Appendix L
Bird and Bat Conservation Strategy

Bird and Bat Conservation Strategy

for the Homestead Wind Project

Prepared by Homestead Wind, LLC
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ACRONYMS AND ABBREVIATIONS

2016 Eagle Rule	*Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests*
2024 Eagle Rule	*Permits for Incidental Take of Eagles and Eagle Nests*
ac	acre
AMMs	avoidance and minimization measures
AOI	area of interest
APLIC	Avian Power Line Interaction Committee
BAEA	bald eagle
BBCS	Bird and Bat Conservation Strategy
BCC	birds of conservation concern
BGEPA	Bald and Golden Eagle Protection Act of 1940
BMPs	Best Management Practices
CFR	Code of Federal Regulations
Current Project Boundary	Project boundary that changed shape and decreased in size from the Original Project Boundary
DEM	Digital Elevation Model
ECPG	*Eagle Conservation Plan Guidance*
ESA	Endangered Species Act of 1973
ft	foot
GIS	geographic information system
GOEA	golden eagle
ha	hectare
Homestead Wind	Homestead Wind, LLC
IBA	Important Bird Area
in	inch
IPaC	Information for Planning and Consultation
km	kilometer
m	meter
MBTA	Migratory Bird Treaty Act of 1918
MET	meteorological tower
mi	mile
min	minute
MOU	Memorandum of Understanding
MW	megawatt
NDDA	North Dakota Department of Agriculture
NDGFD	North Dakota Game and Fish Department
NHD	National Hydrography Dataset
NLCD	National Land Cover Database
NLEB	northern long-eared bat
Original Project Boundary	the Project boundary when first mapped in 2019
Project	Homestead Wind Project
SCP	Species of Conservation Priority
survey point	fixed point-count survey point
USC	US Code
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service

USGS	US Geological Survey
USFWS Guidelines	*Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines*
WEG	*Land-Based Wind Energy Guidelines*
WEST	Western Ecosystems Techncology, Inc.
WIRS	Wildlife Incident Reporting System
Year 1	Avian Use surveys from February 2023 – January 2024
Year 2	Avian Use surveys from October 2024 – September 2025

1 INTRODUCTION

1.1 Purpose of the Bird and Bat Conservation Strategy

Homestead Wind, LLC (Homestead Wind) is proposing the development of the Homestead Wind Project (Project) in Williams County, North Dakota (**Figure 1.1**). Consistent with the tiered approach presented in the US Fish and Wildlife Service's (USFWS's) *Land-Based Wind Energy Guidelines* (WEG; 2012) and the *Eagle Conservation Plan Guidance* (ECPG; 2013), Homestead Wind has completed desktop assessments and iterative field surveys to evaluate risk to birds and bats in coordination with the USFWS and the North Dakota Game and Fish Department (NDGFD). Results from these studies and recommendations from the USFWS and NDGFD have been used to inform appropriate impact avoidance, minimization, monitoring, and adaptive management measures for the Project, as described in this Bird and Bat Conservation Strategy (BBCS).

The purpose of this BBCS is to document Homestead Wind's compliance with relevant wildlife laws and regulations, and adherence to the processes outlined in the WEG and ECPG for developing, constructing, and operating wind energy projects. Specifically, this BBCS focuses on an explanation of the analyses, studies, and reasoning that support progressing from one tier to the next, following the tiered approach presented in the WEG. The Tier 4 monitoring program described in this BBCS has been designed to evaluate risk conclusions and provide an Adaptive Management Plan to respond to monitoring program findings, if necessary. This BBCS also documents the measures to be implemented during siting, construction, and operations to avoid and minimize impacts to wildlife and their habitats.

1.2 Facility Description

The Project is located in Williams County, North Dakota (**Figure 1.1**), and will include the construction and operation of one of two turbine models: either the Vestas V163 with a 4.5-megawatt (MW) nameplate capacity, or the GE 154 with a 3.8-MW nameplate capacity. If the Vestas V163 is selected, 57 turbines will be constructed; and if the GE 154 is selected, 67 turbines will be constructed. In addition to the turbines, the Project will include access roads, an underground electric collection system, an above ground 115-kilovolt transmission line that is approximately 0.2 miles (mi; 0.3 kilometer [km]) long, a collector substation, a switching substation, an operations and maintenance building, radar, aircraft detection lighting system, and a temporary construction laydown area.

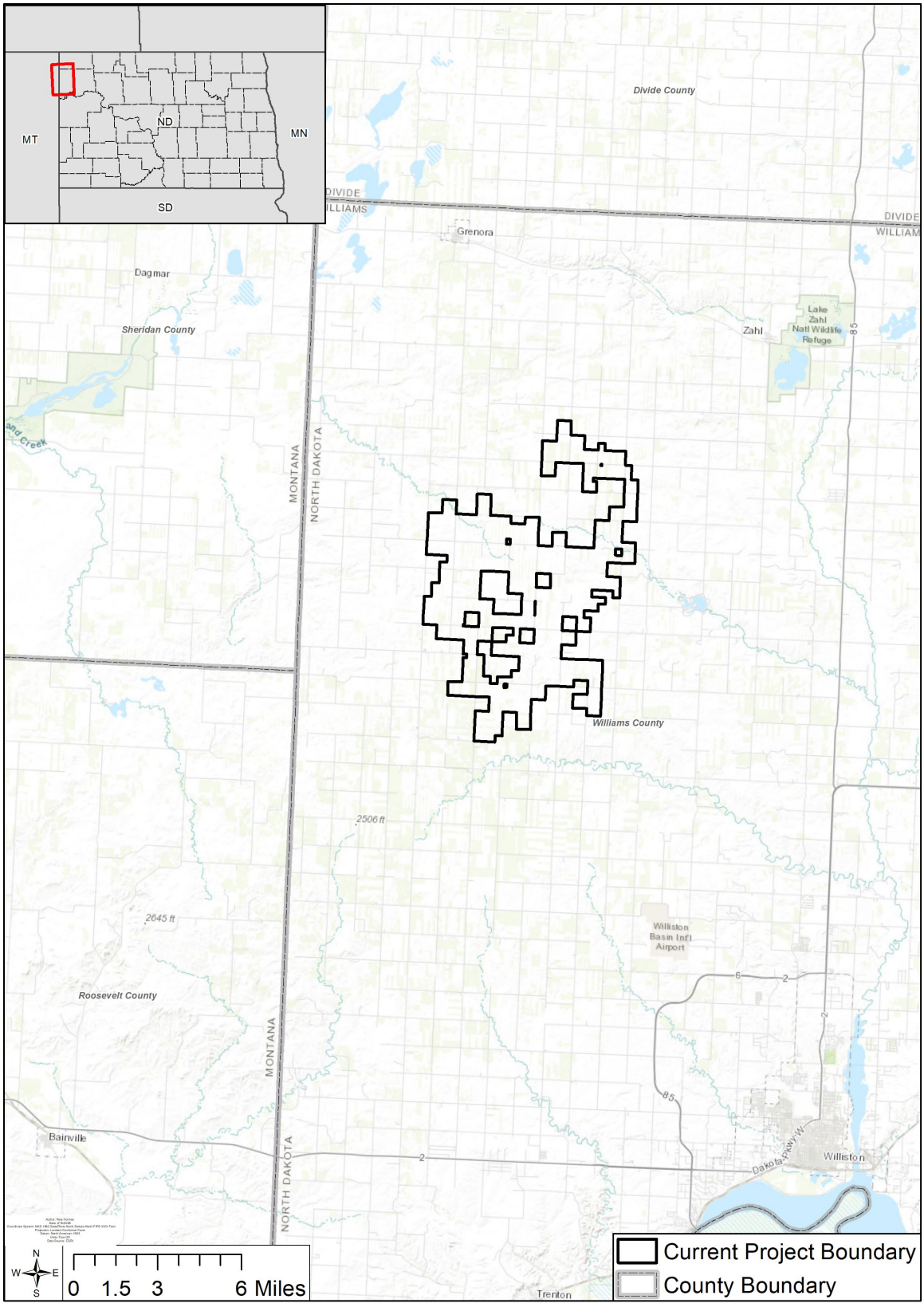

Figure 1.1. Location of the Homestead Wind Project in Williams County, North Dakota.

1.3 Environmental Setting and Habitat

The Project Area encompasses approximately 25,000 acres (ac; 10,117 hectares [ha]). The Project falls within the Northwestern Glaciated Plains Level III Ecoregion (US Environmental Protection Agency [USEPA] 1996). The Northwestern Glaciated Plains Level III Ecoregion is characterized by rolling uplands, stream terraces, and some isolated hills shaped by glacial activity. This ecoregion marks the western extent of continental glaciation. Vegetation of this ecoregion is primarily grasslands, with areas of shortgrass prairie and sagebrush steppe. Portions of this ecoregion have a moderately high concentration of semipermanent and seasonal wetlands referred to as prairie potholes. Land use in this region is transitional between intensive farming to the east in the Northern Glaciated Plans and cattle ranching and farming to the west in the Northwestern Great Plains Level III Ecoregion (Bryce et al. 1996).

Cultivated cropland and herbaceous land cover types compose the majority of the Project Area (82.7% and 12.9%, respectively), followed by developed land (3.2%). All other land cover types make up approximately 1.1% of the Project Area, collectively (**Table 1.1, Figure 1.2**; US Geological Survey [USGS] National Land Cover Database [NLCD] 2024).

Table 1.1. Land cover types, area, and percent composition within the Homestead Wind Project in Williams County, North Dakota.

Land Cover Type	Area (acres)	Percent Composition
Cultivated Crops	20,685	82.7
Herbaceous	3,218	12.9
Developed[1]	796	3.2
Shrub/Scrub	131	0.5
Emergent Herbaceous Wetlands	70	0.3
Open Water	44	0.2
Woody Wetlands	27	0.1
Deciduous Forest	11	<0.1
Total	**24,994**	**100[2]**

1. Developed land cover types may include open space, low intensity, medium intensity, and high intensity.

2. Sums of values may not equal totals shown due to rounding.

Source: National Land Cover Database 2024.

Consistent with recommendations in Tiers 1 and 2 of the WEG, the Project is sited in a landscape that generally avoids natural habitats considered high quality or regionally significant. High-quality grassland areas, forest, open water, and wetlands that may support comparatively greater bird and bat abundance and species diversity have been avoided. The Project consists largely of areas that have been previously disturbed due to agricultural use or development.

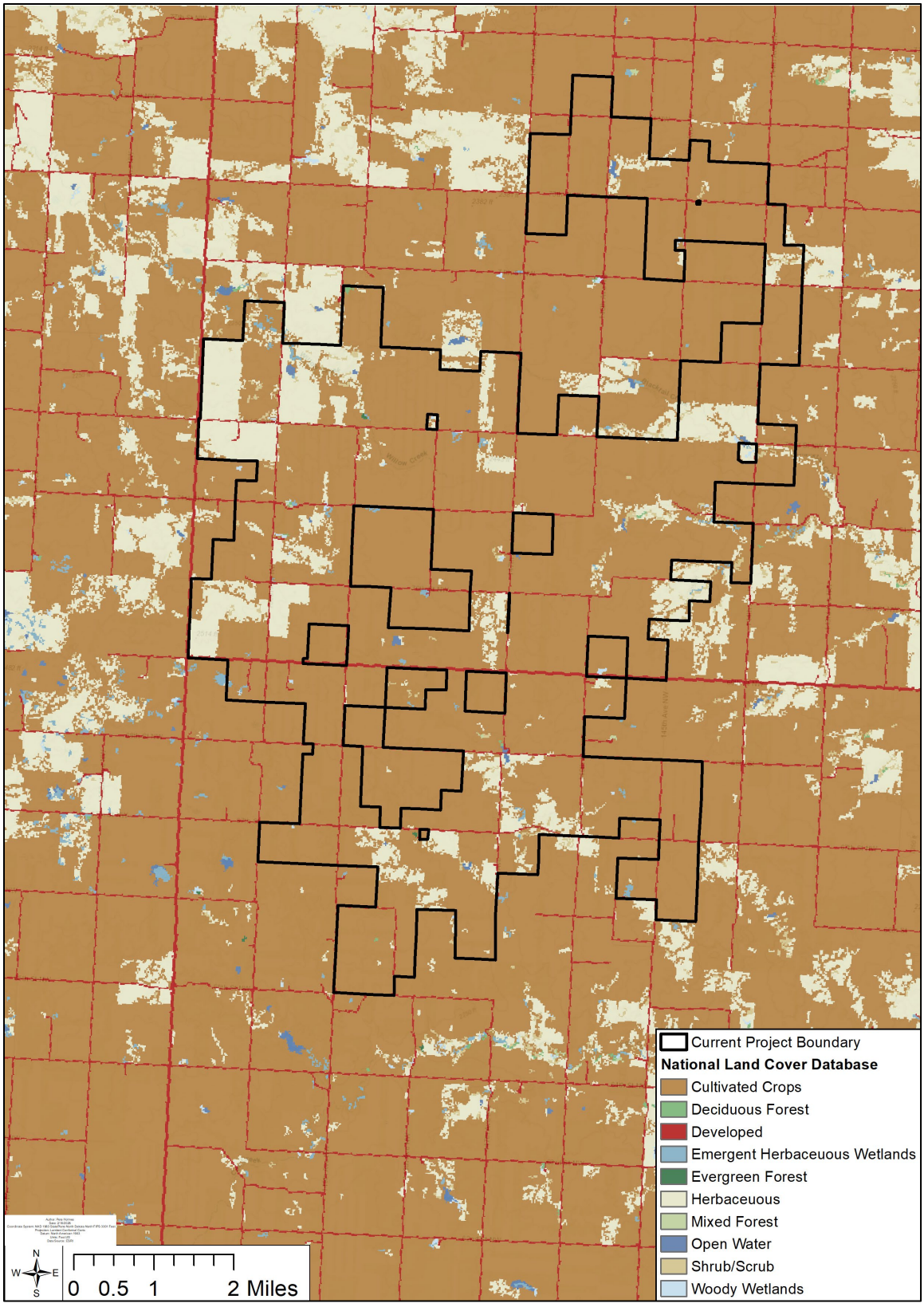

Figure 1.2. Land cover at the Homestead Wind Project in Williams County, North Dakota.

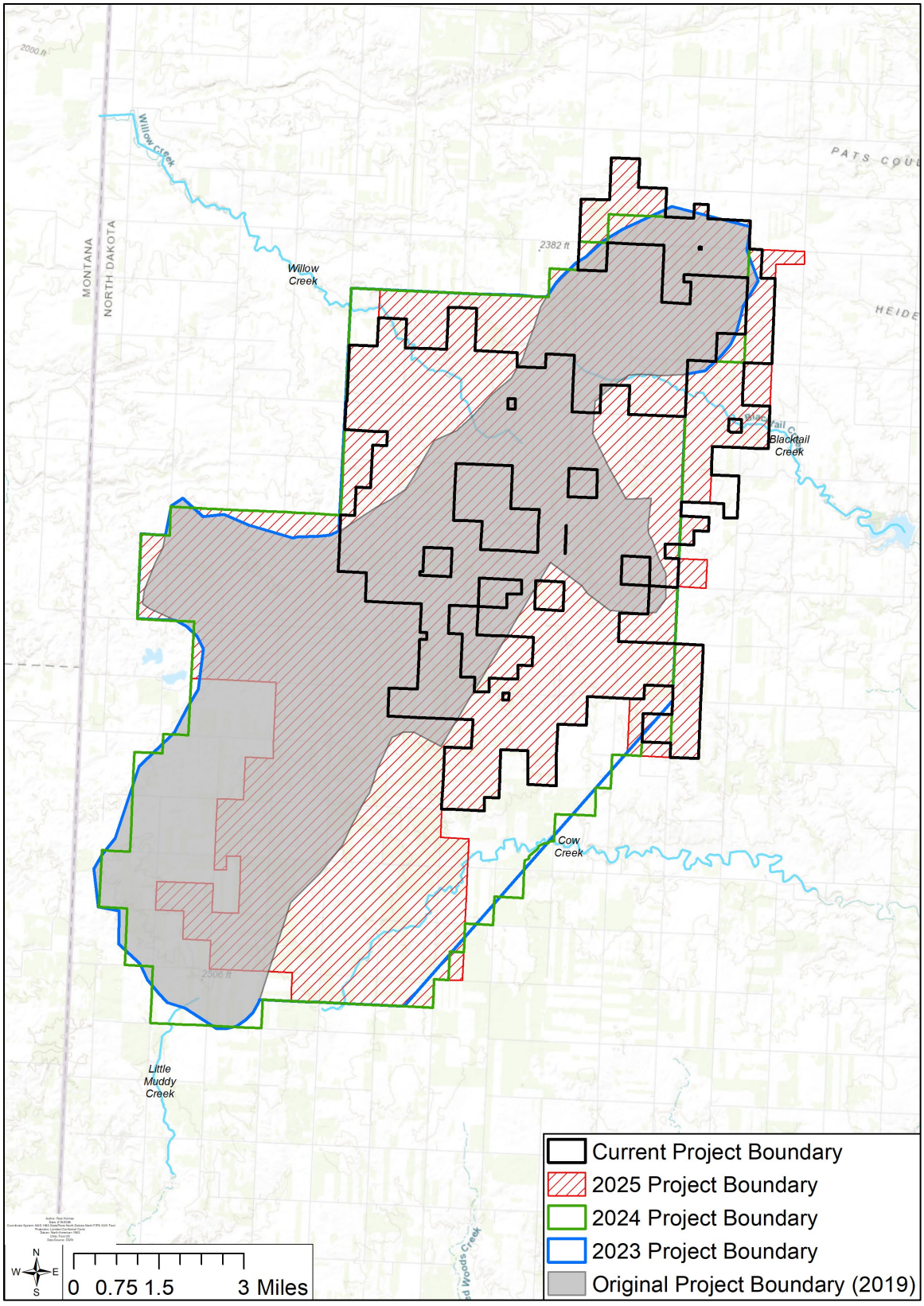

Figure 1.3. Boundary history of the Homestead Wind Project in Williams County, North Dakota.

