 4th). The Dakota skipper is less likely to be present in cropped or previously-cropped areas, non-native hay lands, pastures, grasslands dominated by non-native species, or areas with significant trees and/or shrub cover.

As outlined in the USFWS *2024 Dakota Skipper (Hesperia dacotae) Survey Protocol* (Protocol)[1], there are two habitat types that these skippers are known to occupy; each is classified as either Type A or Type B. Type A habitat is a wet-mesic prairie, associated with "near-shore glacial lake deposits," with minimal topographic relief. Key graminoid species include big bluestem (*Andropogon gerardii*) and little bluestem (*Schizachyrium scoparium*) with prominent forbs including black-eyed susan (*Rudbeckia hirta*), wood lily (*Lilium philadelphicum*), harebell (*Campanula rotundifolia*), and mountain deathcamas (*Zigadenus elegans*) serving as nectar sources.

Type B habitat is dry-mesic prairie on rolling topography associated with coarse glacial moraine deposits. This community is dominated by little bluestem, big bluestem, and needle-and-thread or porcupine grasses (*Hesperostipa* spp.). Other native bunch grasses of interest are side-oats grama (*Bouteloua curtipendula*), and prairie dropseed (*Sporobolus heterolepis*). In this habitat type, there is a notable abundance of native prairie forbs such as blanket-flower (*Gaillardia aristata*), prairie coneflower (*Ratibida columnifera*), and narrow-leaved purple coneflower (*Echinacea angustifolia*), which is recognized as one of the most important sources of nectar for adults in this habitat type.

Methods

MNR botanists conducted a Dakota skipper habitat assessment and delineation in October 2022, September 2023, and September 2024. Field surveys were led by Otto Gockman, Principal Botanist, and conducted under a USFWS Recovery Permit (Permit #TE28570D-0; specific for the Dakota skipper).

The habitat assessment targeted both Type A and Type B habitats as defined by the USFWS Protocol. Surveys within the project area followed the data collection described in the Protocol and included the field delineation of all areas meeting the criteria for either habitat type. The cover of requisite species was categorized based on the Braun-Blanquet cover scale, with presence and cover reflecting the conditions when surveys were conducted. Additionally, each habitat area was further documented with a representative photo.

[1] USFWS. 2024. 2024 Dakota Skipper (*Hesperia dacotae*) North Dakota Survey Protocol. USFWS Midwest and Mountain Prairie Regions.

Results

The overall landscape within the project area consists of rolling terrain, and land use is primarily rangeland and pasture, with several large agricultural fields under row crop production. Remnant native dry prairie is generally restricted to steep slopes within the rangeland.

Collective field efforts delineated 88 total habitat polygons, totaling 139 acres (**Appendix A – Map 1**) between 2022 and 2024, with 23 polygons mapped in the most recent efforts. Of the mapping efforts conducted in 2024, 7 polygons are extensions of previously delineated habitat polygons.

All of the mapped habitat polygons are Type B habitat, and most are located on hillsides in grazed rangeland, generally protected from heavy grazing. These areas are typically dominated by little bluestem or porcupine grass (*Hesperostipa spartea*) with narrow-leaved purple coneflower. Prairie groundsel (*Packera plattensis*), American pasqueflower (*Anemone patens*), blazing stars (*Liatris* spp.), purple prairie clover (*Dalea purpurea*), side-oats grama, thimbleweed (*Anemone cylindrica*), prairie sagewort (*Artemisia frigida*), and western wheatgrass (*Pascopyrum smithii*) are also common.

In general, the quality of each area varies based on impacts from factors such as grazing, invasive species, and shrub cover. Still, each patch includes a number of the requisite species for the Dakota skipper, including larval host grasses (mainly little bluestem) and the nectar source plant (primarily narrow-leaved purple coneflower). Information about each mapped habitat polygon is included in the data forms provided in **Appendix B**, with locations illustrated in **Appendix A – Maps 3-15.**

4.0 OCCUPANCY SURVEYS

Survey Limits

Due to changes in the proposed Project footprint, most of the mapped potential Dakota skipper habitat polygons were eliminated when occupancy surveys were implemented. As a result, only 26 of the 88 habitat polygons were surveyed during occupancy survey efforts in 2023 and 2024 (**Appendix C – Map 1**).

Methods

Dakota skipper occupancy surveys were led by Otto Gockman and Senior Biologist Jake Walden[2]. In 2023, occupancy surveys were conducted (June 27 - July 3) within 15 previously mapped habitat polygons (**Appendix C – Map 2**). Occupancy surveys were conducted again in 2024 (June 25 - July 14) in the original 15 polygons, plus the 11 additional habitat polygons mapped in 2023 and 2024 (**Appendix C – Map 3**). Occupancy surveys during both flight periods in 2023 and 2024 were initiated following correspondence with the USFWS, indicating the Dakota skipper flight period was underway.

Occupancy surveys followed the *USFWS 2024 Dakota Skipper (Hesperia dacotae) Survey Protocol* document and involved visiting each mapped habitat polygon three times, at least 48 hours apart, when possible. In some cases, during the 2024 survey, sites were only visited one or two times based on the ground observations. The modified approach of fewer site visits was based on conversations between USFWS

[2] Surveyor is also under (Permit #TE28570D-0)

staff and MNR staff. USFWS indicated that low-quality habitat could be eliminated with fewer than three visits if approved surveyors deem them unlikely to support Dakota skippers.

Surveys were conducted between 10:00 am and 5:30 pm on clear days with average wind speeds less than 30 kilometers per hour. Weather conditions (temperature, cloud cover, and wind speed) and other notes were recorded at each survey location. In addition, GPS tracking was used to record the survey routes, depicted in **Appendix C**. Additionally, the survey crews recorded a tally of all butterfly species observed at each site (**Appendix D**).

Results

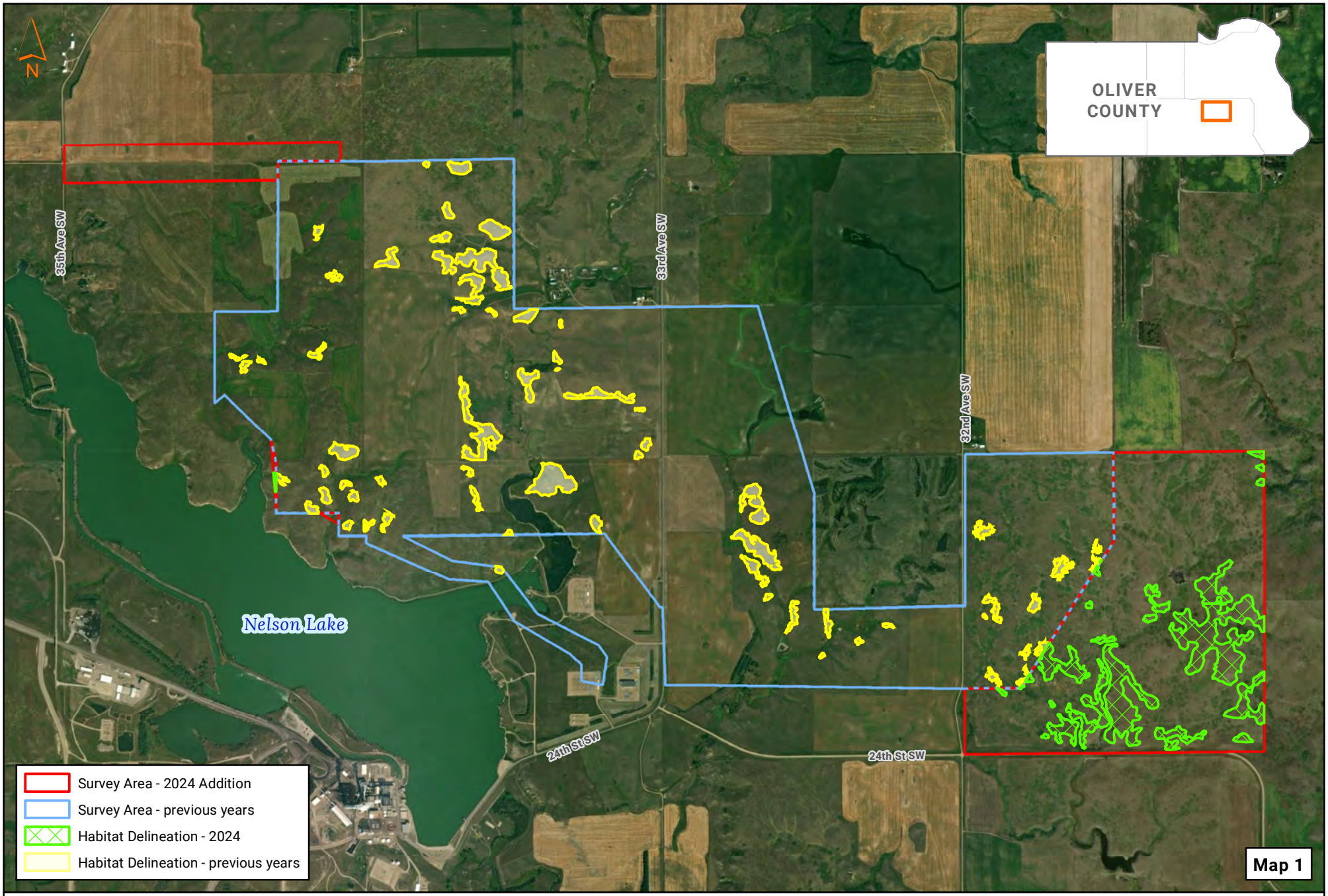
During the 2023 occupancy surveys, 21 species of butterflies were observed within the targeted habitat polygons, and 20 species of butterflies were during the 2024 survey effort. However, no Dakota skippers were observed during occupancy surveys in 2023 or 2024.

In 2024, only two visits to each polygon occurred; a third visit was not conducted due to the lack of high-quality habitat. The highest quality areas were prioritized during the second site visit to maximize the potential to locate Dakota skippers if present. Additionally, weather conditions during the 2024 flight period were not optimal for many of the survey days due to cool temperatures, frequent rain events, and high cloud cover.

According to the FWS occupancy survey Protocol, follow-up surveys should be conducted next year since there were no positive detections within the proposed areas of impact(s). Furthermore, surveys will also be required in the habitat documented in new parcels added following the 2024 flight period.

APPENDIX A

Habitat Assessment and Delineation Maps



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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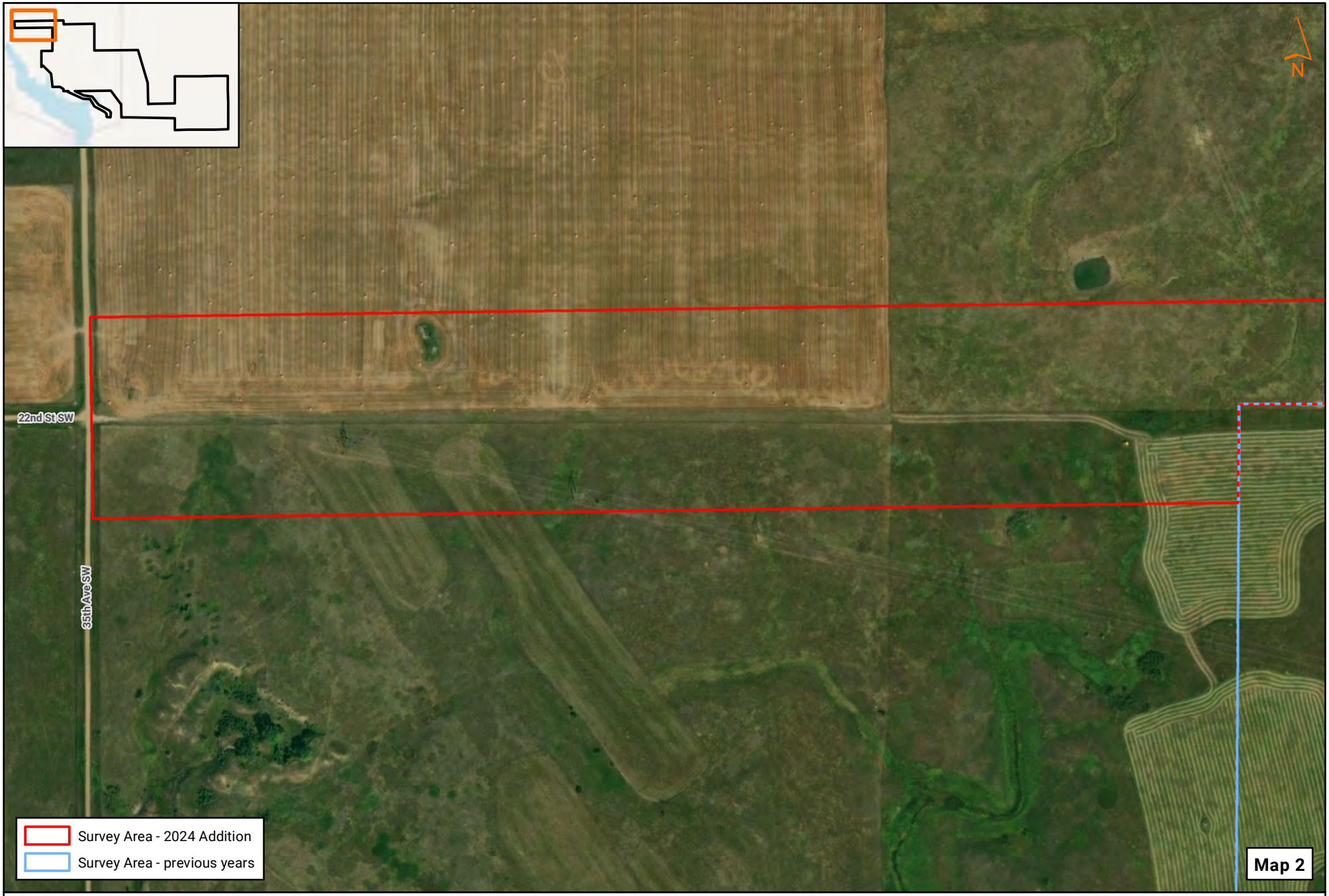