1.4 Background and Consultation History

Homestead Wind initiated development activities in 2015 on an approximately 37,000 ac (14,973 ha) Area of Interest in the northwest corner of Williams County, North Dakota (Original Project Boundary). In 2019 wildlife studies were initiated within the Original Project Boundary. Based on positive landowner support, Homestead Wind expanded the boundary in 2023 to assess a larger area of approximately 63,000 ac (25,495 ha; 2023 Project Boundary). This boundary was slightly refined in 2024 to follow parcel lines (2024 Project Boundary), then refined again in early 2025 to 56,500 ac (22,892 ha; 2025 Project Boundary). The boundary was finally reduced in late 2025 to include just the participating parcels and to avoid more environmentally sensitive areas and is now considered the Current Project Boundary or Project Area (24,994 ac [10,115 ha]; **Figure 1.3**).

Tier 1 and 2 studies were completed for the Original Project Boundary; Tier 3 studies were initiated in 2019 and completed in 2025. The spatial extent of the Tier 3 studies was adapted in response to the Project boundary changes as they occurred to consistently capture and represent the Current Project Boundary. The purpose of these studies was to characterize the avian and bat communities, assess potential risks to wildlife, and inform Project siting.

Consistent with recommendations for agency consultation from the WEG and ECPG, Homestead Wind has coordinated with the USFWS and NDGFD regarding wildlife survey methods, data and results, and siting considerations related to wildlife (**Table 1.2**).

Table 1.2. Agency consultation history for the Homestead Wind Project in Williams County, North Dakota.

Date	Subject
February 7, 2023	Homestead Wind contacted the United States Fish and Wildlife Service (USFWS) to request any known eagle nest locations within the Project or within two miles of the Project.
April 9, 2024	Homestead Wind met with the United States Fish and Wildlife Service (USFWS) and North Dakota Game and Fish Department (NDGFD) to discuss Tiers 1 and 2 of the *Land-based Wind Energy Guidelines* (WEG) and Stage 1 *Eagle Conservation Plan Guidance* (ECPG) risk reviews for the Project and discuss a Tier 3/Stage 2 survey plan.
June 9, 2025	Homestead Wind met with the USFWS, NDGFD, and North Dakota Department of Agriculture (NDDA) to introduce the Project to NDDA and present results of the Tier 3/Stage 2 studies completed to date to USFWS, NDGFD, and NDDA, and agree on next steps.
July 10, 2025	Homestead Wind provided a letter to NDGFD with proposed Avoidance and Minimization Measures specific to recommendations received from USFWS and NDGFD.
July 28, 2025	NDGFD provided a letter of support for the proposed Avoidance and Minimization Measures for the Project.
February 11, 2026	NDDA and Homestead entered into a Memorandum of Understanding (MOU) where Homestead voluntarily agreed to make a contribution to the Environmental Impact Mitigation Fund administered by the NDDA. The NNDA will use the funds for the purpose of the protection and/or restoration of grasslands, wetlands, and other habitats, as they deem appropriate.

1.5 Laws, Regulations, and Authorizations

The federal regulatory framework for protecting birds and bats includes the Endangered Species Act of 1973 (ESA), as amended, the Migratory Bird Treaty Act of 1918 (MBTA), and the Bald and Golden Eagle Protection Act of 1940 (BGEPA). The state of North Dakota does not have an endangered or threatened species list. The state of North Dakota does not have an endangered or threatened species list; however, North Dakota identifies and maintains a list of 115 Species of Conservation Priority (SCP) in its State Wildlife Action Plan (Dyke et al. 2015).

1.5.1 Endangered Species Act

The ESA directs the USFWS to identify and protect endangered and threatened species and their critical habitat, and to provide a means to conserve their ecosystems. Section 9 of the ESA prohibits take of federally endangered species and federally threatened species, unless otherwise specified by a 4(d) Rule. Take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 US Code [USC] 1532 [1973]). The USFWS provides guidance to projects that may affect a listed species or critical habitat. Pursuant to ESA section 7(a)(2), projects involving federal lands, funding, or authorizations may require consultation between the federal action agency and the USFWS, pursuant to Section 7 of the ESA (16 USC 1536[a][2]). Projects without a federal nexus can voluntarily coordinate directly with the USFWS for technical assistance on how to avoid take of listed species and their critical habitats or seek a permit under Section 10 of the ESA.

1.5.2 Migratory Bird Treaty Act

The MBTA implements four treaties that provide for international protection of migratory birds. The MBTA states, "Unless and except as permitted by regulations…it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill…possess, offer for sale, sell…purchase…ship, export, import…transport or cause to be transported…any migratory bird, any part, nest, or eggs of any such bird…" (16 USC 703 [1918]). The USFWS maintains a list of all species protected by the MBTA at 50 CFR 10.13 (1973). This list includes over 1,000 species of migratory birds, including eagles and other raptors, waterfowl, shorebirds, seabirds, wading birds, and passerines. Currently, the USFWS takes the position that incidental take is not prohibited by the MBTA. No permit to authorize incidental take of MBTA protected species is available and current interpretation states that prohibitions of the MBTA do not apply to the accidental or incidental taking or killing of migratory birds by otherwise lawful activity (United States Department of the Interior, M-37085).

1.5.3 Bald and Golden Eagle Protection Act

Under authority of the BGEPA (16 USC 668–668d [1940]), bald eagles (BAEA; *Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are afforded additional legal protection. The BGEPA prohibits the "take, sale, purchase, barter, offer of sale, purchase, or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof" (16 USC 668 [1940]). The BGEPA also defines take to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb," and includes criminal and civil penalties for violating the statute (16 USC 668c [1940]). The term "disturb" is defined as

agitating or bothering an eagle to a degree that causes, or is likely to cause injury to an eagle, or either a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior (50 CFR 22.6 [1974]).

In 2024, the USFWS revised the permit regulations for incidental take of eagles under 50 CFR 22 (1974). The *Permits for Incidental Take of Eagles and Eagle Nests; Final Rule* (2024 Eagle Rule; USFWS 2024a) included the creation of a general permit option (50 CFR 22 Subpart E § 22.250 [2024]) for authorizing incidental take at a wind facility "that occur frequently enough for the Service [USFWS] to have developed a standardized approach to permitting and ensure permitting is consistent with the preservation standard." To be eligible for a general permit, a wind facility must 1) be in an area with relative abundance below the seasonal thresholds identified by the USFWS for both eagle species and 2) not have a golden eagle nest within two miles (mi; three kilometers [km]) or a BAEA nest within 660 feet (ft; 201 meters [m]) of turbine blades or other turbine infrastructure (USFWS 2024a). Project proponents who desire to obtain incidental take authorization but are ineligible for a general permit may apply for a "specific permit" (50 CFR § 22.200 [2024]) in much the same way as permits were issued under the *Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests; Final Rule* (2016 Eagle Rule; USFWS 2016). However, the 2024 Eagle Rule also created a tiered process for specific permit applications (and associated permit fees) based on the level of complexity and anticipated processing times associated with an application. For all eagle incidental take permits, the regulations require implementation of all practicable avoidance and minimization measures (AMMs) to reduce the likelihood of take.

1.5.4 State of North Dakota

A species identified as an SCP is placed into one of three levels to prioritize conservation efforts. Level I species are either in decline and have a high conservation priority or North Dakota constitutes part of their core breeding range. Level II species have a moderate level of conservation priority, but a substantial level of non-State Wildlife Grant funding available. Level III species have a moderate level of conservation priority but are peripheral or non-breeding in North Dakota.

2 SITE CHARACTERIZATION AND BASELINE STUDIES (TIERS 1, 2, AND 3)

2.1 Preliminary Site Evaluation and Characterization (Tiers 1 and 2)

2.1.1 Tier 1

Tier 1 of the WEG calls for an initial screening of the broad geographic area of the Project's proposed location. Such screening is useful for identifying regions where wind energy development poses significant risks to species of concern (i.e., species protected by the federal ESA or BGEPA) and their habitats, including the fragmentation of large-scale habitats and threats to regional populations of federally or state-listed species. Tier 1 may also be used for screening a landscape to avoid those with the highest habitat values and for beginning to determine if a site poses serious risk to species of concern or their habitats (USFWS 2012).

Initial development of the Project began in 2015 and focused on an approximately 37,000 ac (14,973 ha) Area of Interest in Williams County, with the initiation of wildlife surveys in 2019 (**Figure 1.3**). As part of the preliminary site evaluation and consistent with Tier 1 of the WEG, a desktop review was completed to evaluate types of habitats within the area and identify areas with reduced potential for species of concern. In addition, preliminary reviews of federally and state-listed species or significant natural habitats that could occur within the initial area of interest were completed.

The land cover within the Original Project Boundary, which includes the Current Project Boundary, consists primarily of cultivated crops and herbaceous. Developed land is also present, along with some small areas of shrub/scrub, emergent herbaceous wetlands, open water, woody wetlands and deciduous forest (National Land Cover Database 2024). The Original Project Boundary has flat-to-rolling topography typical of the region. The Original Project Boundary includes portions of four creeks, including Little Muddy Creek, Cow Creek, Willow Creek, and Blacktail Creek. Blacktail and Willow Creeks run through the north-central portion of the Current Project Boundary (**Figure 1.3**; USFWS National Wetlands Inventory 2022, US Geological Survey National Hydrography Dataset 2023).

State and federal lands and National Audubon Society Important Bird Areas (IBAs) were avoided during initial siting of the Project. The nearest IBA is approximately 10.6 mi (17.1 km) northwest of the Project Area (Medicine Lake National Wildlife Refuge). The Lake Zahl National Wildlife Refuge is located approximately 4.2 mi (6.8 km) northeast of the Project Area.

2.1.2 Tier 2

In accordance with Tier 2 of the WEG, a further review of readily available desktop information was completed to assess potential adverse effects to wildlife and their habitats. Data sources included federal and state agency personnel, the USFWS Information for Planning and Consultation (IPaC) tool, US Geological Survey (USGS) Breeding Bird Survey, aerial imagery, and non-governmental organizational websites (e.g., eBird, NatureServe, National Audubon Society).

A review of federally listed species with the potential to occur within the Original Project Boundary was completed using the IPaC system in June 2018. Results of this search identified gray wolf (*Canis lupus*, endangered), northern long-eared bat (NLEB; *Myotis septentrionalis*; threatened[1]), least tern (*Sterna antillarum*, endangered), piping plover (*Charadrius melodus*; threatened), red knot (*Calidris canutus rufa*; threatened), whooping crane (*Grus americana*; endangered), and pallid sturgeon (S*caphirhynchus albus*, endangered). The IPaC was rerun in April 2024 using the 2024 Project Boundary, at which time the gray wolf, least tern, and pallid sturgeon had been removed and the monarch butterfly (*Danaus plexippus*, candidate species) added. In addition, 12 birds of conservation concern (BCC) were listed in the April 2024 IPaC report as potentially occurring (USFWS 2024b; **Table 2.1**). A review of the Current Project Boundary is included in **Section 3.1**.

[1] NLEB was uplisted to endangered on March 31, 2023.

Table 2.1. Birds of conservation concern with potential for occurring in the Homestead Wind Project, Williams County, North Dakota based on April 2024 Information for Planning and Consultation.

Common Name	Scientific Name	Season of Potential Occurrence
bobolink	*Dolichonyx oryzivorus*	breeding
California gull	*Larus californicus*	breeding
chestnut-collared longspur	*Calcarius ornatus*	breeding
Franklin's gull	*Leucophaeus pipixcan*	breeding
golden eagle	*Aquila chrysaetos*	year round
lesser yellowlegs	*Tringa flavipes*	migration
marbled godwit	*Limosa fedoa*	breeding
northern harrier	*Circus hudsonius*	breeding
pectoral sandpiper	*Calidris melanotos*	migration
Sprague's pipit	*Anthus spragueii*	breeding
western grebe	*Aechmophorus occidentalis*	breeding
willet	*Tringa semipalmata*	migration

Source: US Fish and Wildlife Service 2024.

Through discussions with NDGFD and USFWS it was agreed that northern long-eared bat and rufa red knot are unlikely to occur at the Project due to the lack of potentially suitable habitat. NDGFD indicated that the Project is likely located far enough south to avoid impacts to piping plover; however, there is potentially suitable habitat nearby. In discussions with USFWS it was agreed that whooping crane may occur at the Project, as the Project is within the 75% band of the USFWS Whooping Crane Migration Corridor. In addition to federally listed species, it was agreed in discussions with NDGFD that there is potential for sharp-tailed grouse (*Tympanuchus phasianellus*, SCP Level II) to occur at the Project.

Results of the Tier 1 and 2 studies that were conducted for the Original Project Boundary and the 2024 Project Boundary (Project area) are presented in **Table 2.2**. This information was reviewed with the USFWS and NDGFD on April 9, 2024 for the 2024 Project Boundary, and a Tier 3 study plan was agreed upon based on this review, as discussed in the next section.

Table 2.2. Evaluation and characterization of the Homestead Wind Project, Williams County, North Dakota: Responses to questions posed in Tier 1 and Tier 2 of the 2012 *Land-based Wind Energy Guidelines*.

Question	Response
Are known species of concern present on the proposed site, or is habitat (including designated critical habitat) present for these species?	Four federally listed species have the potential to occur within the Project area; the federally endangered northern long-eared bat (NLEB; *Myotis septentrionalis*), federally threatened piping plover (*Charadrius melodus*), federally threatened rufa red knot (*Calidris canutus rufa*), and federally endangered whooping crane (*Grus americana*). However, NLEB and rufa red knot are unlikely to occur in the Project area due to lack of potentially suitable habitat. In addition, no hibernacula or maternity colonies are known to occur within the Project area for NLEB; although these species may migrate through the Project area. Piping plover may occur in the Project area due to the presence of potentially suitable habitat near the Project area. Whooping crane may occur within the Project area as the Project falls within the 75% band of the USFWS Whooping Crane Migration Corridor. In addition, 12 species listed as birds of conservation concern (US Fish and Wildlife Service 2024) have the potential to occur within the Project area (**Table 2.1**). Of these, eight species have potential to breed within the Project boundary. One Species of Conservation Priority (SCP) Level II, sharp-tailed grouse (*Tympanuchus phasianellus*), has the potential to occur within or near the Project area. Bald eagles (BAEA; *Haliaeetus leucocephalus*) have the potential to occur in the Project area and have been observed in Williams County (eBird 2024). Golden eagles (GOEA; *Aquila chrysaetos*) have been observed in Williams County, although neither eagle species has been reported within the Project boundary in publicly available databases (eBird 2024, US Geological Survey 2024). BAEA and GOEA use of the Project is expected to be low (eBird 2024). No federally designated critical habitat occurs with the Project area.
Does the landscape contain areas where development is precluded by law or designated as sensitive according to scientifically credible information? Examples of designated areas include, but are not limited to, federally designated critical habitat, high-priority conservation areas for nongovernment organizations, or other local, state, regional, federal, tribal, or international categorizations.	Yes. The North Dakota Game and Fish Department designates native prairie as sensitive habitat; however, these areas are not precluded from development. In addition, pursuant to NDAC Section 6906-08-01(3), wetlands are considered an avoidance area for which an energy conversion facility cannot be sited.
Are there plant communities of concern present or likely to be present at the site(s)?	Unbroken grassland exists within the Project area.