Survey Areas Overview
Dakota Skipper (Hesperia dacotae) Habitat Surveys
Minnesota Power
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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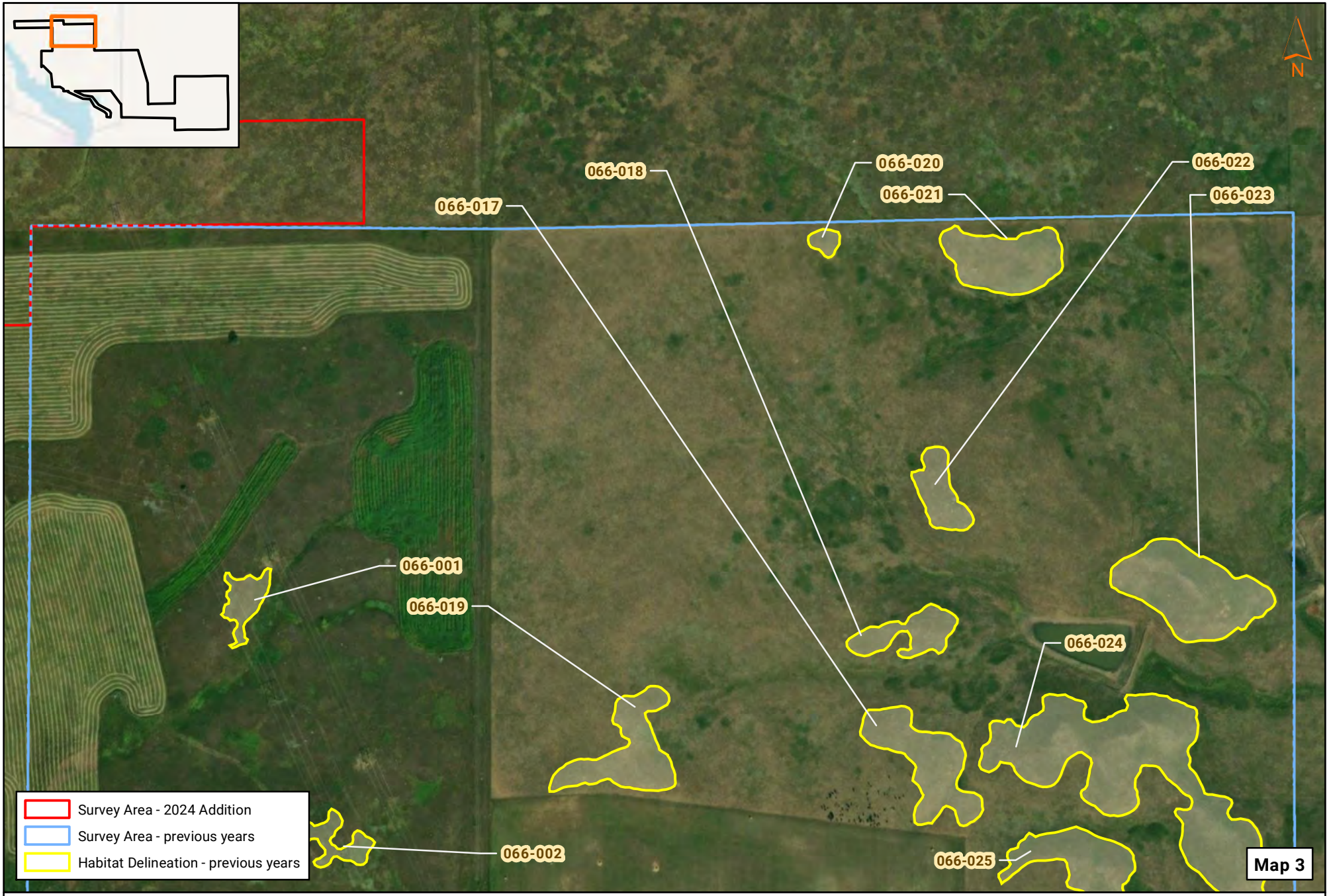
Survey Results
Dakota Skipper (*Hesperia dacotae*) Habitat Surveys
Minnesota Power
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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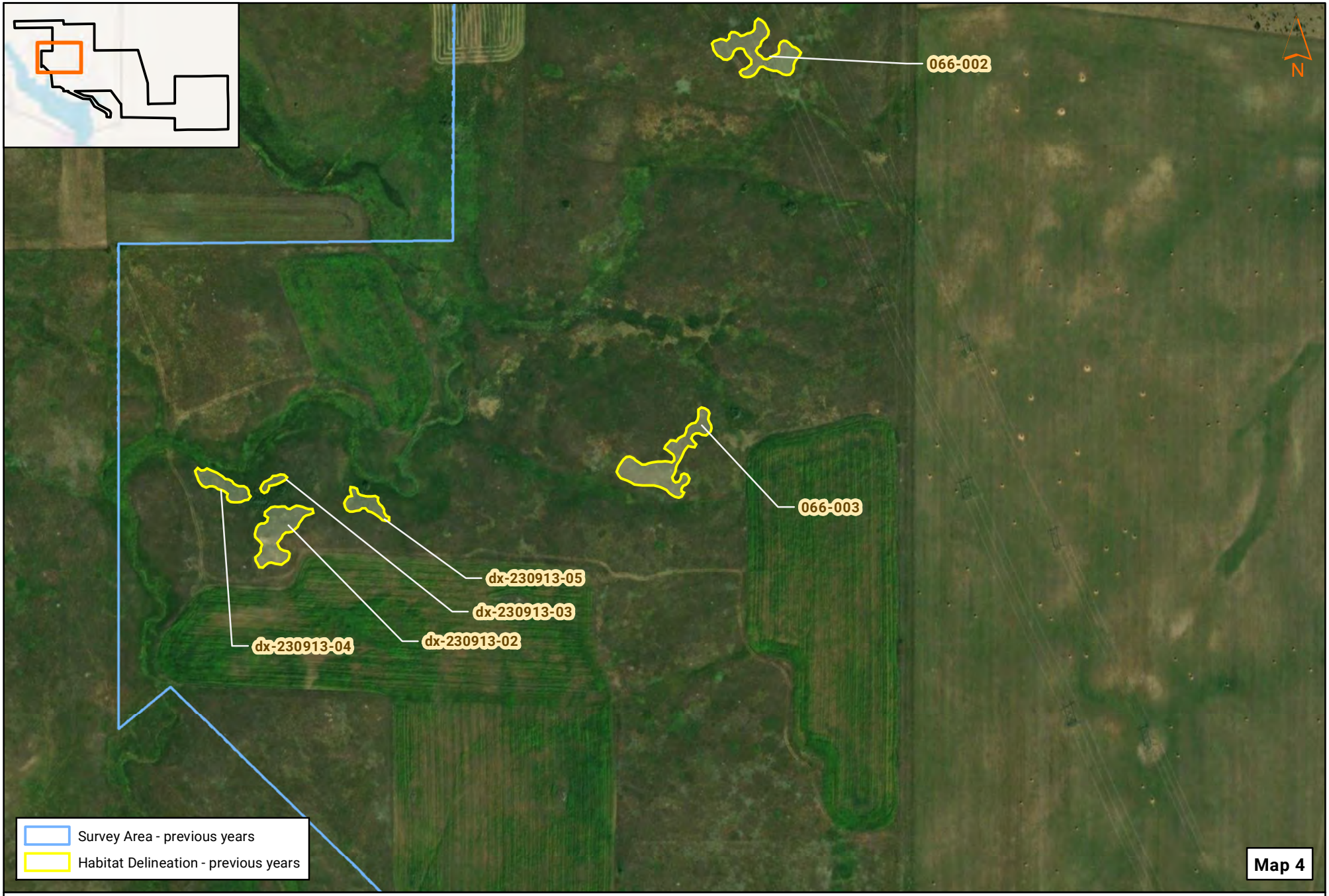
Minnesota Power
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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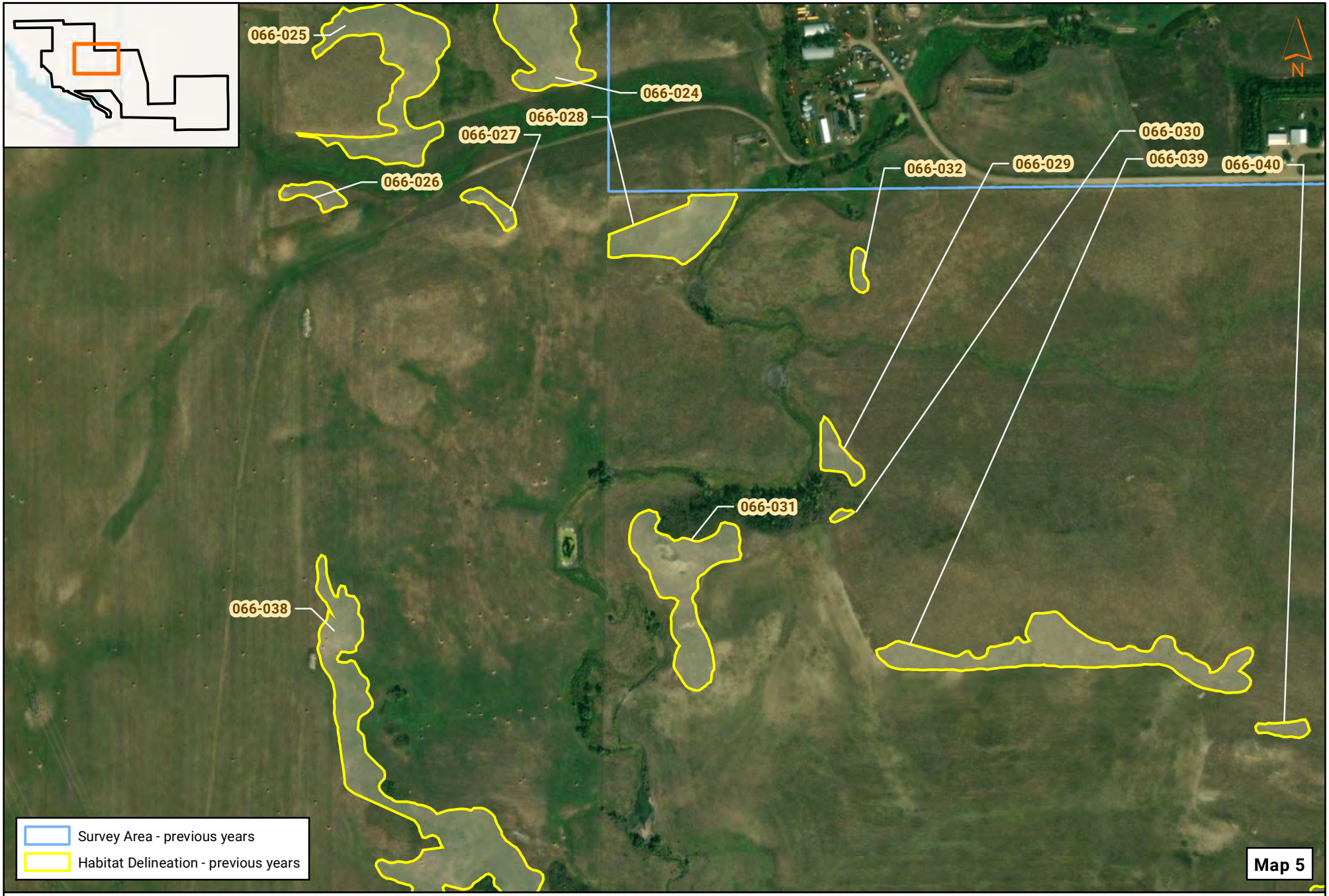
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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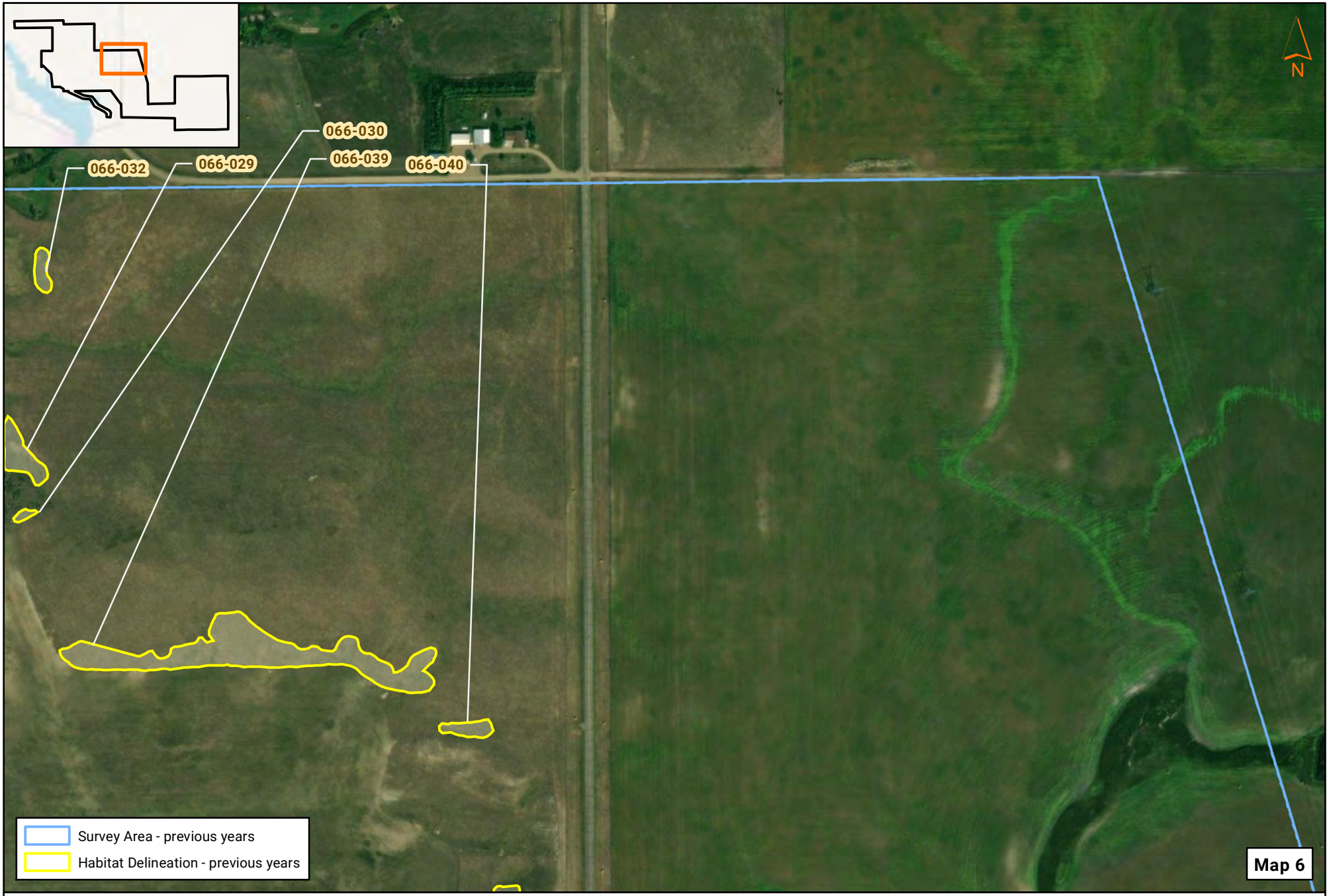
Minnesota Power
Oliver County, North Dakota



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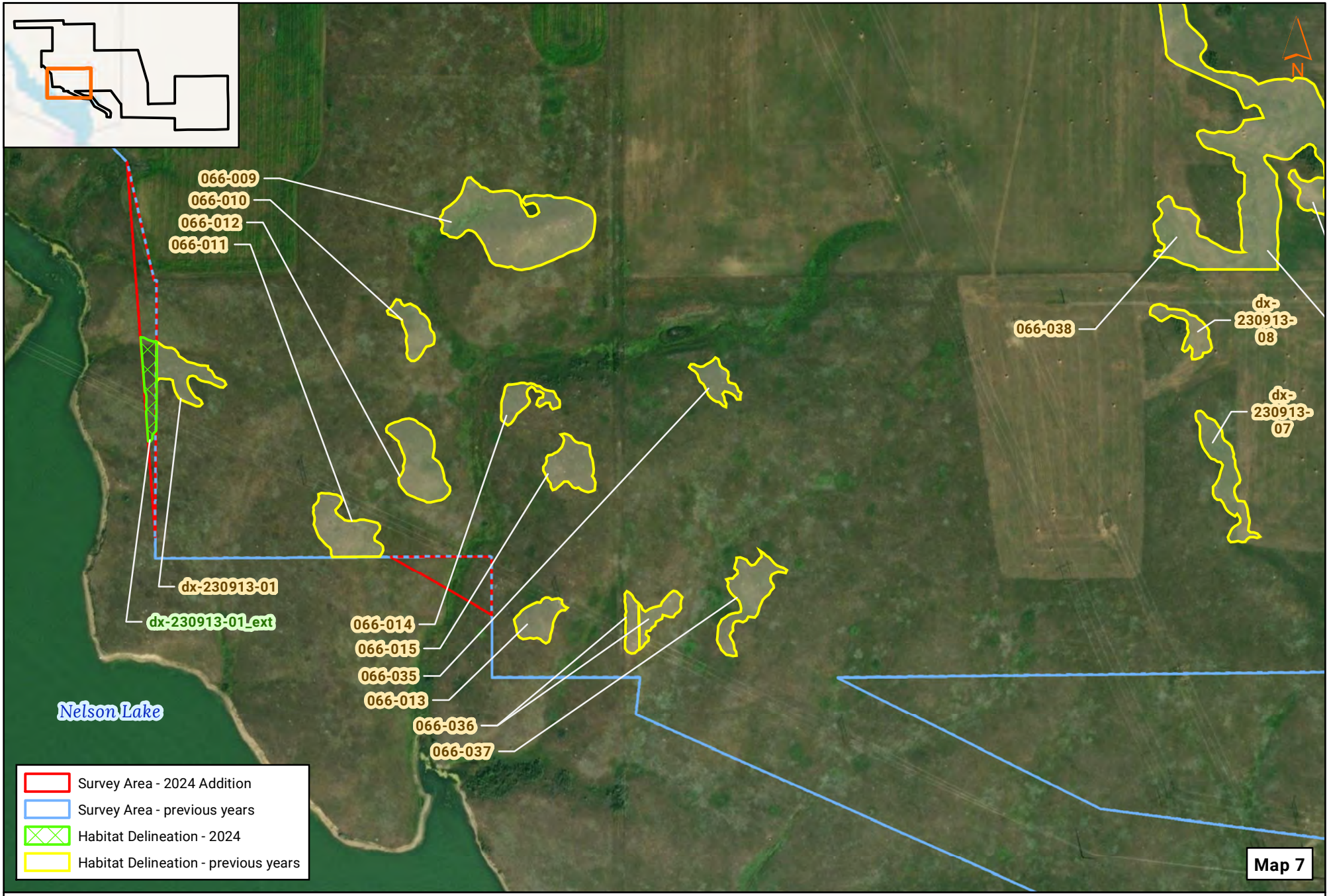
Minnesota Power
Oliver County, North Dakota