Table 2.2. Evaluation and characterization of the Homestead Wind Project, Williams County, North Dakota: Responses to questions posed in Tier 1 and Tier 2 of the 2012 *Land-based Wind Energy Guidelines*.

Question	Response
Are there known critical areas of congregation of species of concern, including, but not limited to, maternity roosts, hibernacula, staging areas, winter ranges, nesting sites, migration stopovers or corridors, leks, or other areas of seasonal importance?	There are no known NLEB hibernacula, roosts, or maternity colonies in the vicinity of the Project area. BAEA nesting habitat is very limited in the Project area; however the species may potentially use the habitat (riparian areas) outside of the Project area for nesting. The Project area does not contain cliffs that would provide suitable nesting habitat for GOEA. Open waterbodies and wetlands within the Project area may be used as stopover habitat for migrating waterfowl, although these are very limited within the Project area and more prevalent outside of the Project. Given the very limited lack of habitat and concentrating features, no areas are known to congregate other species of concern at the Project.
Using best available scientific information, has the developer or relevant federal, state, tribal, and/or local agency identified the potential presence of a population of a species of habitat fragmentation concern?	Species of habitat fragmentation concern that may occur within or near the Project area include grassland-dependent species, such as sharp-tailed grouse.
Which species of birds and bats, especially those known to be at risk by wind energy facilities, are likely to use the proposed site based on an assessment of site attributes?	BAEA and GOEA, along with a variety of other raptor species, may occur at the Project. Waterfowl, waterbirds, and passerines are also likely to occur, especially during migration, but generally have low risk profiles with wind energy facilities (AWWI 2019). Ten species of bats have ranges that overlap the Project area including: big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), eastern red bat (*L. borealis*), silver-haired bat (*Lasionycteris noctivagans*), western small-footed bat (*Myotis ciliolabrum*), long-eared bat (*M. evotis*), little brown bat (*M. lucifugus*), NLEB, long-legged bat (*M. volans*), and evening bat (*Nycticeius humeralis*). Eight of the ten bat species that are in range of the Project area have been documented as fatalities at wind facilities.
Is there a potential for significant adverse impacts to species of concern based on the answers to the questions above, and considering the design of the proposed project?	The potential for significant impacts to species of concern is low, based on available data. Although the Project area may be used by eagles and has the potential to be used by other sensitive bird and bat species, the limited preferred habitat for these sensitive species, other than unbroken grasslands, is unlikely to support any concentration of species.

2.2 Tier 3 Surveys Completed to Date

Based on the results of the Tier 1 and 2 reviews, and in coordination with the USFWS and NDGFD, Tier 3 surveys were designed and completed at the Project and in its vicinity to understand wildlife usage, evaluate risk, and to inform siting and site-specific minimization and avoidance measures. The studies listed in **Table 2.3** and discussed in the following sections were

developed using multiple Project boundaries as Homestead Wind progressed through the WEG (USFWS 2012). A discussion of the applicability of these survey results, relative to the Current Project Boundary can be found in **Section 3**. Final reports that provide details on the methods and results are included in **Appendix A**.

Table 2.3 Avian and bat monitoring and survey efforts at the Homestead Wind Project in Williams County, North Dakota.

Study Type	Study Period	Reference
Avian Use Surveys – Year 1	February 2023 – January 2024	WEST 2026a
Raptor Nest Survey	March – April 2023	Shelley and LeBeau 2024a
Sharp-tailed Grouse Lek Survey – Year 1	March – April 2023	Shelley and LeBeau 2024b
Grassland Field Assessment	May 2024, April-May 2025	MNR 2026
Avian Use Surveys – Year 2	October 2024 – September 2025	WEST 2026a
Raptor Nest Survey	February - April 2025	Eagle Environmental 2025
Sharp-tailed Grouse Lek Survey – Year 2	March – April 2025	WEST 2025a
Bat Acoustic Monitoring	April – November 2025	WEST 2026b
Whooping Crane Habitat Assessment	September - October 2025	WEST 2025b
Northern Long-eared and Little Brown Bat Desktop Habitat Assessment	February 2026	Evans and Samoray 2026

2.2.1 Birds

2.2.1.1 Avian Use Surveys

The objective of avian use surveys was to evaluate species composition and seasonal and spatial use of the Project by birds, with a particular focus on eagles and other species of concern (i.e., defined as federally listed species, state SCP, and BCC as identified in the USFWS IPaC). The survey methods were consistent with recommendations outlined in the WEG, ECPG, 2016 Eagle Rule and 2024 Eagle Rule. Data presented below include only data collected within the Current Project Boundary.

2023–2024

Monthly surveys were conducted from February 20, 2023 – January 24, 2024 (Year 1) at 42 randomly established fixed point-count survey points (survey points) within the 2023 Project Boundary; data analysis was limited to the 20 points that overlap with the Current Project Boundary (**Figure 2.1**). Surveys consisted of 10-minute (min) counts for small birds within 100-m (328--ft) radius plots, followed by 60-min counts within 800-m (2,625-ft) radius plots, where all large birds (including eagles) were recorded. Observations of species of concern were recorded any time they were observed. Observations of species of concern outside of the appropriate survey period, or beyond the 100- or 800-m radius plot, were recorded as incidental observations to document occurrence on site but were excluded from statistical analyses.

No federally listed species were recorded during the large or small bird surveys or incidentally. Four GOEA observations were recorded within the Current Project Boundary, two were recorded during surveys (one in the fall and one in the winter) and two were recorded incidentally (one in the fall and one in the winter). Four incidental BAEA observations were recorded within the

Current Project Boundary during the spring. In addition, one unidentified eagle was recorded during surveys in the fall.

Nine species of birds classified as either NDGFD SCP Level (L) I and/or BCC were recorded during Year 1 surveys or incidentally: bobolink (*Dolichonyx oryzivorus*; BCC; n = 4), chestnut-collared longspur (*Calcarius ornatus*; SCP LI, BCC; n = 22), Franklin's gull (*Leucophaeus pipixcan*; SCP LI, BCC; n = 80), grasshopper sparrow (*Ammodramus savannarum*; SCP LI, BCC; n = 8), marbled godwit (*Limosa fedoa*; SCP LI, BCC; n = 12), northern harrier (*Circus hudsonius*; BCC; n = 36), Swainson's hawk (*Buteo swainsoni*; SCP LI; n = 13), willet (*Tringa semipalmata*; BCC; n = 4), and Wilson's phalarope (*Phalaropus tricolor;* SCP LI; n = 4).

There were 44 unique large bird species recorded during 229 hours of large bird surveys during Year 1. Waterbirds and waterfowl made up the majority of the large bird observations recorded, with sandhill crane (*Antigone canadensis*), Canada goose (*Branta canadensis*), and snow goose (*Anser caerulescens*) comprising 79.2% of all large bird observations. Large bird use was highest in the fall, driven by migratory waterbirds, and spring, driven by migratory waterfowl.

There were 31 unique small bird species recorded during 38 hours of small bird surveys. Horned lark (*Eremophila alpestris*), European starling (*Sturnus vulgaris*), and Lapland longspur (*Calcarius lapponicus*) comprised 66.6% of all small bird observations. Small bird use was highest in the fall, followed by spring, winter, and summer.

2024–2025

Monthly surveys were conducted from October 20, 2024 – September 7, 2025 (Year 2) at 41 fixed point-count survey points (survey points) within the 2024 Project Boundary; however, data analysis was limited to the 20 points that overlap with the Current Project Boundary (**Figure 2.1**). Survey methods were similar to Year 1, with the exception that no small bird survey was completed, and consisted of 60-min counts within 800-m radius plots, where all large birds (including eagles) were recorded. Observations of species of concern were recorded any time they were observed within the Project area, including incidentally.

No federally listed species were recorded during the large bird surveys or incidentally. Four incidental GOEA observations were recorded within the Current Project Boundary, three were recorded in the winter and one was recorded in the spring. Eight BAEA observations were recorded during surveys and incidentally within the Current Project Boundary, one was recorded during surveys in the fall and seven were recorded incidentally during the fall and spring.

Eight species of birds classified as either NDGFD SCP LI and/or BCC were recorded during Year 2 surveys or incidentally: California gull (*Larus californicus*; BCC; n = 4), chestnut-collared longspur (SCP LI, BCC; n = 7), ferruginous hawk (*Buteo regalis*; SCP LI; n = 1), Franklin's gull (SCP LI, BCC; n = 124), marbled godwit (SCP LI, BCC; n = 49), northern harrier (BCC; n = 23), Swainson's hawk (SCP LI; n = 10), and willet (BCC; n = 4).

There were 40 unique large bird species recorded during 240 hours of large bird surveys. Waterfowl, upland game birds and waterbirds made up the majority of large bird observations recorded with ring-necked pheasant (*Phasianus colchicus*), sandhill crane, and Canada goose, comprising 59.0% of all large bird observations. Similar to Year 1, large bird use was highest in the fall, driven by migratory waterbirds, and spring, driven by migratory waterfowl.

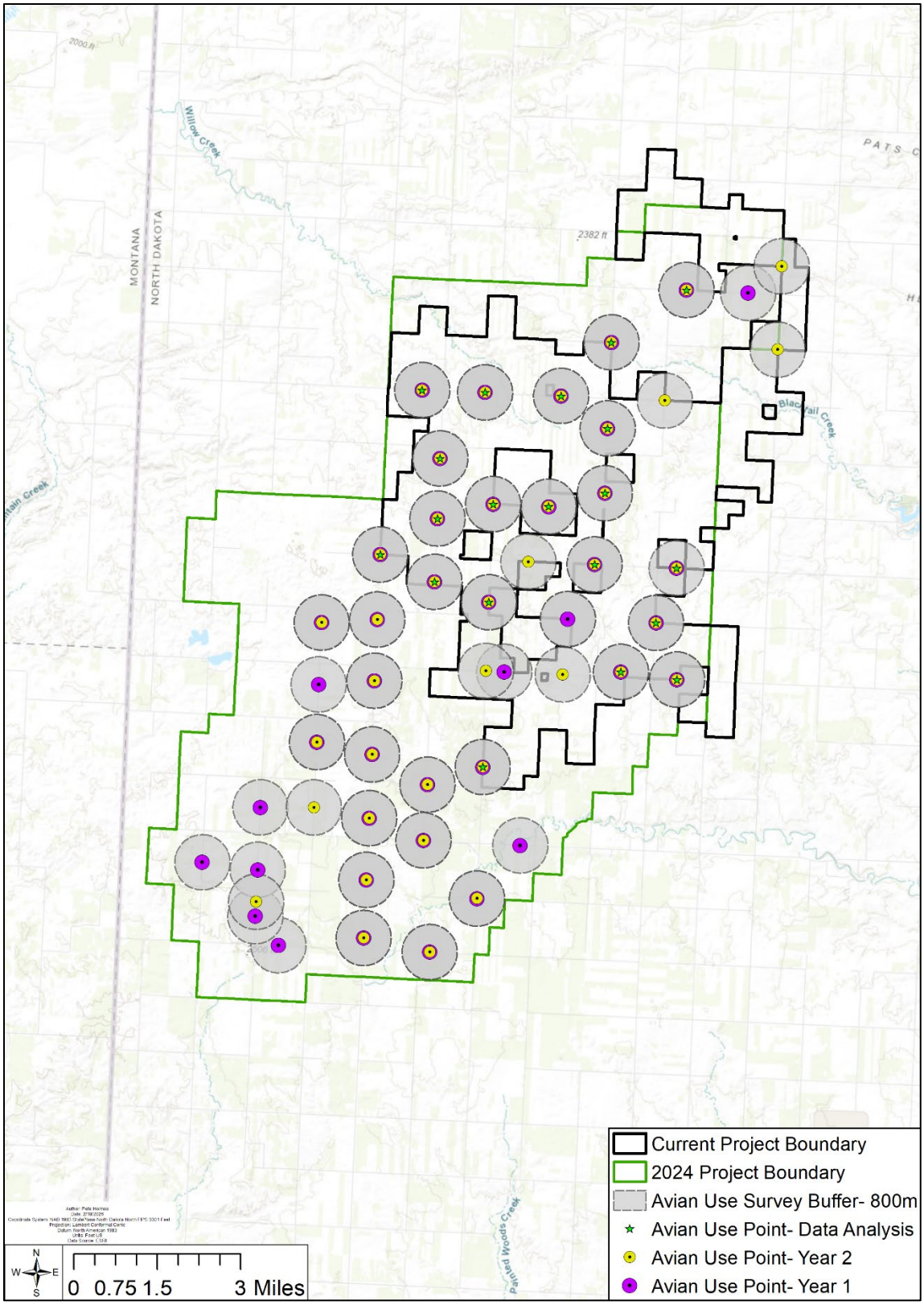

Figure 2.1. Observation point locations used during avian use plots and surveys at the Homestead Wind Project, Williams County, North Dakota, from February 20, 2023 – September 7, 2025.

2.2.1.2 Raptor Nest Surveys

2023

An aerial raptor nest survey was completed on March 13 and April 24, 2023 within a 2 mi (3.2 km) buffer of the 2023 Project Boundary. The objective of the survey was to identify and record the location and status of any raptor nests, with a particular focus on potential eagle nests, to assist in Project planning. The survey was completed in accordance with the WEG (USFWS 2012), ECPG (USFWS 2013), 2016 Eagle Rule (USFWS 2016), USFWS *Updated Eagle Nest Survey Protocol* (USFWS 2020), USFWS *Region 6 Recommended Protocol for Conducting Pre-construction Eagle Nest Surveys at Wind Energy Projects* (USFWS 2021). The survey was conducted by flying meandering transects spaced approximately 0.5 mi (0.8 km) apart throughout the 2023 Project boundary and 2 mi buffer. Two rounds of aerial surveys were conducted per USFWS (USFWS 2021).

No GOEA or BAEA nests were observed within the 2023 Project Boundary or 2 mi buffer. Two active great horned owl nests and one active and three inactive unidentified non-eagle raptor nests were identified within the 2023 Project Boundary. One active great horned owl nest and two inactive unidentified non-eagle raptor nests were identified within the 2 mi buffer (**Figure 2.2**; Shelley and LeBeau 2024a).

2025

A combination of aerial and ground-based raptor nest surveys were completed on February 21, February 23, and April 21, 2025 within a 2 mi buffer of the 2024 Project Boundary. The objective of the survey was to identify and record the location and status of any raptor nests, with a particular focus on potential eagle nests, to assist in Project planning. The survey was completed in accordance with the USFWS *Region 6 Recommended Protocol for Conducting Pre-construction Eagle Nest Surveys at Wind Energy Projects* (USFWS 2021), ECPG (USFWS 2013), and 2024 Eagle Rule (USFWS 2024). The ground-based survey was completed on February 21, 2025 from publicly accessible roads to check the status of known/historic nest locations. In addition, an aerial survey was completed February 23 and April 21, 2025 using a Robinson R-44 helicopter by flying meandering transects spaced approximately 0.5 mi (0.8 km) apart to survey for any new raptor nests.

No GOEA or BAEA nests were observed within the 2024 Project Boundary or 2 mi buffer. Two occupied ferruginous hawk nests, four occupied great horned owl nests, and two occupied red-tailed hawk (*Buteo jamaicensis*) nests were identified within the 2024 Project Boundary. Five active red-tailed hawk nests, one active ferruginous hawk nest, and five active great-horned owl nests were identified within the 2 mi buffer (**Figure 2.3**; Eagle Environmental 2025).

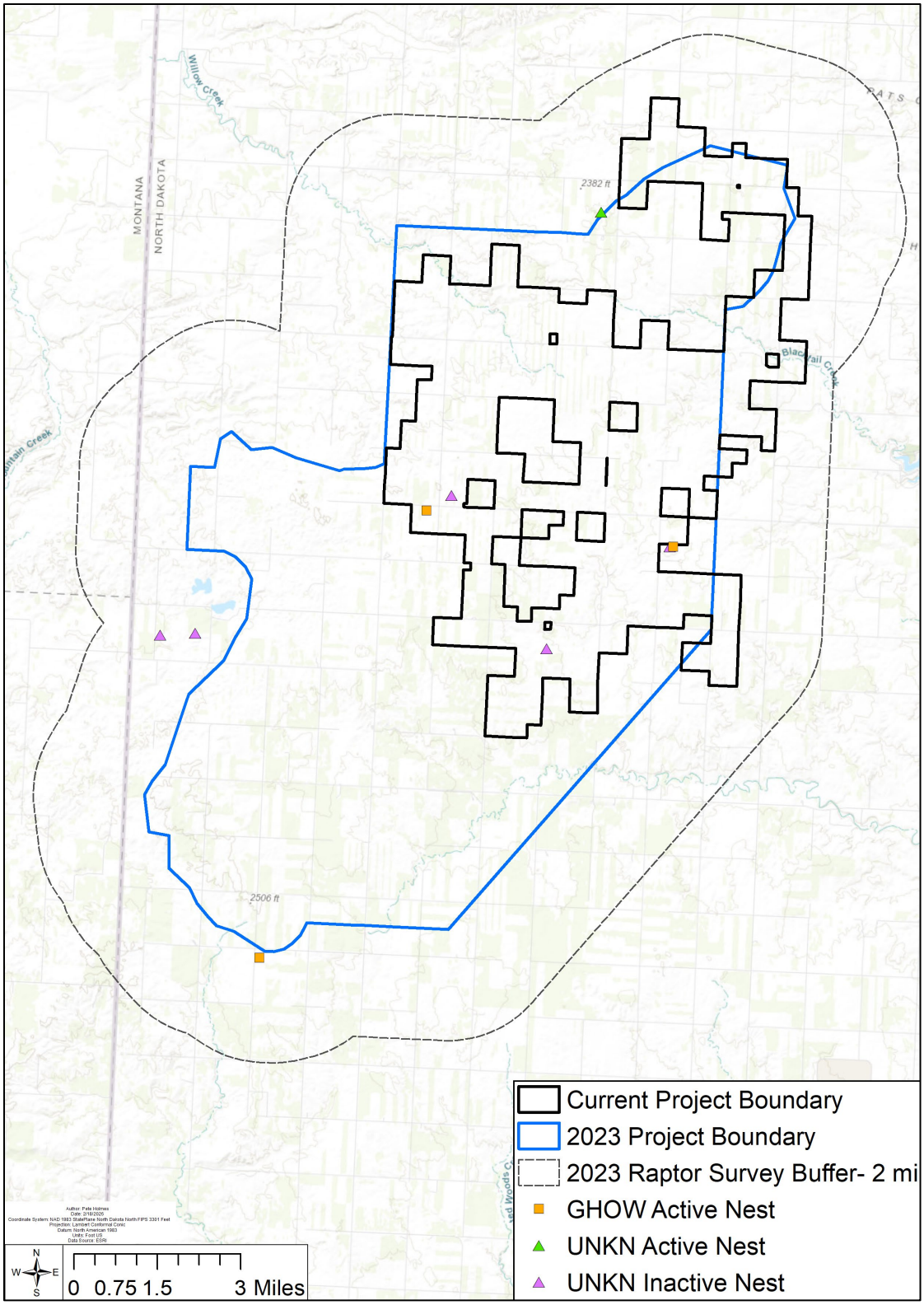

Figure 2.2. Location of raptor nests observed during the 2023 raptor nest survey completed at the Homestead Wind Project in Williams County, North Dakota.

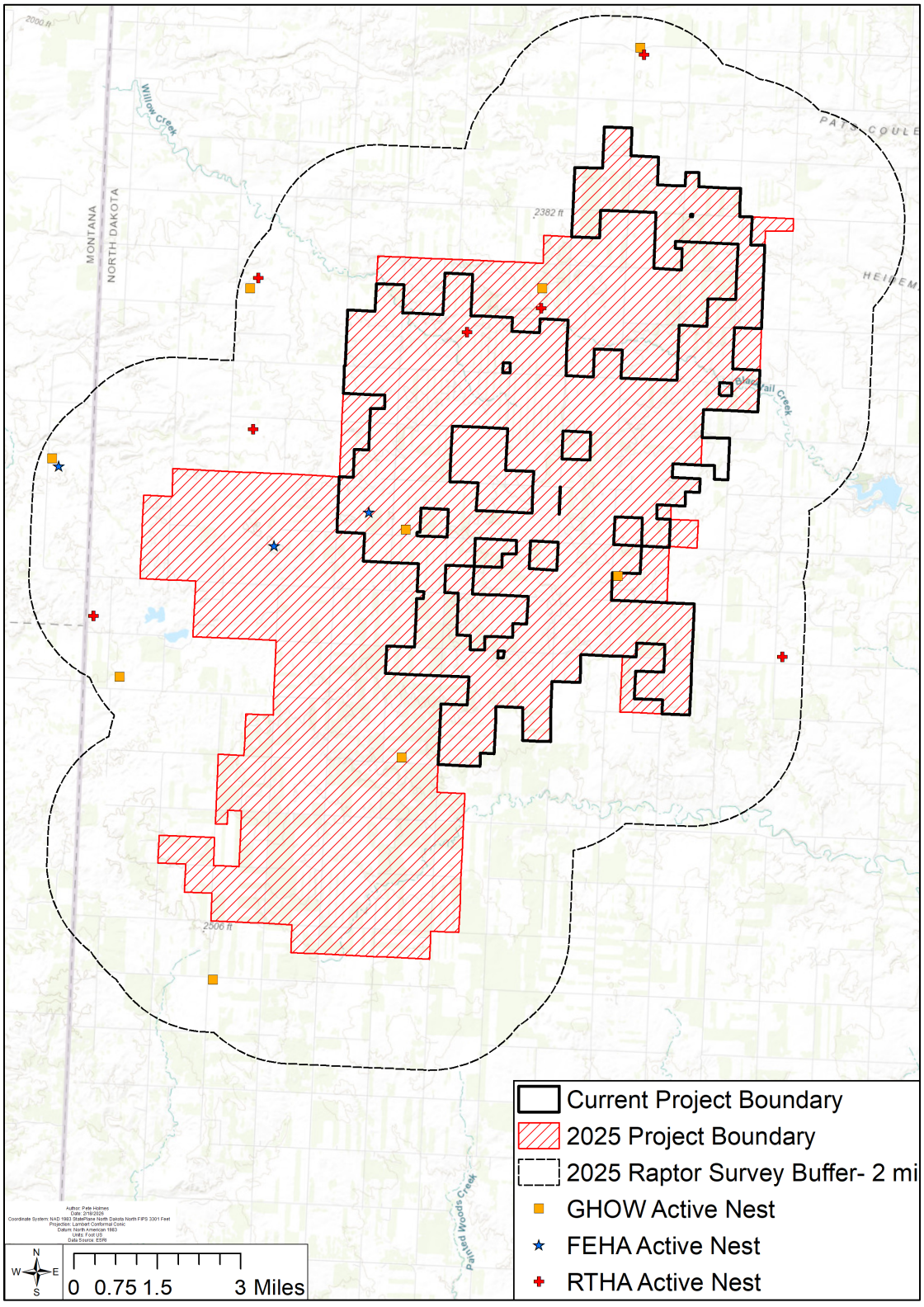

Figure 2.3. Location of raptor nests observed during the 2025 ground-based and aerial raptor nest survey completed at the Homestead Wind Project in Williams County, North Dakota.

2.2.1.3 Sharp-Tailed Grouse Lek Surveys

2023

Sharp-tailed grouse lek surveys were completed from March 27 – April 25, 2023 within the 2023 Project Boundary and 2 mi buffer. The objective of the sharp-tailed grouse lek survey was to inform early-stage Project design and planning by identifying new lek locations and determining the status of previously known leks. The lek survey design was informed by the survey protocol described in the NDGFD *Management Plan and Conservation Strategies for Greater Sage-Grouse in North Dakota* (Robinson 2014), NDGFD *Wind Energy Development in North Dakota, Best Management Practices* (NDGFD 2021), and recommendations received in the March 2023 agency meeting with NDGFD (pers. comm. E. Mueller & J. Kolar, NDGFD, March 21, 2023). The survey consisted of driving publicly accessible roads, stopping to listen and visually scan for leks. Historic lek locations were requested from NDGFD prior to the survey; however, no historic leks were known to occur within or near the Project (NDGFD, pers. comm., March 21, 2023).

Three rounds of ground-based surveys were completed, round 1 (March 27 – April 4, 2023), round 2 (April 6 – 12, 2023), and round 3 (April 18 – 25, 2023). Nine active sharp-tailed grouse leks were identified during surveys, six of which were identified within the 2023 Project Boundary and three of which were identified within the 2 mi buffer (**Figure 2.4**; Shelley and LeBeau 2024b).

2025

A second year of sharp-tailed grouse lek surveys were completed from March 16 – April 29, 2025 within the Current Project Boundary and 2 mi buffer. The objective and survey protocol was the same in the second year as it was in the first year. The survey consisted of driving publicly accessible roads, and stopping every mile or two to listen and visually scan for leks. Leks identified during the 2023 survey (Shelley and LeBeau 2024) were revisited if they remained within the Current Project Boundary or 2 mi buffer.

Three rounds of ground-based surveys were completed, round 1 (March 16-21, 2025), round 2 (March 27 – April 5, 2025), and round 3 (April 22 – 29, 2025). Four active sharp-tailed grouse leks were identified during surveys, one of the four active leks identified was previously known from the 2023 survey (lek 4). None of the active leks documented during the 2025 survey occur within the Current Project Boundary (**Figure 2.5**; WEST 2025a).

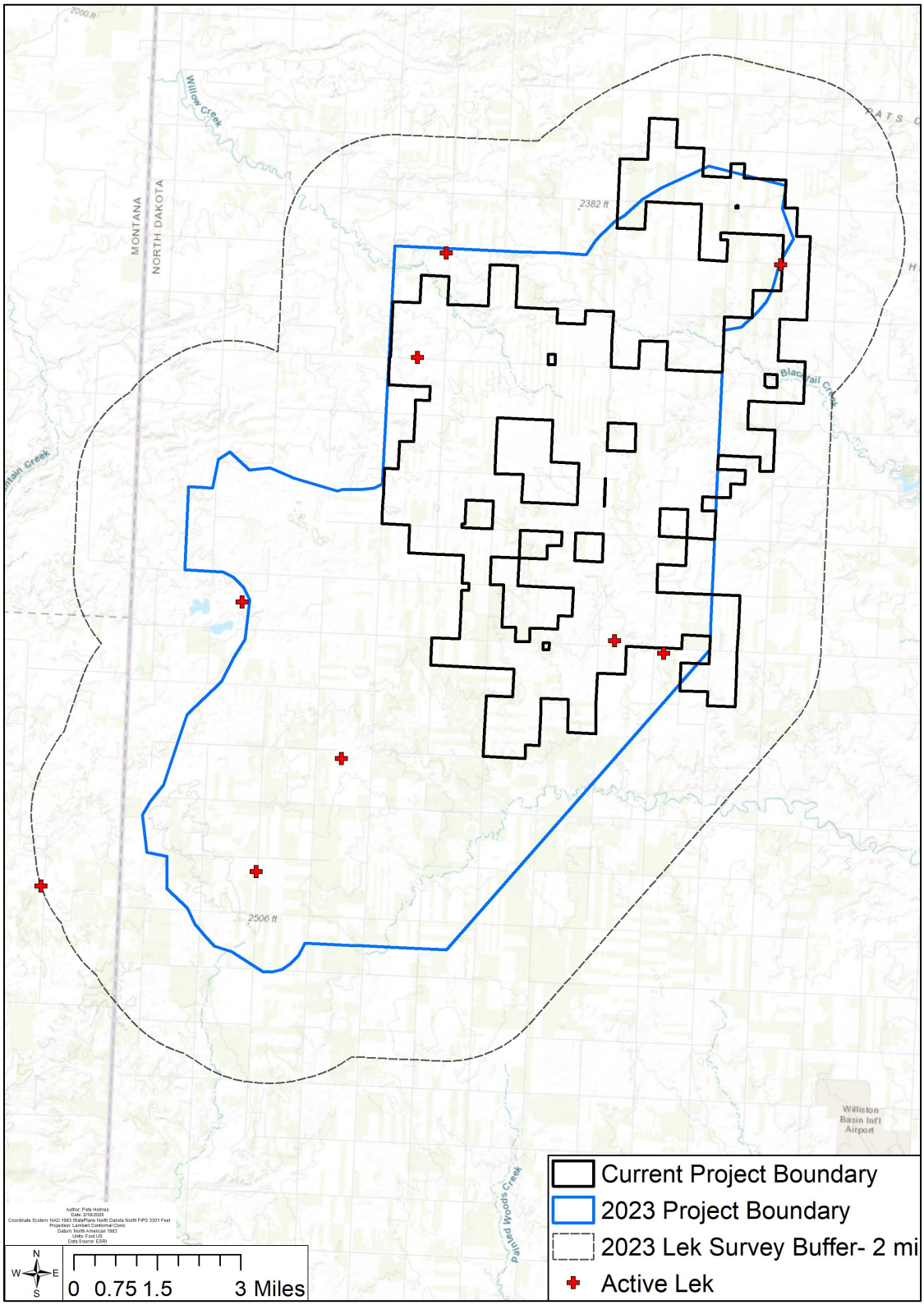

Figure 2.4. Sharp-tailed grouse lek locations identified during the 2023 survey at the Homestead Wind Project, Williams County, North Dakota, between March 29 – April 25, 2023.

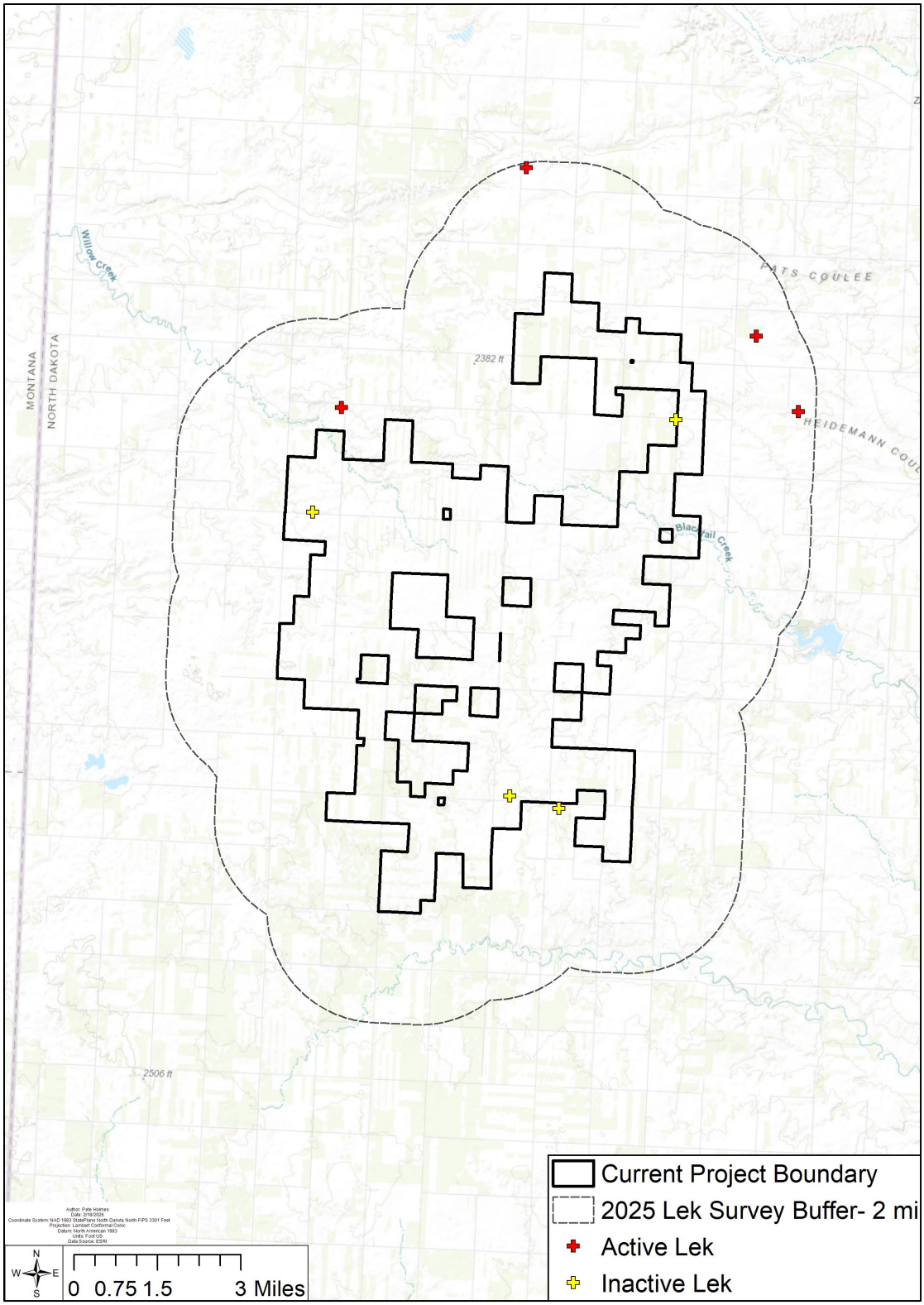

Figure 2.5. Sharp-tailed grouse lek locations identified during the 2025 survey at the Homestead Wind Project, Williams County, North Dakota, between March 16 – April 29, 2025.