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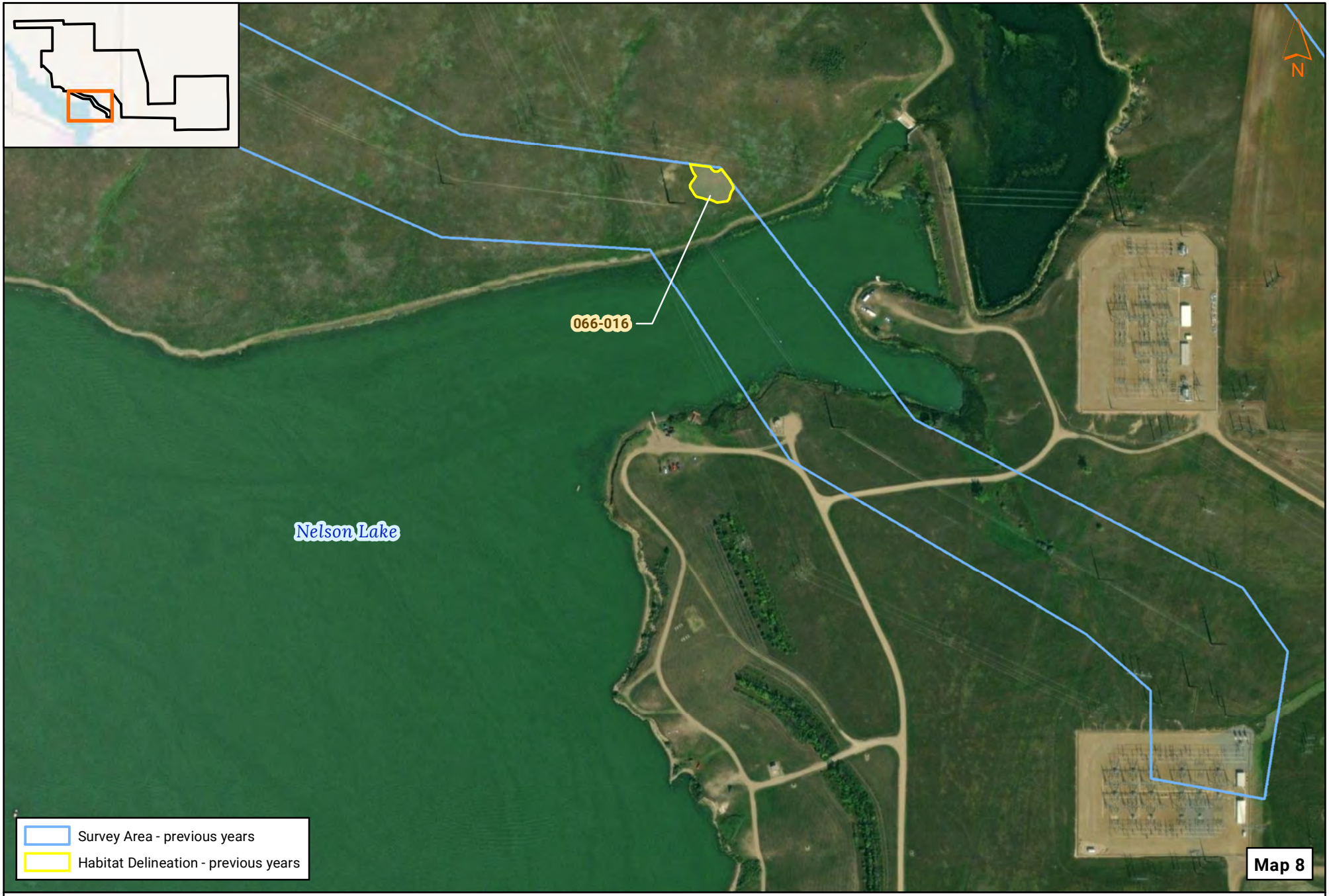
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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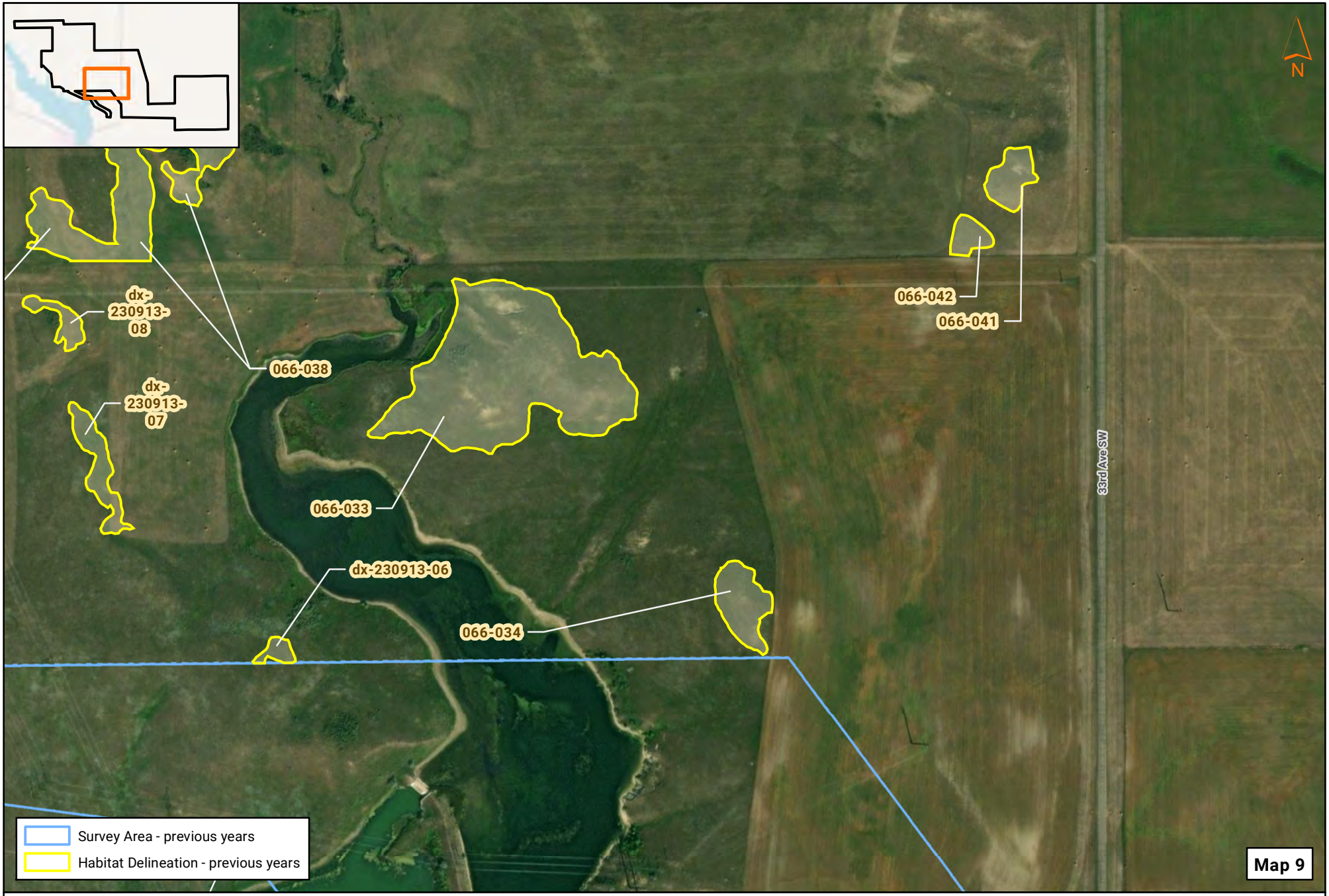
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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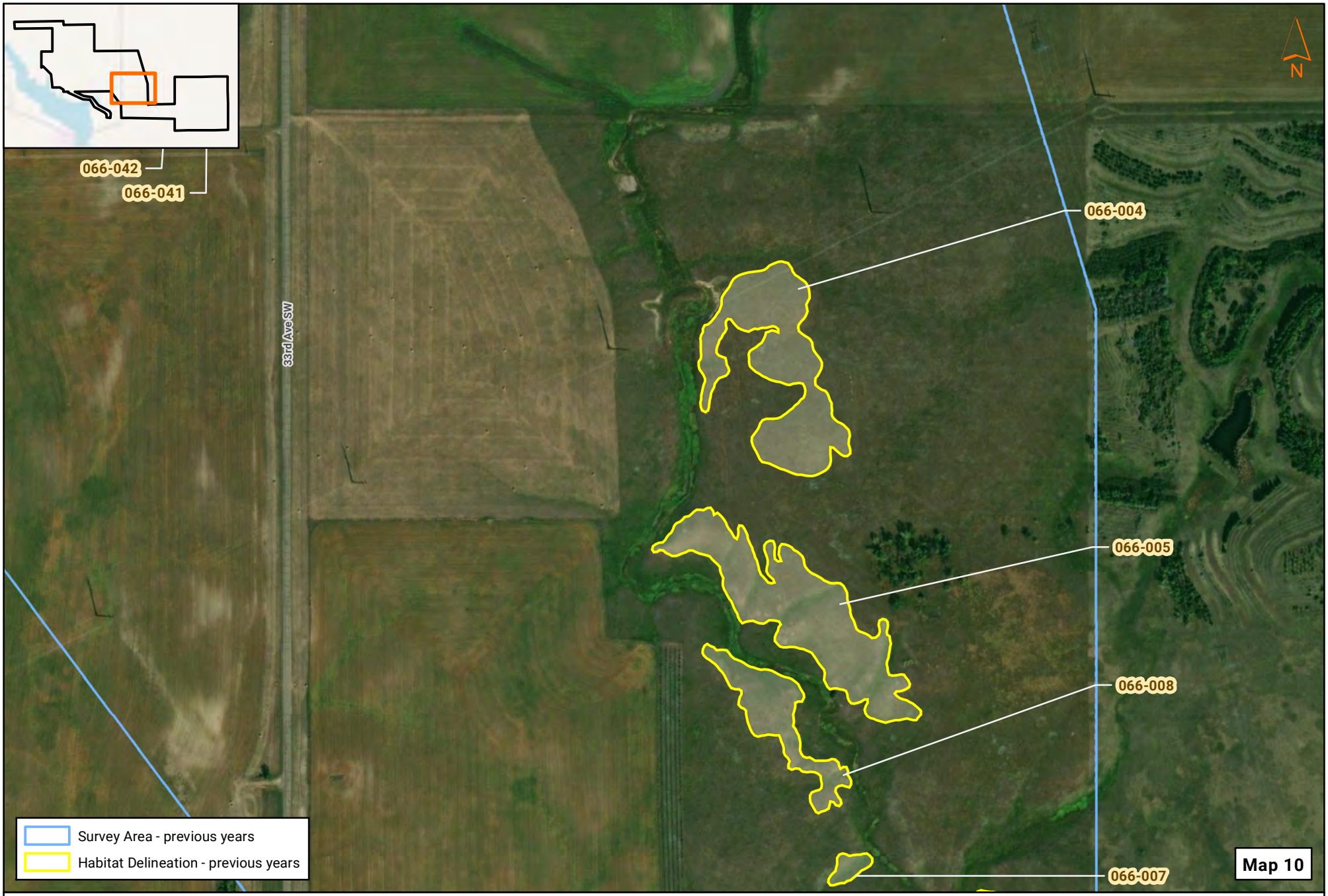
Minnesota Power
Oliver County, North Dakota