2.2.1.4 Whooping Crane Habitat Assessment

2025

A whooping crane migration habitat assessment was completed in 2025 to describe the overall suitability of whooping crane stopover habitat. Migration habitat suitability was evaluated within the Current Project Boundary, and within 3.1 mi (5.0 km) and 12.4 mi (20 km) buffers using the Relative Probability of Occurrence Model (Niemuth Model) and the Decile Model (Niemuth Decile Model), developed specifically for North and South Dakota (Niemuth et al. 2018), and the Pearse Model (Pearse et al. 2021). The Niemuth Model and Niemuth Decile Model are preferred by USFWS (pers. comm., H. Edens, December 4, 2024) and NDGFD (NDGFD 2021) for use in North Dakota. However, these models were developed for habitat evaluations solely within the Dakotas. Therefore, the Pearse Model was used to evaluate habitat within the portion of the 12.4 mi buffer that overlaps Montana.

Per the Niemuth Model, over 99% of the potential stopover habitat within the Current Project Boundary is in the lowest probability of use category, and less than 1% falls within the second lowest probability of use category. Potential stopover habitat within the 3.1 mi is in either the lowest probability of use category (98.6%) or the second lowest probability use category (1.4%). Potential stopover habitat within the 12.4 buffer falls within the lowest probability use category (88.9%), second lowest (9.9%), third lowest (1.0%), the remaining 0.2% comprises the remaining use categories (**Figure 2.6**; WEST 2025b). These results indicate a relatively low likelihood of whooping crane occurrence during migration within and adjacent to the Current Project Boundary.

Per the Pearse Model, available observational and telemetry data locations indicated no documented whooping crane use within the Current Project Boundary. The nearest confirmed observation was located approximately 1.9 mi (3.0 km) northeast of the Current Project Boundary. Eleven additional confirmed observations and five telemetry locations were located within the 12.4 mi buffer area. Model output classified the Current Project Boundary and 3.1 mi buffer in the lowest relative whooping crane habitat selection values, also indicating that whooping crane use is likely to be low (**Figure 2.7**; WEST 2025b).

Per the Niemuth Decile Model, the output of whooping crane stopover habitat within the Current Project Boundary consisted of deciles 2 – 5, with an estimated 99% contained in deciles 2, 3, and 4 (with one being the highest probability of WHCR occurrence and 10 being the lowest). The results are similar for the areas within the 3.1 mi and 12.4 mi buffers, with an estimated 90% contained in deciles 2 – 4. The most suitable stopover habitat for whooping crane (decile 1) is located within the north and northeast quadrants of the 12.4 mi buffer area; this area falls nearer or within the 50% band of the USFWS Whooping Crane Migration Corridor (**Figure 2.8**; WEST 2025b).

In summary, the Niemuth and Pearse model outputs classify the Current Project Boundary and 3.1 mi buffer with the lowest relative likelihood of whooping crane occurrences based on habitat selection values and likelihood of use. Despite the different analytical approaches, both models provided important insights into predicted whooping crane habitat use, and the Pearse Model in particular offered helpful insights into the Montana portion of the 12.4 mi buffer where the Niemuth

Model was not equipped for use. Collectively, the Pearse and Niemuth model outputs, coupled with the documented whooping crane occurrences (confirmed observations and telemetry locations), suggest no historical, traditional stopover habitat areas exist within the Current Project Boundary or buffers (WEST 2025b).

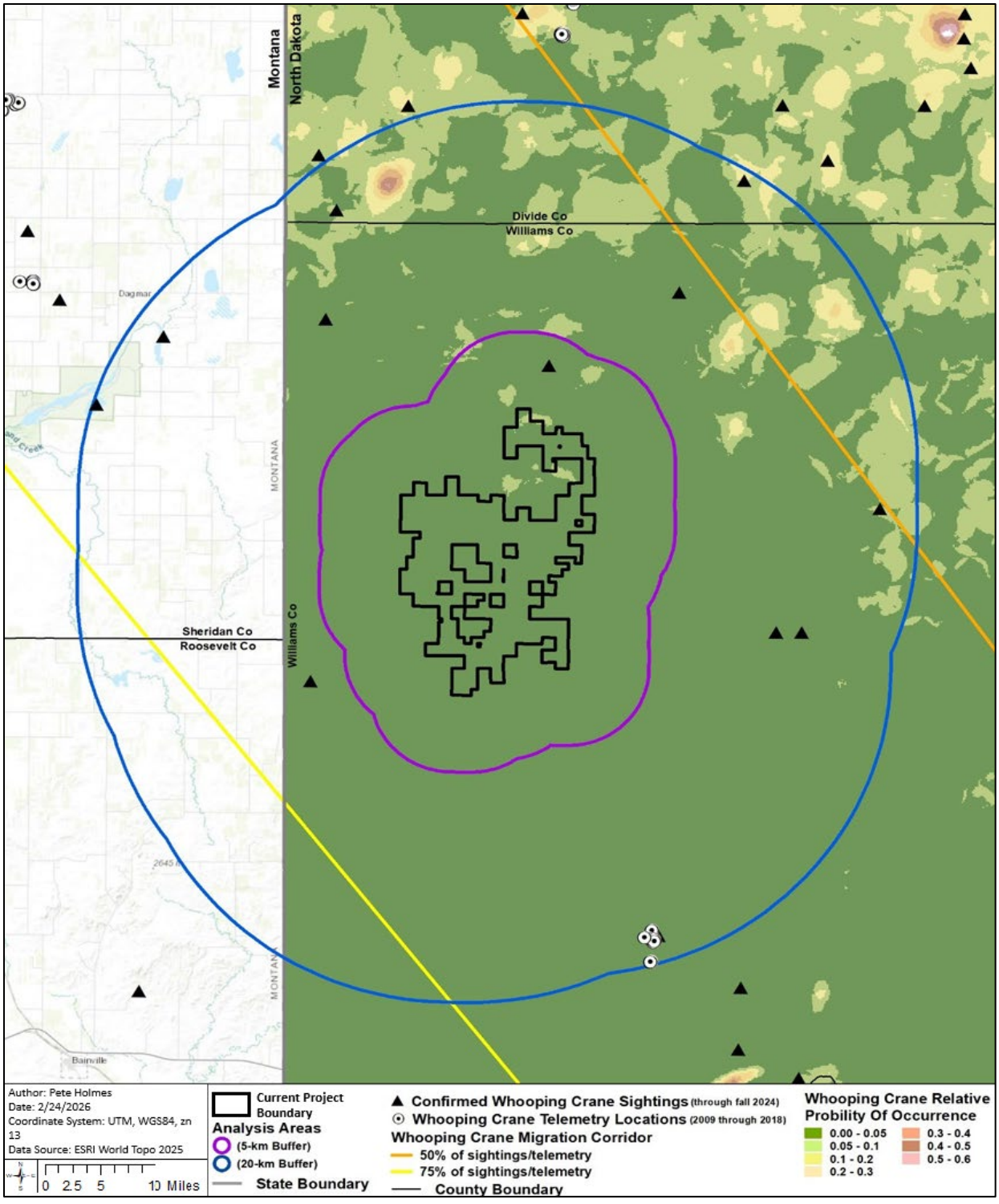

Figure 2.6. Niemuth Model results for whooping crane relative probability of occurrence, confirmed sightings, and telemetry locations within the Current Project Boundary, 3.1 mile (mi), and 12.4 mi buffers at the Homestead Wind Project in Williams County, North Dakota.

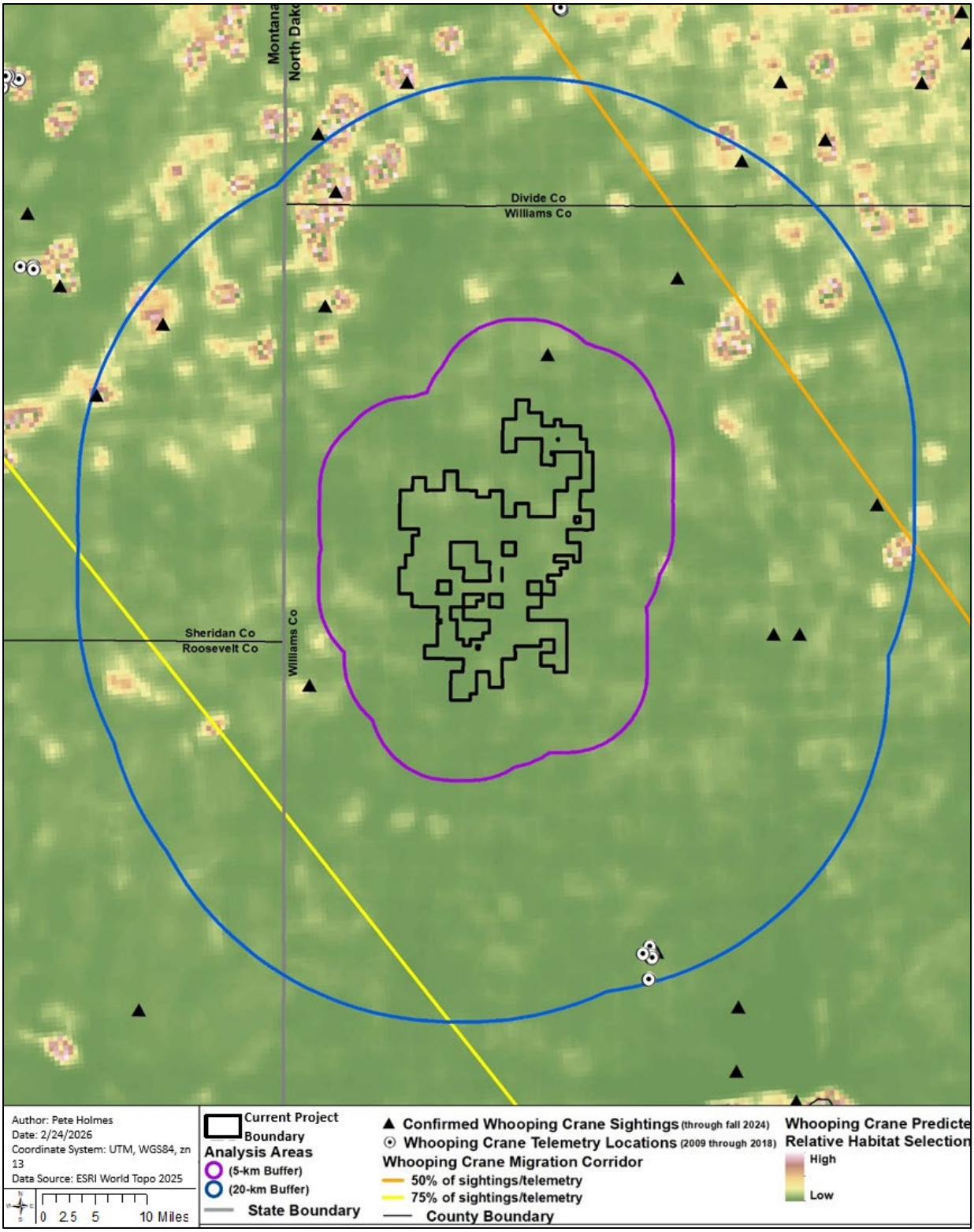

Figure 2.7. Pearse Model results of whooping crane predicted relative likelihood of habitat selection, confirmed sightings, and telemetry locations within the Current Project Boundary, 3.1 mile (mi), and 12.4 mi buffers at the Homestead Wind Project in Williams County, North Dakota.

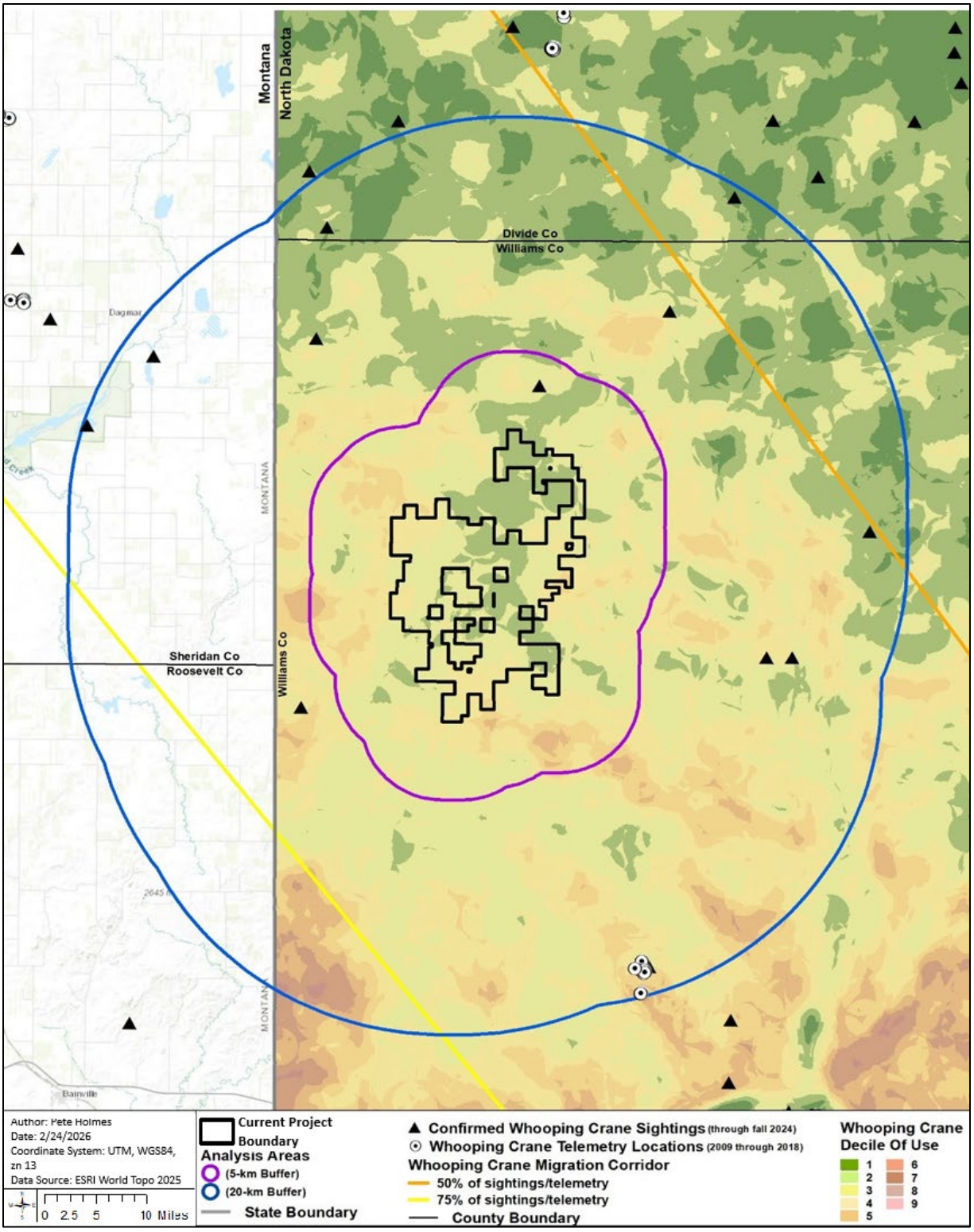

Figure 2.8. Niemuth Decile Model results of whooping crane predicted relative probability of habitat use, confirmed sightings, and telemetry locations within the Current Project Boundary, 3.1 mile (mi), and 12.4 mi buffers at the Homestead Wind Project in Williams County, North Dakota.

2.2.2 Bats

2.2.2.1 Northern Long-eared and Little Brown Bat Desktop Habitat Assessment

2026

A desktop habitat assessment was initially completed for the federally endangered NLEB and little brown bat (*Myotis lucifugus*)[2] in 2024, but was revised in 2026 to reflect the Current Project Boundary. The objective of the assessment was to identify and determine the quantity of potentially suitable maternity or summer roosting habitat for NLEB and little brown bat within the Current Project Boundary and 0.25 mi (0.4 km) buffer, the area of interest (AOI), to inform Project design. The assessment was completed in accordance with the *Range-Wide Indiana Bat & Northern Long-eared Bat Survey Guidelines* (USFWS 2024c). Given the similarity in summer habitat preference between little brown bat and NLEB the assessment did not distinguish between habitat for the two species (Evans and Samoray 2026).

The desktop review utilized the USGS NLCD, National Hydrography Dataset (NHD) waterways, Digital Elevation Model (DEM) dataset, State Historical Society of North Dakota information, North Dakota Geologic Survey information, and manual hand delineation was conducted to determine the quantity of potential suitable summer habitat for NLEB and little brown bat within the AOI. Potential habitat was defined as forested patches of 10 ac or greater and all forested areas within 1,000 ft of these patches. Isolated trees and forested habitat smaller than 10 ac and farther than 1,000 ft from suitable forested habitat were not considered suitable habitat. Areas of forested habitat were initially identified utilizing the NLCD in ArcGIS Pro. A Copperhead biologist then reviewed, and hand digitized any additional forested habitat that met the suitability criteria using 2021 National Agriculture Imagery Program natural color (0.6-meter pixel resolution) aerial imagery at an approximate scale of 4,000-10,000 feet. Aerial imagery, DEM dataset, and NHD waterways were reviewed to identify potential anthropogenic roost structures such as bridges, culverts, and buildings within the AOI. In accordance with USFWS, all buildings, barns, bridges, and culverts have the potential to provide potential suitable summer roosting habitat. However, any of these structures located farther than 1,000 feet from suitable forested habitat were not considered suitable habitat.

No potentially suitable summer roosting habitat for NLEB or little brown bat was identified within the Current Project Boundary or 0.24 mi buffer. Generally, habitat was of low-quality and included tree-lined fence rows, small woodlots surrounding anthropogenic structures, and small woodlots consisting of scattered trees (Evans and Samoray 2026).

2.2.2.2 Bat Acoustic Monitoring Survey

Bat acoustic monitoring was completed at three meteorological (MET) towers, two of which are within the Current Project Boundary, from April 3 – November 2, 2025. The objective of the bat acoustic monitoring survey was to provide a characterization of the activity levels and seasonality of use by bats within the Project Area. The survey was completed in accordance with the WEG (USFWS 2012), *Assessing Impacts of Wind-Energy Development on Nocturnally Active Birds and*

[2] This species is currently Under Review by the USFWS for potential listing under the Endangered Species Act

Bats: A Guidance Document (Kunz et al. 2007), and the NDGFD *Best Management Practices for bat acoustic activity surveys* (NDGFD 2021).

MET towers were located in cropland, which is representative of turbine locations. The three MET towers were surveyed with Wildlife Acoustics Song Meter SM3BAT, microphones were deployed at two heights at each MET tower, near the ground 10 ft (3 m; i.e., ground station) and near the bottom of the rotor swept area 148 ft (45 m; i.e., raised station). Detectors were serviced (e.g., replacing batteries and data collection cards and checking equipment for any visible issues) approximately every two weeks throughout the survey period. The survey was divided into three periods: spring (April 3 – May 14), summer (May 15 – August 15), and fall (August 16 – November 2) to capture the entire bat active season and discern any seasonal acoustic activity patterns. Detectors were programmed to turn on at 18:00 and off at 08:00 to capture bat acoustic activity throughout each night. If more than 30 minutes of the night were missed at a station, the station was classified as "non-operational" for that night (WEST 2026b).

A total of 1,853 bat passes were recorded over 1,114 detector nights for a combined mean (± standard error) of 1.66 ± 0.20 bat passes per detector night. Bat activity recorded at ground stations (1.67 ± 0.19 bat passes per detector night) and raised stations (1.66 ± 0.25 bat passes per detector night) was very similar. There was also little variation between bat activity levels recorded at the different ground stations (ranging between 1.63±0.20 to 1.70±0.23 bat passes per detector night); as well as, different raised stations (1.58±0.25 to 1.78±0.28) indicating there are no areas within the Current Project Boundary or vicinity that are concentrating bat activity. Overall weekly bat activity was relatively low, with some weeks having no activity, from April 3 – July 22. Overall weekly bat activity began increasing the week of July 23, reaching a peak in activity during the week of August 13. Following the week of August 13, overall bat activity levels returned to similar levels as observed from July 23 - August 12, this trend continued through September 23. By the week of September 24 overall bat activity was returned to the relatively low activity levels observed at the beginning of the study, with no bat passes recorded after October 1.

A total of 78.6% of bat passes were classified as low frequency (e.g., big brown bats, hoary bats, and silver-haired bats) and 21.4% of bat passes were classified as high frequency (e.g., eastern red bat and *Myotis* species bats). No NLEB bat passes were identified by Kaleidoscope Pro 5.7.0 (Wildlife Acoustics) software, indicating NLEB are likely not present within the Current Project Boundary or vicinity (**Figure 2.9**; WEST 2026b).

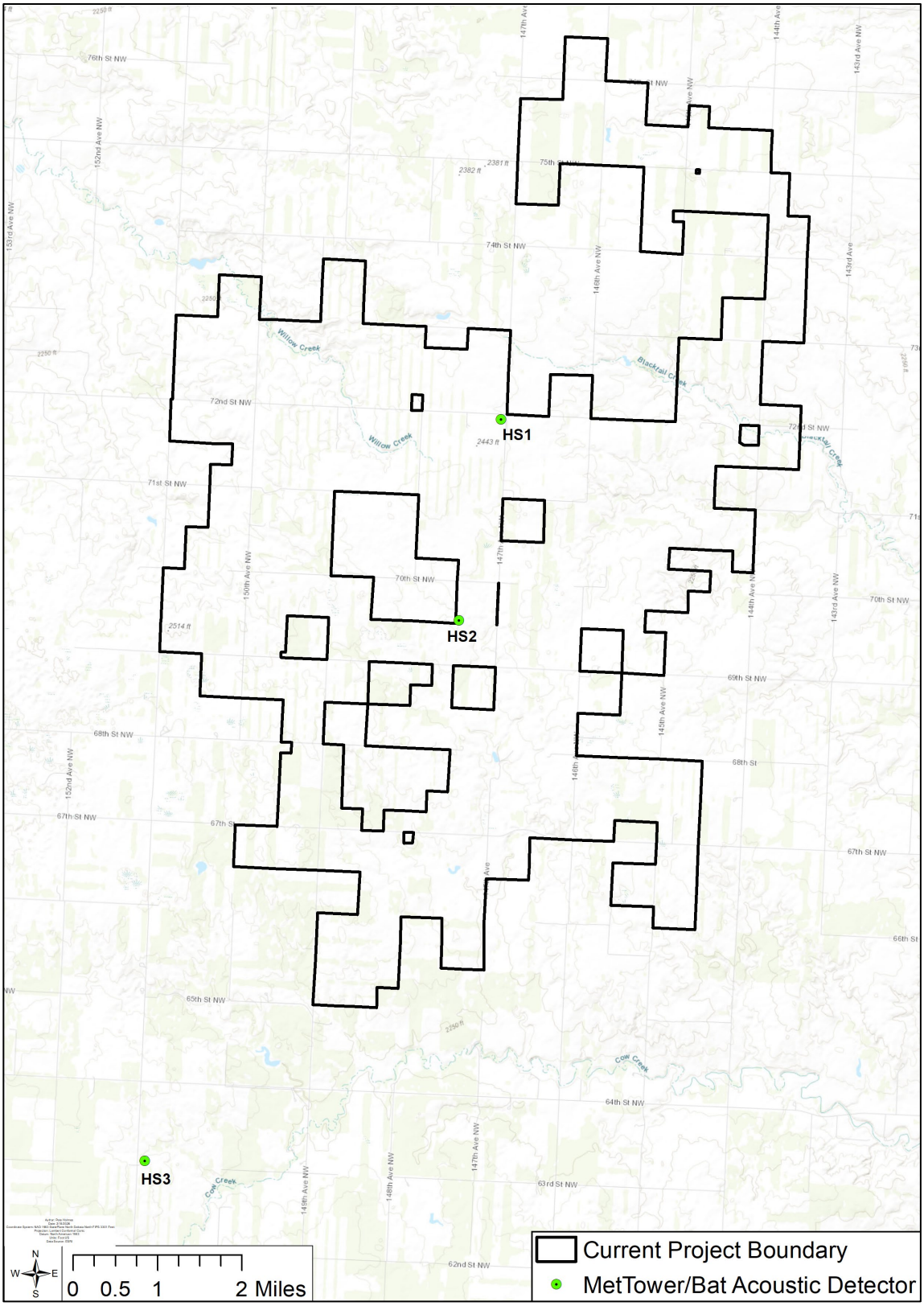

Figure 2.9. Location of meteorological (MET) towers where bat acoustic monitoring surveys were conducted at the Homestead Wind Project, Williams County, North Dakota.

2.2.3 Grassland Assessment

A grassland assessment was conducted to identify unbroken native prairie (i.e., shows no evidence of soil disturbance) or previously broken grasslands (i.e., soil has been disturbed in some fashion) to inform Project design within the 2024 Project Boundary and Current Project Boundary.

Prior to field surveys, a desktop assessment was completed by reviewing the North Dakota Native Habitat layer, digital soil data, and aerial photos to identify potentially unbroken (i.e., untilled) and broken (i.e., previously tilled but have since been removed from row crop production) grasslands within the 2024 Project Boundary.

Field surveys were then conducted between May 6 – 14, 2024 within the 2024 Project Boundary, and April 30 – May 1, 2025 following a Project boundary change to the Current Project Boundary. The objective of the field survey component was to evaluate either the quality status of unbroken grasslands or the current land use for previously broken grasslands. This included determining if the area was actively grazed or had evidence of haying, as well as, absolute cover of native species, non-native species, woody species, and bare ground (MNR 2026).

In total, 174 grassland areas, accounting for 4,005 ac, were evaluated in the field within the Current Project Boundary. The Current Project Boundary contains a total of 3,255.6 ac of unbroken grasslands: 1,471.5 ac are moderately degraded, 936.6 ac are highly degraded, and 847.5 acres are non-native. Four categories of tilled grasslands were also identified: 328.7 ac of unmanaged – non-native, 3.7 ac of unmanaged – native, 413.4 ac of artificial – non-native, and 3.4 ac of artificial – native (**Figure 2.10**; MNR 2026). No high-quality unbroken grasslands were identified within the Current Project Boundary.

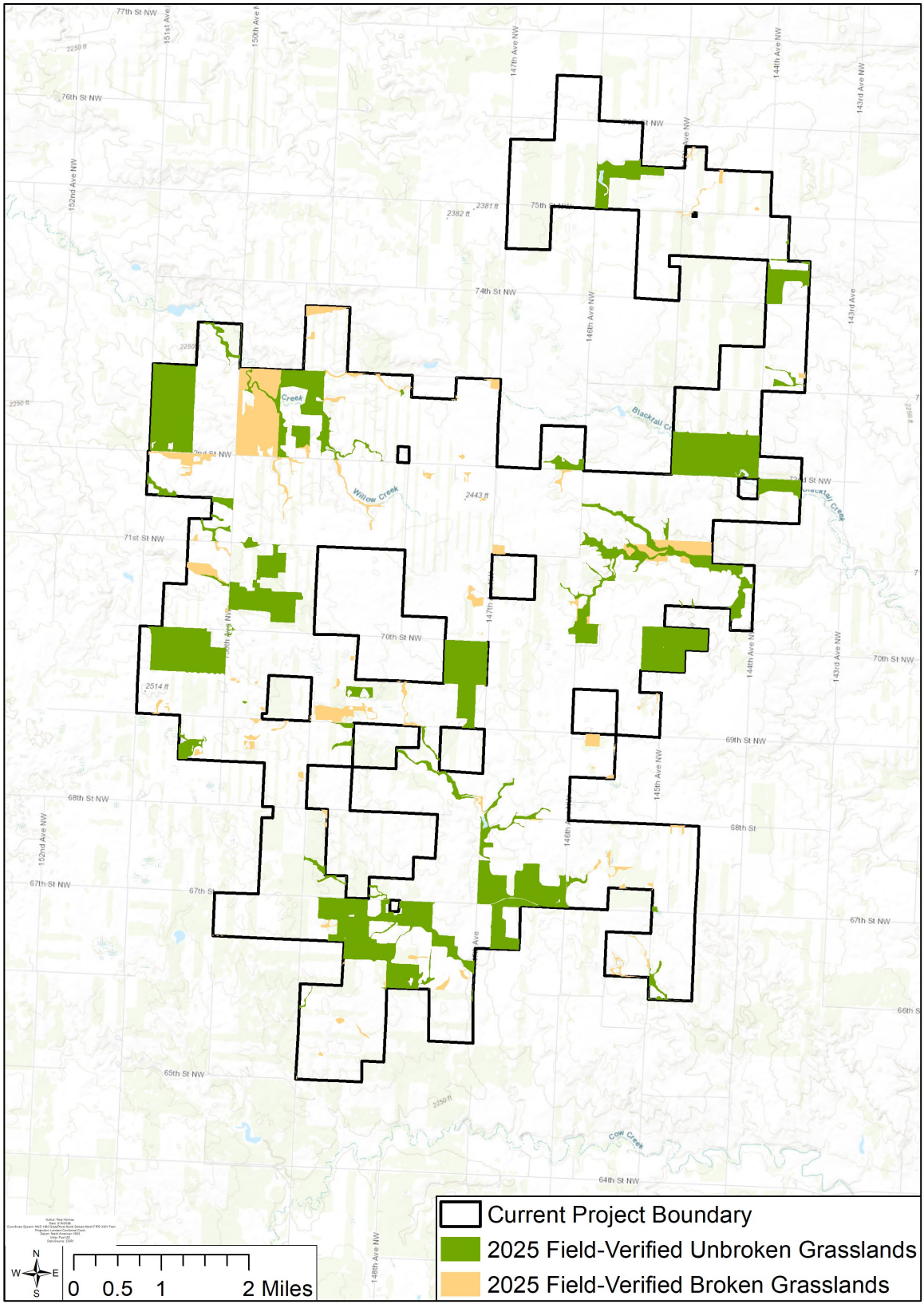

Figure 2.10. Field-Verified Grassland Assessment for the Homestead Wind Project, Williams County, North Dakota.

2.3 Tier 3 Questions

Tier 3 questions and responses for the Project are presented in **Table 2.4**.

Table 2.4. Predicted impacts of the Homestead Wind Project, Williams County, North Dakota: Responses to questions posed in Tier 3 of the 2012 *Land-based Wind Energy Guidelines*.

Question	Response
Do field studies indicate that species of concern are present on or likely to use the proposed site?	No federally listed birds were recorded during two years of avian use surveys or incidentally. However, eleven birds of conservation concern (BCC) and/or North Dakota species of conservation priority (SCP) level I were recorded during the two years of avian use surveys or incidentally, including: bobolink (*Dolichonyx oryzivorus*; breeding), California gull (*Larus californicus*; spring migration), chestnut-collared longspur (*Calcarius ornatus*; breeding and fall migration), ferruginous hawk (*Buteo regalis*), Franklin's gull (*Leucophaeus pipixcan*; spring migration and breeding), grasshopper sparrow (*Ammodramus savannarum*; spring migration and breeding), marbled godwit (*Limosa fedoa*; spring migration and breeding), northern harrier (*Circus hudsonius*; spring/fall migration, breeding), Swainson's hawk (*Buteo swainsoni*; spring/fall migration, breeding), willet (*Tringa semipalmata*; spring migration, breeding), and Wilson's phalarope (*Phalaropus tricolor*; breeding). The majority of these observations were documented in the summer breeding season or during spring/fall migration seasons. One bald eagle (BAEA; *Haliaeetus leucocephalus*) was recorded within the Current Project Boundary during 469 hours of ECPG-level surveys in the fall; 12 BAEA were additionally observed incidentally in spring (n=8) or fall (n=4). Two golden eagles (GOEA; *Aquila chrysaetos*) were recorded within the Current Project Boundary during 469 hours of ECPG-level surveys during the fall and winter; six GOEA were additionally observed incidentally in the fall (n=1), winter (n=4), and spring (n=1). One unidentified eagle was recorded within the Current Project Boundary in the fall during the first year of avian use surveys. The nearest known eagle nest is a GOEA nest located 4.8 mi (7.7 km) north of the Current Project Boundary. No suitable summer roosting habitat for northern long-eared bat (NLEB; *Myotis septentrionalis*) or little brown bat (*Myotis lucifugus*) is present in the Current Project Boundary. In addition, no wintering habitat or hibernacula are found in the vicinity. No NLEB calls were detected during bat acoustic activity monitoring completed at the Project.
Do field studies indicate the potential for significant adverse impacts on affected populations of species of habitat fragmentation concern?	No high quality unbroken grasslands were identified within the Current Project Boundary; however, several species of habitat fragmentation concern and grassland-adapted species were documented during Tier 3 surveys. To the extent feasible, the proposed turbine layout and construction plan focuses on developing in previously disturbed lands (i.e., cultivated cropland) to minimize impacts to grasslands and bird species that utilize these grasslands.

Table 2.4. Predicted impacts of the Homestead Wind Project, Williams County, North Dakota: Responses to questions posed in Tier 3 of the 2012 *Land-based Wind Energy Guidelines*.