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Oliver County, North Dakota

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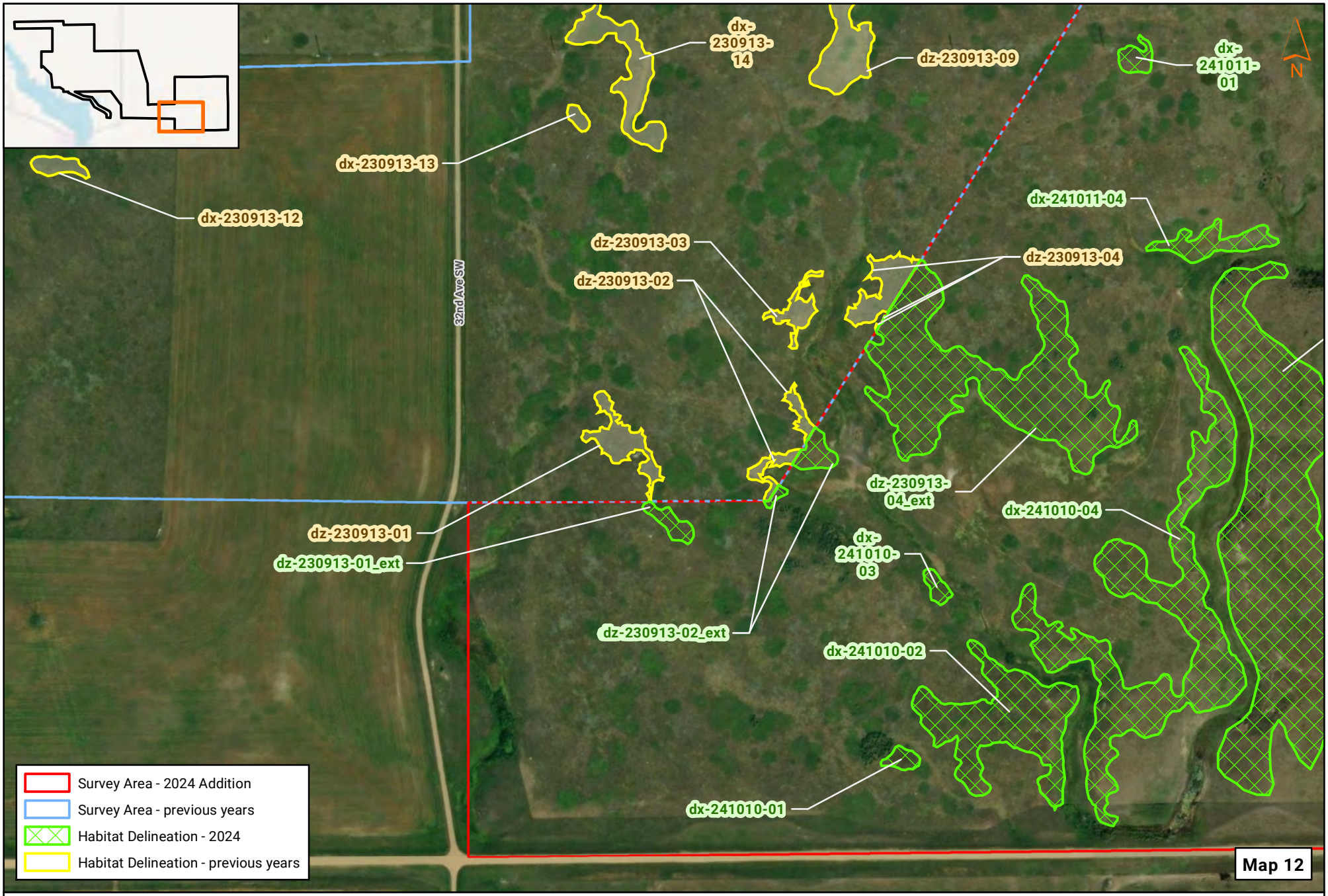

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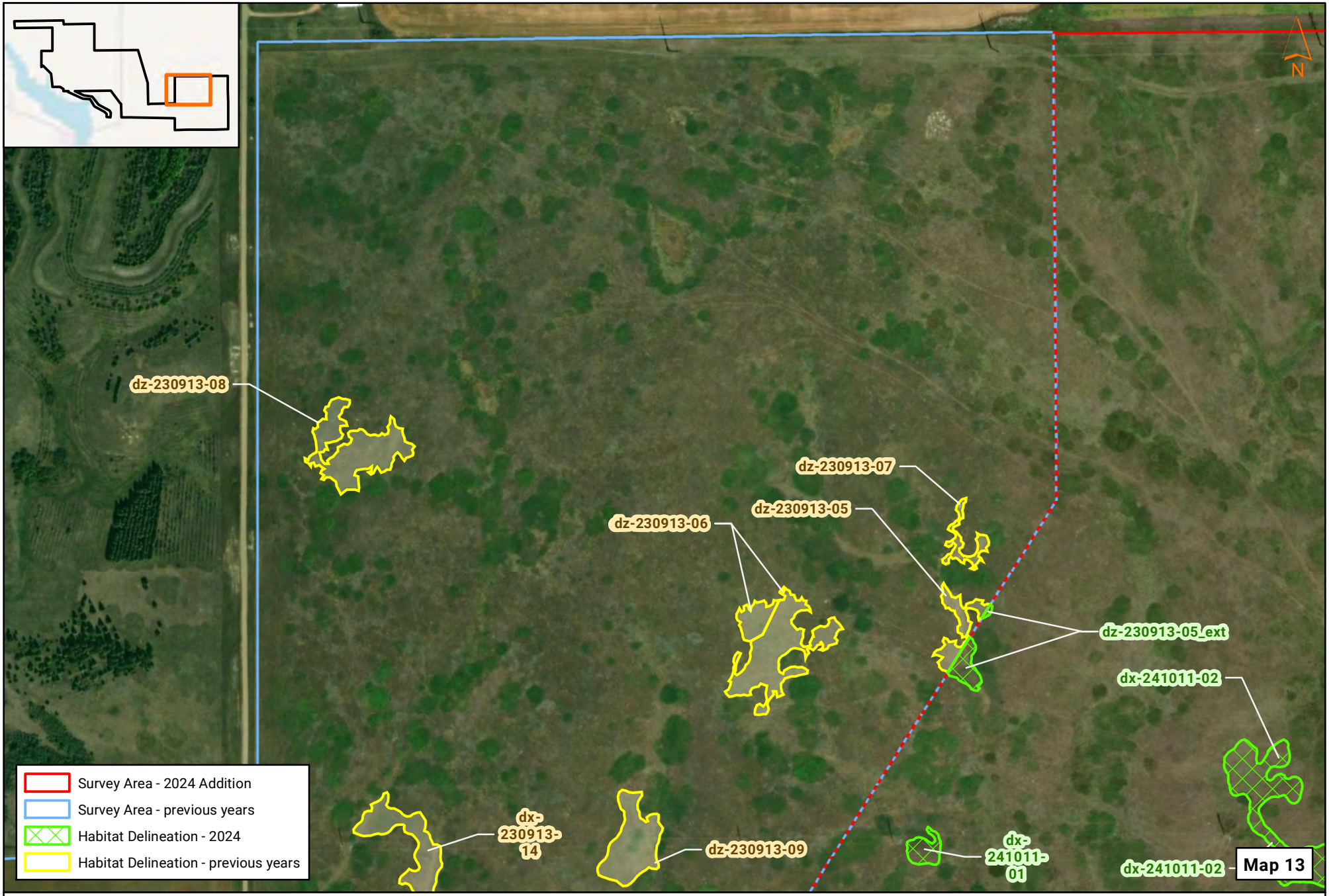
Survey Results
Dakota Skipper (*Hesperia dacotae*) Habitat Surveys
Minnesota Power
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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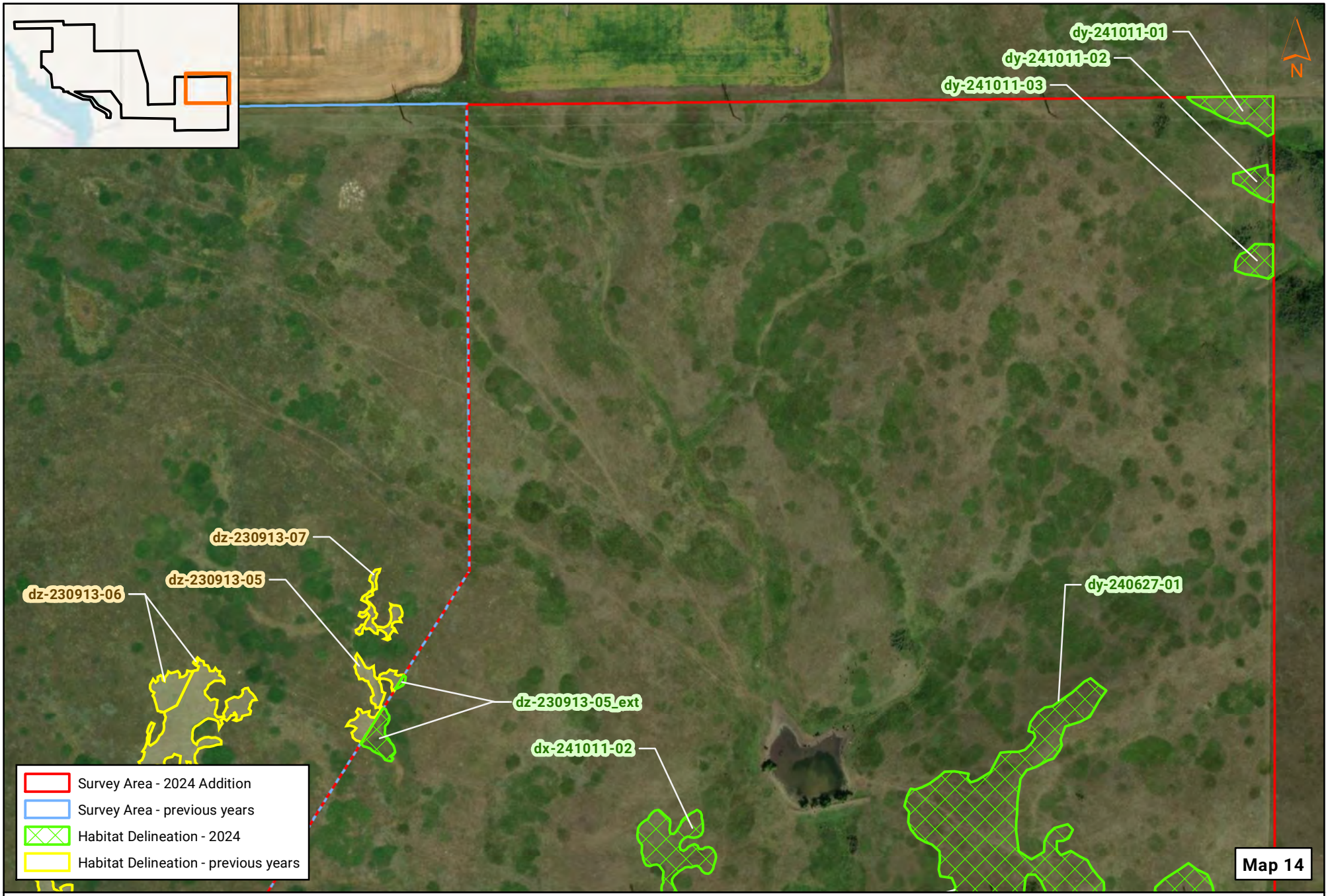
Dakota Skipper (*Hesperia dacotae*) Habitat Surveys
Minnesota Power
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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Survey Results
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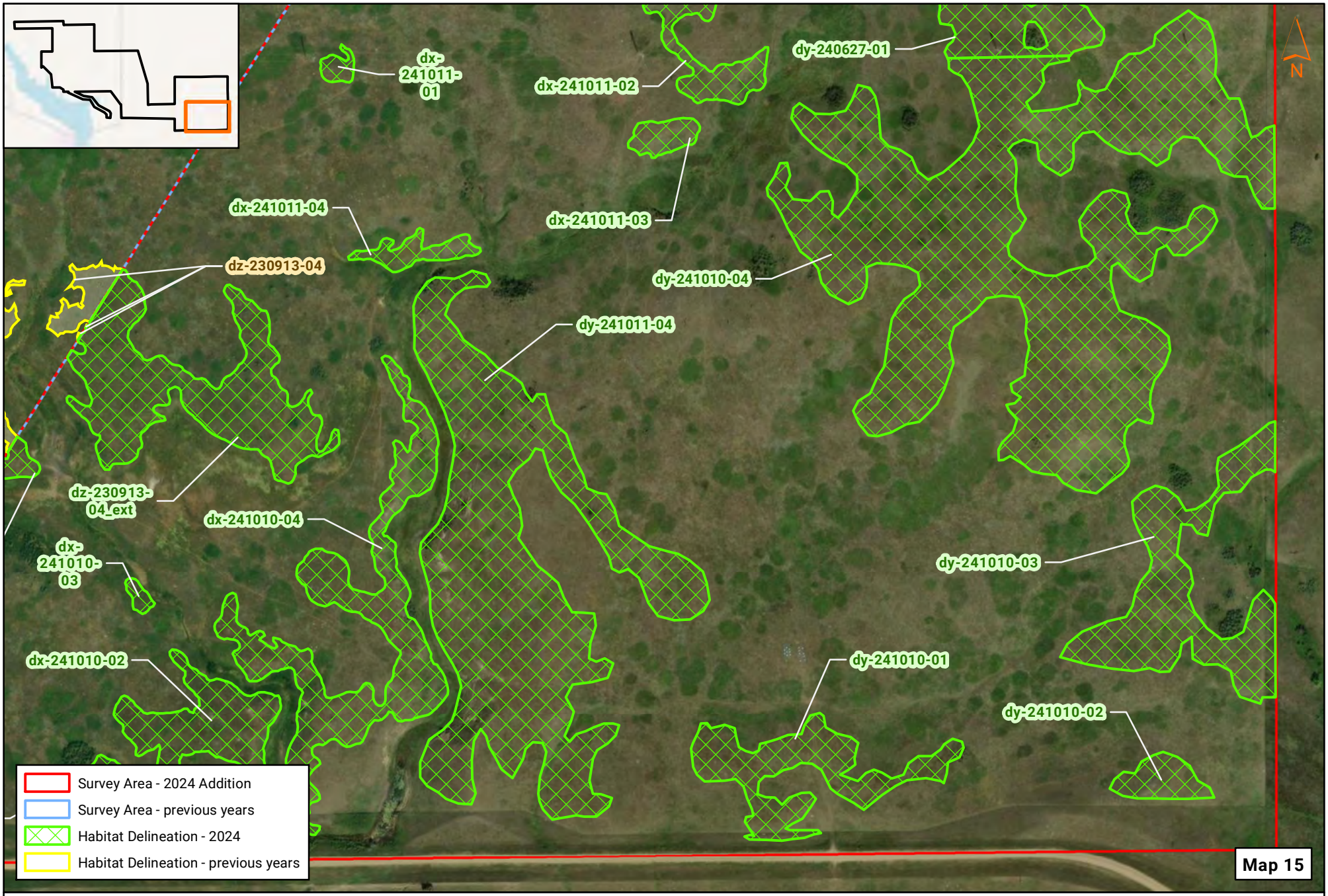
Minnesota Power
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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Survey Results
Dakota Skipper (*Hesperia dacotae*) Habitat Surveys
Minnesota Power
Oliver County, North Dakota