Question	Response
What is the distribution, relative abundance, behavior, and site use of species of concern identified in Tiers 1 or 2, and to what extent do these factors expose these species to risk from the proposed wind energy project?	Data collected indicate that development of the Project is unlikely to trigger substantial impacts to small or large bird populations, including species of concern. To the extent possible Homestead Wind will minimize potential impacts to these species by siting turbines, access roads, and other infrastructure in previously disturbed lands (i.e., cultivated cropland) outside of unbroken grasslands. Eagle use was observed to be relatively low within the Current Project Boundary during the two years of avian use surveys. No spatial patterns or concentration of use was documented. Given the lack of open water and nesting habitat within the Current Project Boundary, eagle use is expected to remain relatively low. Bobolink, chestnut-collared longspur, grasshopper sparrow, and northern harrier are shrub/scrub and grassland species of concern that are likely to breed in the Current Project Boundary, as habitat is present and they were observed during the breeding season. Impacts to these species may be minimized by limiting surface disturbance to any existing, intact grassland habitat. Franklin's gull, marbled godwit, willet, and Wilson's phalarope are marsh/wetland species of concern that were observed during the breeding season; however, there is limited suitable habitat for these species within the Current Project Boundary and vicinity. Impacts to these species of concern may be minimized by limiting surface disturbance to any existing marsh/wetland habitat. Sharp-tailed grouse (*Tympanuchus phasianellus*) is not a species of concern as defined in Tier 1 and Tier 2, but it is considered a United States Fish and Wildlife (USFWS) species of habitat fragmentation concern and it's a SPC LII for the state. No active leks were documented within the Current Project Boundary in the 2025 survey (WEST 2025b). Impacts to sharp-tailed grouse may be minimized by limiting surface disturbance to any existing intact grasslands. No potentially suitable NLEB or little brown bat roosting habitat was identified within the Current Project Boundary or vicinity. Impacts to NLEB are unlikely due to the Project being located at the very western edge of the species range, lack of roosting and wintering habitat, and lack of records from Project surveys and state-wide acoustic and mist-net surveys. Bat activity (bat passes per detector night) recorded within the Current Project Boundary was relatively low. No NLEB were detected during bat acoustic activity monitoring completed at the Project.

Table 2.4. Predicted impacts of the Homestead Wind Project, Williams County, North Dakota: Responses to questions posed in Tier 3 of the 2012 *Land-based Wind Energy Guidelines*.

Question	Response
What are the potential risks of adverse impacts of the proposed wind energy project to individuals and local populations of species of concern and their habitats? (In the case of rare or endangered species, what are the possible impacts to such species and their habitats?)	Homestead Wind is committed to minimizing impacts to wildlife, in particular for grasslands and grassland-dependent species, to the extent feasible. Turbines, access roads, and other infrastructure are predominately sited in cultivated cropland and other disturbed areas. Tree clearing, in general, will be minimized during the construction and operation of the Project. This measure will minimize potential disturbance to bats and nesting birds, as well as minimize conversion of natural areas to Project facilities (habitat loss). Additionally, Sharp-tailed grouse are known to nest within grasslands within two miles of a lek site. Homestead Wind has sited all but two turbines in cultivated cropland, and the two turbines located on grassland (these are located on state lands) are sites more than two miles of an active lek site. With impact avoidance and minimization measures (AMMs) in place and the relatively low levels of use observed during surveys, the Project is not likely to cause population-level impacts to birds, including diurnal raptors or sensitive birds, or to bats.
How can developers mitigate for identified significant adverse impacts?	The proposed design of the Project is such that development will primarily occur in cultivated croplands, thereby minimizing potential impacts to species of concern and grasslands. Significant adverse impacts are not expected as a result of the construction or operation of this Project.
Are there studies that should be initiated at this stage that would be continued in post-construction?	No additional studies are needed.

3 RESULTS AND IMPACT ANALYSIS

3.1 Current Homestead Wind Project Context

In June 2025, a USFWS IPaC review was completed to identify federally listed species that could occur in the Current Project Boundary (**Appendix B**). Changes between the 2024 and 2025 IPaC results included the removal of the federally endangered NLEB, the change in status of the proposed threatened monarch butterfly, and the addition of the proposed endangered Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*) and proposed threatened western regal fritillary (*Argynnis Idalia occidentalis*; USFWS 2024b, USFWS 2025). At the time the 2025 IPaC was run, migratory bird information was not available; however, of the 12 species of BCC on the 2024 IPaC, eight were observed during surveys or incidentally. No changes were associated with the NDGFD SCP, which was last updated in 2015.

3.2 Birds

No federally listed threatened or endangered bird species were observed during avian use surveys or incidentally during studies. Eight BCC species were observed either during avian use surveys or incidentally, and included: bobolink, California gull, chestnut-collared longspur, Franklin's gull, grasshopper sparrow, marbled godwit, northern harrier, and willet. Bobolink was observed only in Year 1; California gull was observed only in Year 2. The Project is within the breeding range of the following seven North Dakota SCP L1 species observed during avian use surveys or incidentally in the Current Project Boundary: chestnut-collared longspur, Franklin's gull, ferruginous hawk, grasshopper sparrow, marbled godwit, Swainson's hawk, and Wilson's phalarope. All species but ferruginous hawk were observed during Year 1 and five species were observed during Year 2 with the grasshopper sparrow and Wilson's phalarope missing from the Year 2 observation records. The eight BCC species and seven North Dakota SCP L1 are migratory and commonly occur in North Dakota during the annual reproductive period (Dyke et al. 2015) within landscapes hosting a mosaic of native mixed grass prairie, wetland habitats, and agricultural land use, as represented in the Project Area.

No bald and golden eagle nests were found during surveys suggesting the Project Area is not used for breeding. Bald and golden eagles were recorded within the Project Area during all seasons expect summer suggesting eagles may occur within the Project Area during migration or may use the Project Area for foraging opportunities. Bald and golden eagles likely prey upon waterfowl and prairie dogs occurring within the Project Area, respectively. Both species also likely scavenge on livestock carcasses and wildlife carrion when available. Spatial use was similar over two years of surveys, which indicates there are a lack of features like large water bodies and suitable nesting substrate within the Project Area that would concentrate or attract bald or golden eagles.

During spring, migratory waterfowl were the most often-observed large bird group, with Canada goose and snow goose observed more frequently than any other waterfowl species. While migratory waterfowl are often present in large numbers on the Midwestern landscape, waterfowl fatalities at wind farms are relatively uncommon. In an analysis of 167 studies of bird mortality at 96 facilities, waterfowl made up 2.01% of 6,355 fatalities found (WEST 2023). Canada and snow geese are common, geographically abundant, and their populations are likely to be unaffected by collision related mortality associated with the Project. The most commonly observed small birds were horned lark, European starling, and Lapland longspur during two years of surveys.

Sandhill cranes had the highest overall abundance of all species in the Current Project Boundary during the two years of avian use surveys (n= 3,420 [Year 1]; n = 537 [Year 2]), with 97% occurring during the fall migration periods. All sandhill crane observations were of groups that were flying (n = 23 [Year 1]; n = 3 [Year 2]), and none were observed on the ground foraging/resting within the Current Project Boundary. Habitat preferences for both sandhill cranes and the federally endangered whooping crane are similar; but the likelihood of use is generally accepted as a function of several factors (natural and human) and is not linear relationship. No whooping cranes were observed incidentally or during the two years of avian use surveys in the Current Project Boundary. The results of the whooping crane migration habitat assessment completed for the

Project suggest no historical, traditional stopover habitat areas exist within the Current Project Boundary or buffers (WEST 2025b). Wind-energy development inside of the whooping crane migration corridor at sites with low probability of whooping crane use suggests minimal additional risk to highly selected habitat that supports recovery of the whooping crane (Pearse et. al 2021).

The species composition of large and small birds observed in the Project Area are considered common and geographically abundant. Therefore, their local populations are not likely to be affected by any potential habitat fragmentation or collision related to Project operations. In summary, the results of the Tier 1, 2, and 3 studies indicate that with the implementation of the risk/reduction measures described in **Section 4**, the Project is not likely to cause significant adverse impacts to local bird populations.

3.3 Bats

The Current Project Boundary is within the potential migratory range of the federally endangered NLEB; however NLEB was not included in the 2025 IPaC because there are no potential roosting habitat or species records within the Project Area (**Appendix B**). The NLEB and little brown bat habitat assessment confirmed the information from the IPaC report as the habitat assessment documented no suitable summer roosting habitat within the Current Project Boundary (Evans and Samoray 2026). In addition, there are no hibernacula or known maternity roosts near the Project. Lastly, no NLEB were detected during the acoustic surveys and bat activity was generally low within the Project Area (WEST 2026b). These results indicate that risk to bats, including the federally endangered NLEB, from Project construction and operation is low.

4 IMPACT AVOIDANCE AND MINIMIZATION MEASURES

This section discusses the AMMs and BMPs that Homestead Wind has implemented, or plans to implement, to avoid and minimize potential impacts on birds and bats. These AMMs and BMPs were informed by results of pre-construction studies, agency coordination, and standard practices recognized by Homestead Wind (**Sections 2.1, 2.2, and 2.3**).

4.1 Project Layout and Design

Homestead Wind has adopted the following voluntary industry-standard and agency-informed AMMs and BMPs to avoid, minimize, and reduce potential impacts to birds and bats during the planning and design stage of the Project.

- The Project has been sited primarily on disturbed land away from major wildlife use and habitat areas.
- The Project has been sited to avoid impacts to USFWS wetland basin easements.
- The Project and associated facilities have been sited to avoid floodplains, and to avoid or minimize impacts to surface waters and wetlands. This measure will minimize potential disturbance to waterbirds and waterfowl, as well as minimize habitat loss.

- The Project and associated facilities have been sited to avoid grasslands to the extent practicable.
- Turbines have been sited more than 5 mi (8 km) from the nearest known GOEA nest and no known BAEA nests occur in the vicinity of the Project.
- Tree clearing, in general, will be minimized by utilizing existing roads and minimizing the size of clearings needed around turbines, to the maximum extent practicable. This measure will minimize potential disturbance to bats and nesting birds, as well as minimize conversion of natural areas to Project facilities (habitat loss).
- The electrical collection system will be placed underground to the extent practicable. This measure would eliminate collision risk and electrocution hazards for birds and allow habitat to regenerate.
- The number and length of roads, power lines, fences, and other infrastructure will be minimized to the extent practicable. Permanent fencing will only be used around the substation and O&M building, as necessary, for security and human safety.
- Turbines will be sited as far away as practicable from any natural areas that are likely to have higher avian activity or diversity, as determined by the pre-construction studies.
- Areas of disturbance have been minimized:
    - Infrastructure footprints associated with roads and other infrastructure have been minimized to the extent feasible.
    - The length and number of access roads were minimized, and existing roads will be used when and where feasible.
- The Project's aboveground transmission power lines from the Project substation to the interconnection substation will be designed and constructed to minimize avian electrocution and collision risks, referencing guidelines outlined in the Avian Power Line Interaction Committee's (APLIC) *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2024* (APLIC 2024) and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012), respectively.

4.2 Construction and Operations

Homestead Wind will employ the following voluntary industry-standard BMPs to reduce potential impacts to birds, bats, and other wildlife during the construction stage and operations stage of the Project:

- To avoid and minimize impacts to roosting bats, tree removal will be minimized and completed during the winter inactive season for bats (November 1 to April 14) to the greatest extent possible.
- Turbines will be curtailed to manufacturer's cut-in speed from one-half hour before sunset to one-half hour after sunrise from August 16 to October 31 to minimize potential risk to migrating bats.

- Wildlife-friendly erosion measures will be used during construction to minimize entrapment and potential fatalities of wildlife. If an erosion control blanket is to be used, wildlife-friendly plastic-free blankets will be used to prevent the entanglement of native wildlife.
- Appropriate AMM (e.g., construction timing limitations) will be implemented for construction activities occurring in grasslands within two miles of an active sharp-tailed grouse lek to minimize potential impacts to the species during the breeding season.
- Lighting will be minimized, to the extent practicable, and downward projecting lights or motion sensor activated lights will be installed, as practicable, and "warm-white" or filtered LEDs (CCT < 3,000K) will be used to minimize blue light emission, avoid over-lighting, and to minimize attractants to birds and bats.
- The number of storm water control features (sediment retention ponds) will be minimized to reduce potential on-site attractants to bats and birds.
- Demand-controlled night marking, which switch off the permanent night-time lighting and only activate turbine warning lighting when an approaching flying object is near (ADLS), will be implemented to minimize impacts on bats and birds.
- Wildlife carrion and livestock carcasses near the turbines will be reported for removal as expediently as practicable. This measure reduces the attractiveness of the Project to avian scavengers and their prey.
- All employees and contractors working on the site will receive training for identifying, avoiding, and responding to encounters with sensitive biological resources, including protected avian and bat species. Training will include:
    - Reducing the potential for vehicle collision of wildlife by adhering to posted speed limits, using additional caution in low visibility conditions, and being alert for wildlife along roads, to avoid collisions that may create carrion.
    - Confining construction vehicle activity to the limits of disturbance.
    - Avoiding harassing or disturbing wildlife, particularly during reproductive seasons.
    - Keeping any dogs on-site on leashes to avoid the potential for unleashed dogs to harass wildlife within the Project.
    - Storing food-related trash and waste in closed containers and removing them on a regular basis to reduce attractiveness of the Project to avian scavengers and their prey.
    - Eliminating ponding water following construction to minimize on-site attractants to bats and birds.
    - Identification of federally and state-listed species, as well as eagles, so this information can be relayed to the appropriate entity in a timely manner and minimizations implemented, if appropriate.
    - Reviewing the Wildlife Incident Reporting System (WIRS) so the construction and operation teams understand the procedures for recording avian and bat species found in the Project (**Section 5.0**).

5 OPERATIONAL MONITORING AND WILDLIFE INCIDENT REPORTING

Any detected bird, bat, and other wildlife species carcasses will be reported regularly to the Project's environmental staff for the entire life of the Project. If injured or deceased individuals of species protected under federal law, Homestead Wind will comply with all applicable reporting requirements, including if required, contacting the USFWS North Dakota Ecological Services Field Office and/or NDGFD.

5.1 Native Grassland Revegetation Monitoring

Homestead Wind will implement a revegetation plan to re-establish native grasslands that merge with adjacent grassland communities. The general restoration monitoring protocol is described as follows. Prior to construction, those areas with native prairie grassland tracts that may be impacted within all proposed turbine locations and access routes will be identified. Any native grassland areas temporarily disturbed during construction will be revegetated and restored following construction activities. A selected native grassland seed mix that is derived from the Natural Resource Conservation Service recommendations and/or landowner guidance will be used to assist with soil stabilization and minimize the introduction or spread of invasive plants. Homestead Wind will consider and implement additional protection measures or supplemental actions as required to treat any invasive or noxious weed infestations or areas that do not meet landowner objectives.

6 ADAPTIVE MANAGEMENT

The WEG describes adaptive management as the process of assessing various management actions and then designing and implementing the management action determined to be the most appropriate for the situation. The management action is then assessed through monitoring and evaluation to determine if the desired results are being met or if adjustments to the management action are warranted.

Homestead Wind has sited the Project and incorporated AMMs and BMPs to avoid, minimize, and mitigate impacts to birds and bats, and to avoid take of federally-listed species. Homestead Wind will implement the measures set forth in this BBCS immediately upon commencement of Project construction to guide management measures for bird and bat species at the Project. The BBCS adaptive management and WIRS will be effective immediately upon Project operation and for the life of the Project.

The WIRS will be used to monitor impacts to birds and bats over the life of the Project; bird and bat carcasses will be reported regularly to the Project's environmental staff. If abnormal bird or bat mortality events occur at any point over the life of the Project, response actions will be triggered.

Homestead Wind will then investigate, based on the available data, the circumstances under which the event(s) occurred and the species affected. Homestead Wind will coordinate with the appropriate agencies regarding the conclusions of the investigation to determine if potential

additional minimization or avoidance measures are necessary to reduce risk to acceptable levels and/or ensure regulatory compliance.

7 MITIGATION AND CONSERVATION DURING DECOMMISSIONING

In the event of decommissioning at the end of the operational life of the Project, Homestead Wind will reclaim disturbed areas in accordance with lease requirements with landowners and local permitting requirements. Decommissioning could include removing any and all aboveground equipment, including turbine towers, concrete pads, anchors, guy wires, fences, fixtures, materials, buildings, structures, improvements, and personal property installed by the Project or the Project's affiliates. In addition, foundations to a depth of 4 ft (or as specified by applicable regulations or Homestead Wind-approved Decommissioning Plan) and equipment on the surface shall be removed. Homestead Wind will cover up all pit holes, trenches, or other borings or excavations (but not roads selected by the landowner), and restore the Project to a clean condition reasonably similar to its original condition and land use.