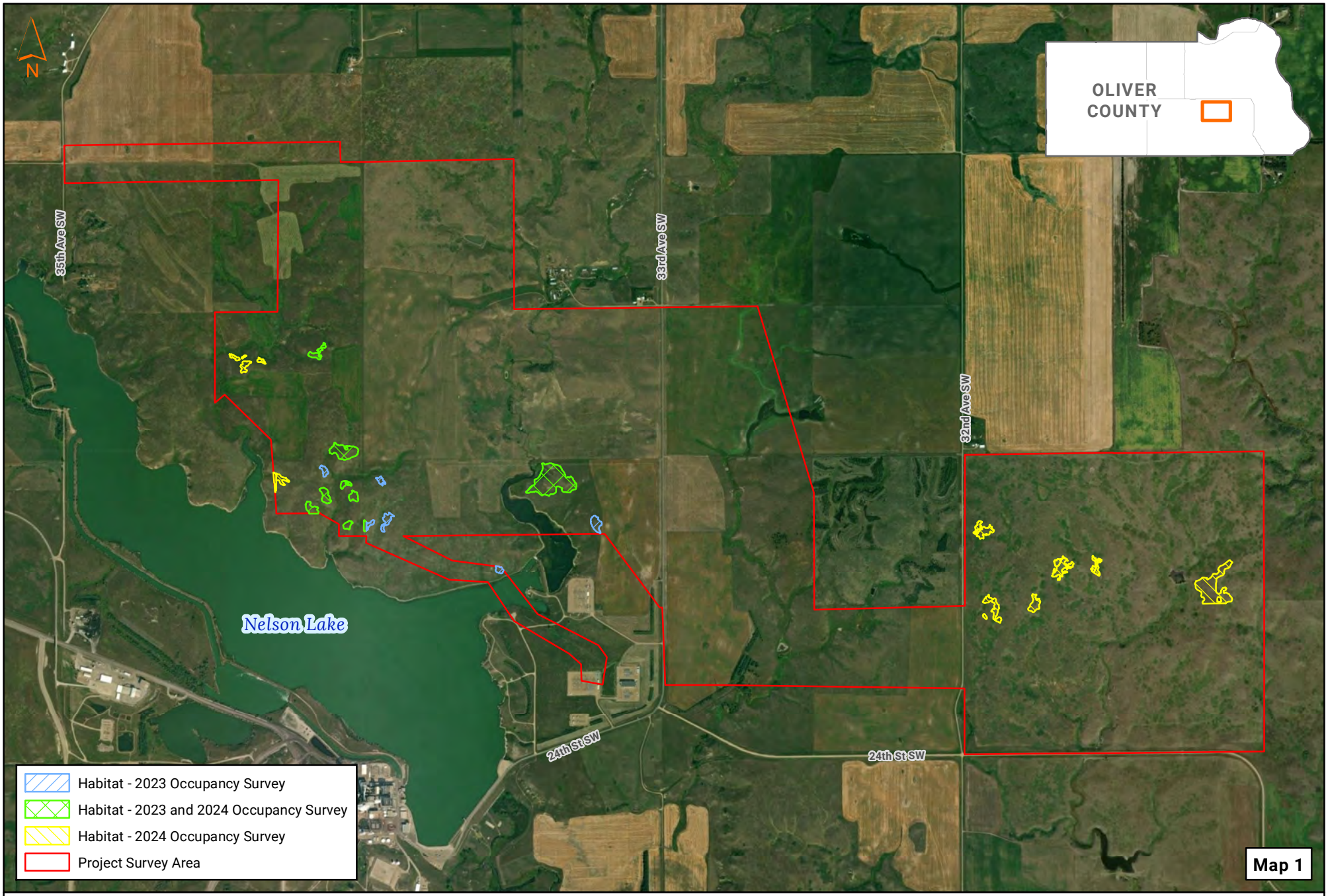
APPENDIX B

Habitat Assessment and Delineation Data Forms

[REDACTED]

APPENDIX C

Occupancy Survey Maps



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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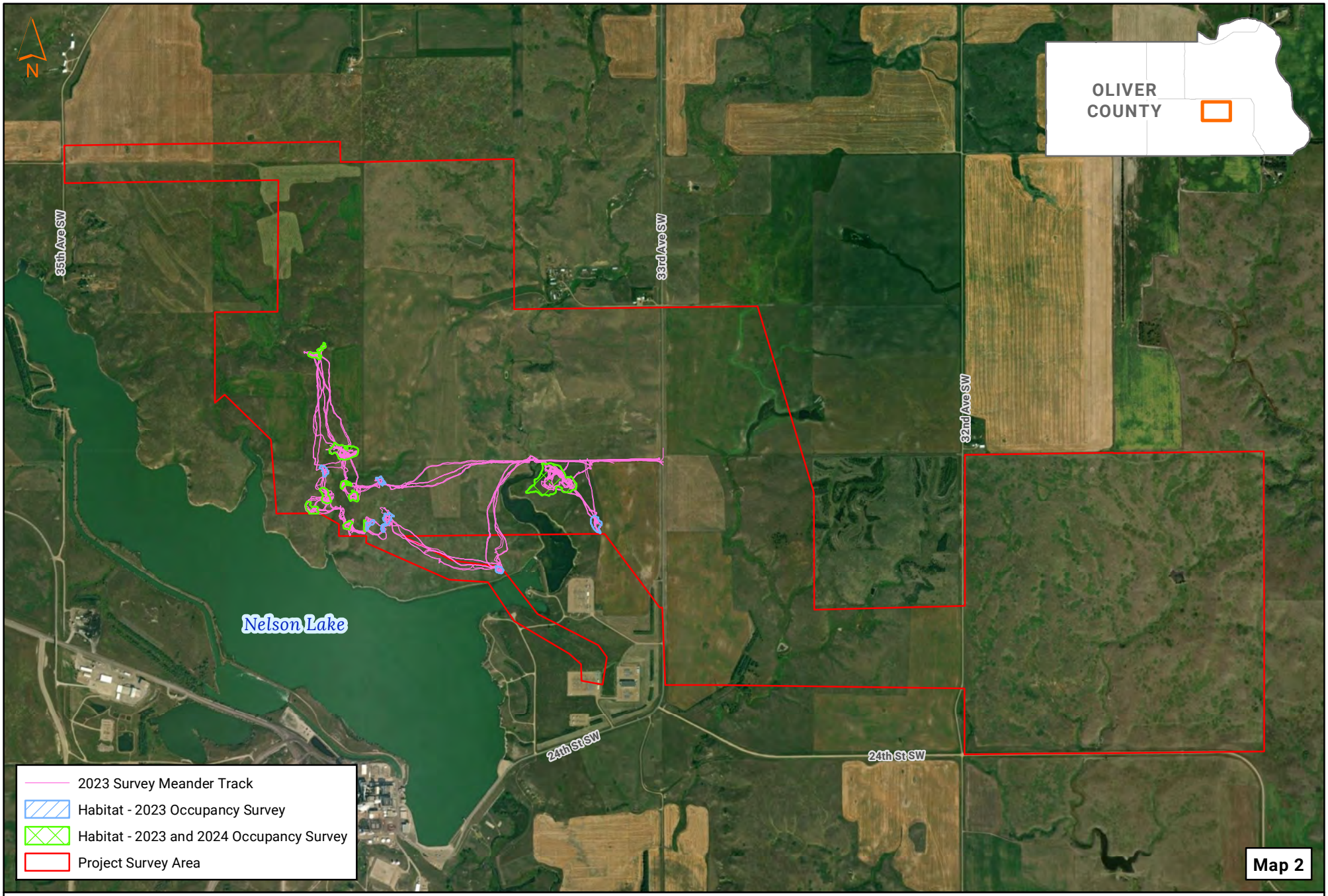
2023-2024 Occupancy Survey Locations
Dakota Skipper (Hesperia dacotae) Occupancy Surveys
Minnesota Power
Oliver County, North Dakota



Sources: Esri World Imagery, US Census Bureau, Date: 11/7/2024

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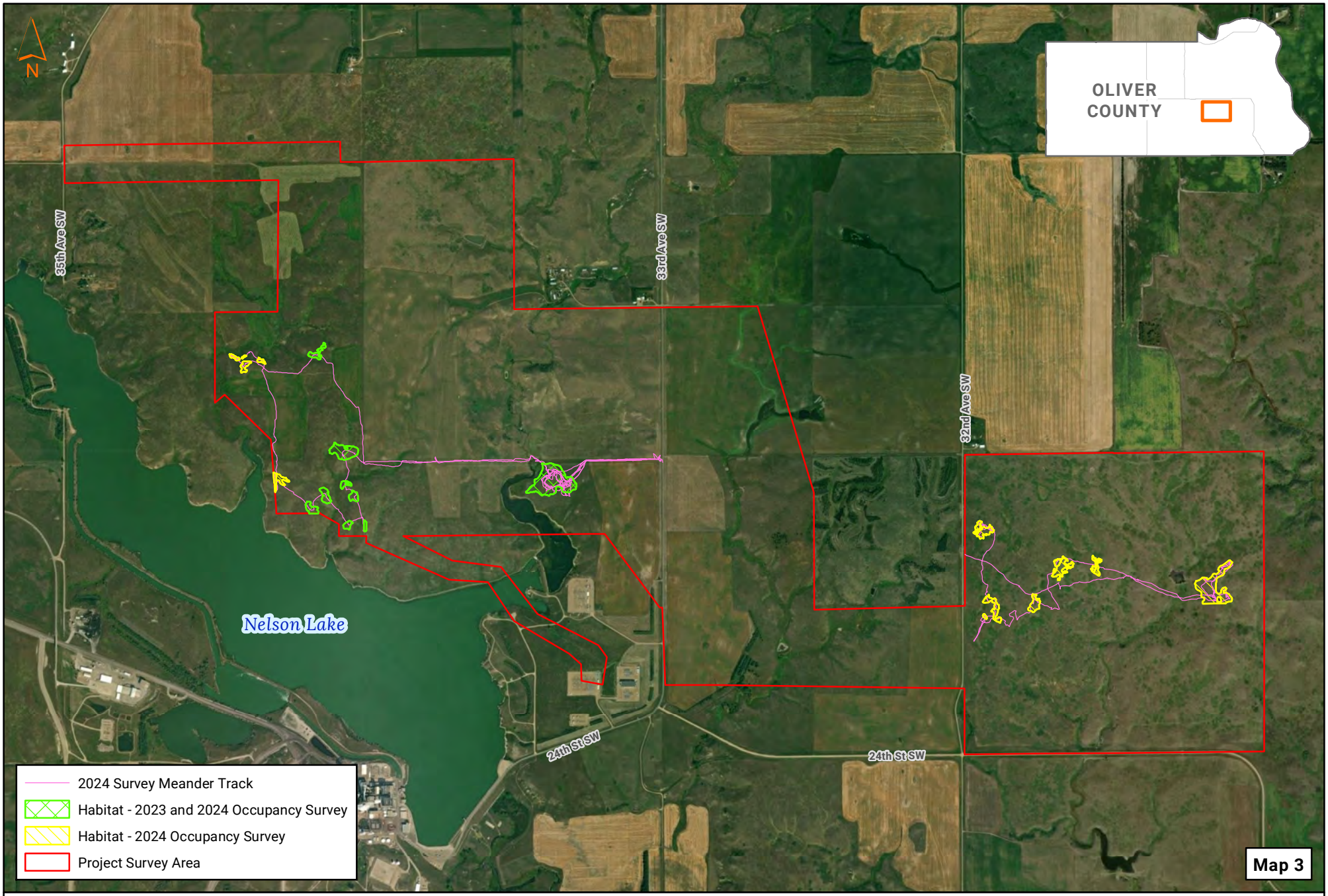
2023 Occupancy Surveys
Dakota Skipper (Hesperia dacotae) Occupancy Surveys
Minnesota Power
Oliver County, North Dakota



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2024 Occupancy Surveys
Dakota Skipper (Hesperia dacotae) Occupancy Surveys
Minnesota Power
Oliver County, North Dakota

APPENDIX D

Comprehensive Butterfly Species List

Species Name	Count
Cabbage White	3
cf. Common Sootywing	1
Clouded Sulphur	5
Comma/Tortoiseshell sp.	1
Common Ringlet	3
Common Wood-Nymph	4
Delaware Skipper	1
Long Dash	4
Melissa Blue	4
Monarch	7
Orange Sulphur	7
Painted Lady	2
Red Admiral	1
Silver-spotted Skipper	1
Skipper sp.	2
Sulphur sp.	17
Tawny-edged Skipper	6
Variegated Fritillary	4
Western White	1
White sp.	5