The following decommissioning BMPs, as outlined in the WEG, will be implemented during the decommissioning process:

- Decommissioning methods will minimize new site disturbance and removal of native vegetation, to the greatest extent practicable.
- Foundations will be removed to a minimum of 4 ft below surrounding grade (or as otherwise required by state regulation and the approved decommissioning plan), and so that subsurface structures do not substantially disrupt ground water movements. The depth (3.2 ft) is typically considered adequate for agricultural lands.
- If topsoil is removed during decommissioning, it will be stockpiled and reused when restoring plant communities. Once decommissioning activity is complete, topsoil will be restored to assist in establishing and maintaining pre-construction conditions to the extent possible, consistent with landowner objectives.
- Overhead power lines that are no longer needed will be removed.
- After decommissioning, erosion control measures will be installed in all areas of disturbance where potential for erosion exists, consistent with storm water management objectives and requirements.
- Fencing will be removed unless the landowner wishes to utilize the fence.

8 REFERENCES

8.1 Acts, Laws, and Regulations

16 United States Code (USC) § 703. 1918. Title 16 - Conservation; Chapter 7 - Protection of Migratory Game and Insectivorous Birds; Subchapter II - Migratory Bird Treaty; Section (§) 703 - Taking, Killing, or Possessing Migratory Birds Unlawful. 16 USC 703. [July 3, 1918, Chapter (Ch.) 128, § 2, 40 Statute (Stat). 755; June 20, 1936, Ch. 634, § 3, 49 Stat. 1556; Public Law (PL) 93–300, § 1, June 1, 1974, 88 Stat. 190; PL.101–233, § 15, December 13, 1989, 103 Stat. 1977; PL 108-447, division E, title I, § 143(b), December 8, 2004, 118 Stat. 3071.].

16 USC § 1532. 1973. Title 16 - Conservation; Chapter 35 - Endangered Species; Section (§) 1532 - Definitions. 16 USC 1532. December 28, 1973. [Public Law (PL) 93-205, § 3, December 28, 1973, 87 Statute (Stat.) 885; PL 94-359, § 5, July 12, 1976, 90 Stat. 913; PL 95-632, § 2, November 10, 1978, 92 Stat. 3751; PL 96-159, § 2, December 28, 1979, 93 Stat. 1225; PL 97-304, § 4(b), October 13, 1982, 96 Stat. 1420; PL 100-478, Title I, § 1001, October 7, 1988, 102 Stat. 2306.]. Available online: https://www.govinfo.gov/content/pkg/USCODE-2011-title16/pdf/ USCODE-2011-title16-chap35-sec1532.pdf

16 USC §§ 668-668d. 1940. Title 16 - Conservation; Chapter 5a - Protection and Conservation of Wildlife; Subchapter II - Protection of Bald and Golden Eagles; Sections (§§) 668-668d - Bald and Golden Eagles. 16 USC 668-668d. [June 8, 1940, Chapter (Ch.) 278, Section (§) 4, 54 Statute (Stat.) 251; Public Law (PL) 92-535, § 4, October 23, 1972. 86 Stat. 1064.]. Available online: https://www.gpo.gov/fdsys/pkg/USCODE-2010-title16/pdf/USCODE-2010-title16-chap5A-subchapII.pdf

50 Code of Federal Regulations (CFR) § 10.13. 1973. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 10 - General Provisions; Subpart B - Definitions; Section (§) 10.13. List of Migratory Birds. 50 CFR 10.13. [38 Federal Register (FR) 22015, August 15, 1973, unless otherwise noted. 78 FR 65850, November 1, 2013, as amended at 85 FR 21290, April 16, 2020; 88 FR 49317, July 31, 2023.].

50 CFR § 17.3. 1975. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 17 - Endangered and Threatened Wildlife and Plants; Subpart a - Introduction and General Provisions; Section (§) 17.3. Definitions. 50 CFR 17.3. [40 Federal Register (FR) 44415, September 26, 1975, as amended at 42 FR 28056, June 1, 1977; 44 FR 54006, September 17, 1979; 46 FR 54750, November 4, 1981; 47 FR 31387, July 20, 1982; 50 FR 39687, September 30, 1985; 63 FR 8870, February 23, 1998; 63 FR 48639, September 11, 1998; 69 FR 24092, May 3, 2004; 71 FR 46870, August 15, 2006.]. Available online: https://www.govinfo.gov/content/pkg/CFR-2001-title50-vol1/pdf/CFR-2001-title50-vol1-sec17-3.pdf

50 CFR § 22.6. 1974. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 22 - Eagle Permits; Subpart a - Introduction and General Requirements; Section (§) 22.6 - Definitions. 50 CFR 22.6. [39 Federal Register (FR) 1183, January 4, 1974, as amended at 48 FR 57300, December 29, 1983; 64 FR 50472, September 17, 1999; 72 FR 31139, June 5, 2007; 74 FR 46876, September 11, 2009; 81 FR 91550, December 16, 2016; Redesignated at 87 FR 876, January 7, 2022.].

50 CFR § 22.200. 2024. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 22 - Eagle Permits; Subpart E - Take of Eagles for Other Interests; Section (§) 22.200 -Specific Permits. 50 CFR 22.200. [89 Federal Register 9920, February 12, 2024.].

50 CFR § 22.250. 2024. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 22 - Eagle Permits; Subpart E - Take of Eagles for Other Interests; Section (§) 22.250 - Permits for Incidental Take of Eagles by Wind Energy Projects. 50 CFR 22.250. [89 Federal Register 9920, February 12, 2024.].

50 CFR Part 22. 1974. Title 50 - Wildlife and Fisheries; Chapter I - United States Fish and Wildlife Service, Department of the Interior; Subchapter B - Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants; Part 22 - Eagle Permits. 50 CFR 22. [39 Federal Register (FR), 1157, January 4, 1974, unless otherwise noted. 16 United States Code (USC) 668-668d; 16 USC 703-712; 16 USC 1531-1544.].

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Appendix A. Bird and Bat Studies Completed for the Homestead Wind Project, Williams County, North Dakota

See **Appendix M of Application for Certificate of Site Compatibility** for Bird and Bat Studies

Appendix B. US Fish and Wildlife Service Information for Planning and Consultation System Resource Lists

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

IPaC resource list

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

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

Location

Williams County, North Dakota

Local office

North Dakota Ecological Services Field Office

(701) 250-4481
(701) 355-8513

3425 Miriam Avenue
Bismarck, ND 58501-7926

http://www.fws.gov/northdakotafieldoffice/endspecies/endangered_species.htm

Endangered species

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

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

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

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

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

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

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

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

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

Mammals

NAME	STATUS

Gray Wolf Canis lupus — Endangered
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/4488

Northern Long-eared Bat Myotis septentrionalis — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9045

Birds

NAME	STATUS

Least Tern Sterna antillarum — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8505

Piping Plover Charadrius melodus — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/6039

Red Knot Calidris canutus rufa — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1864

Whooping Crane Grus americana — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/758

Fishes

NAME	STATUS

Pallid Sturgeon Scaphirhynchus albus — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/7162

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

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

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

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

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

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Black Tern Chlidonias niger — Breeds May 15 to Aug 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/3093

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

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

Hudsonian Godwit Limosa haemastica — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Marbled Godwit Limosa fedoa — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

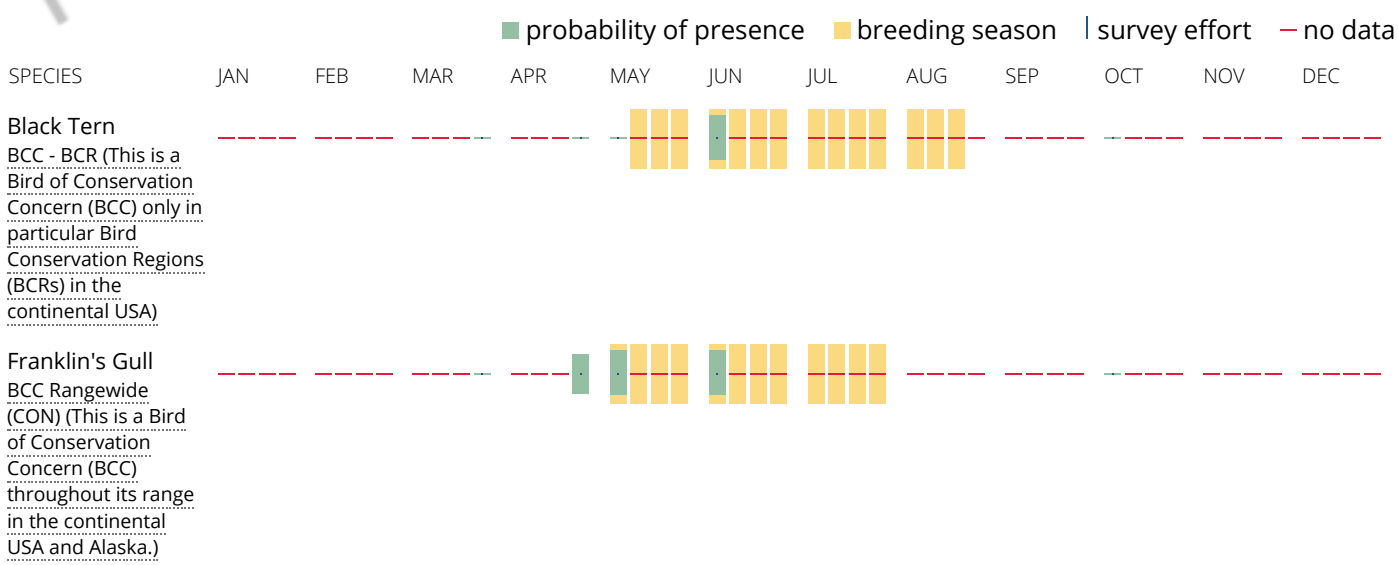
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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

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

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

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



Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Hudsonian Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Lesser Yellowlegs
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

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

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

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

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

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

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

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

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

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

The area of this project is too large for IPaC to load all NWI wetlands in the area. The list below may be incomplete. Please contact the local U.S. Fish and Wildlife Service office or visit the NWI map for a full list.

FRESHWATER EMERGENT WETLAND

- PEM1C
- PEM1A
- PEM1/ABF
- PEM1Cd
- PEM1Ad
- PEM1/ABFh
- PEM1/ABFd
- PEM1F

FRESHWATER POND

- PABFh
- PABFx
- PABF

RIVERINE

- R4SBC
- R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

IPaC resource list

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Location

Williams County, North Dakota

Local office

North Dakota Ecological Services Field Office

(701) 250-4481
(701) 355-8513

3425 Miriam Avenue
Bismarck, ND 58501-7926

Endangered species

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4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

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

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

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found This species only needs to be considered if the following condition applies: • This species only needs to be considered if the project includes wind turbine operations. No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Birds

NAME	STATUS
Piping Plover Charadrius melodus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot Calidris canutus rufa Wherever found There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane Grus americana There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/758	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

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

There are no critical habitats at this location.

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

Bald & Golden Eagles

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

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

Additional information can be found using the following links:

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

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

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

breeding in your project area.

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

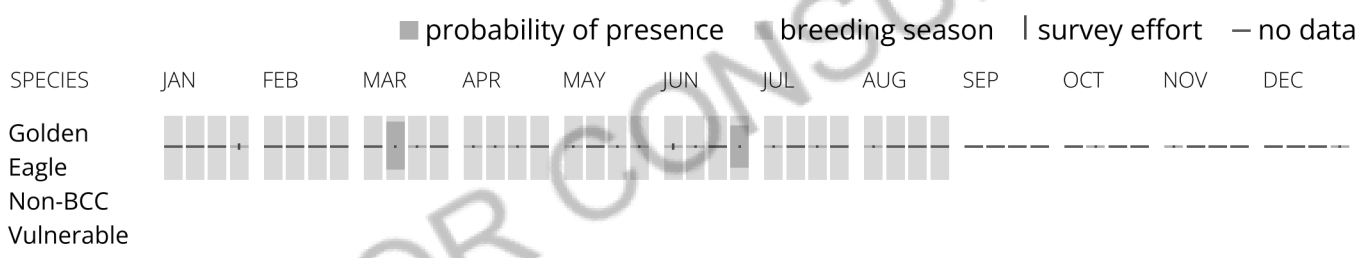
Breeding Season (▮)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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

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

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

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



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

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

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

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

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid

cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

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

What if I have eagles on my list?

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

Migratory birds

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

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To

see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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

NAME	BREEDING SEASON
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10
Franklin's Gull *Leucophaeus pipixcan* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere

Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds May 1 to Jul 31
Northern Harrier Circus hudsonius This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Sprague's Pipit Anthus spragueii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds May 10 to Aug 31
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

Probability of Presence Summary

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

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The

survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

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

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

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

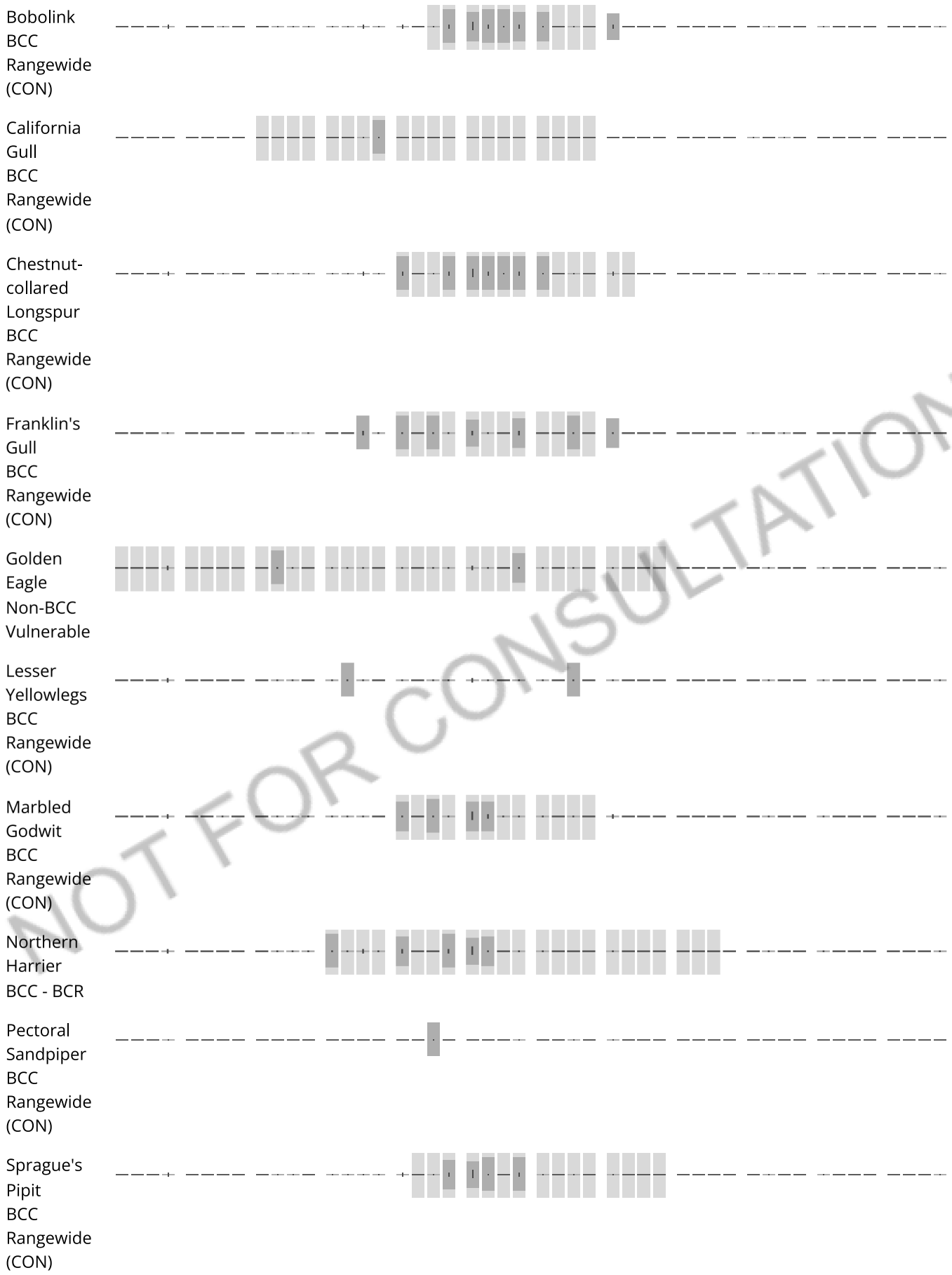
Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

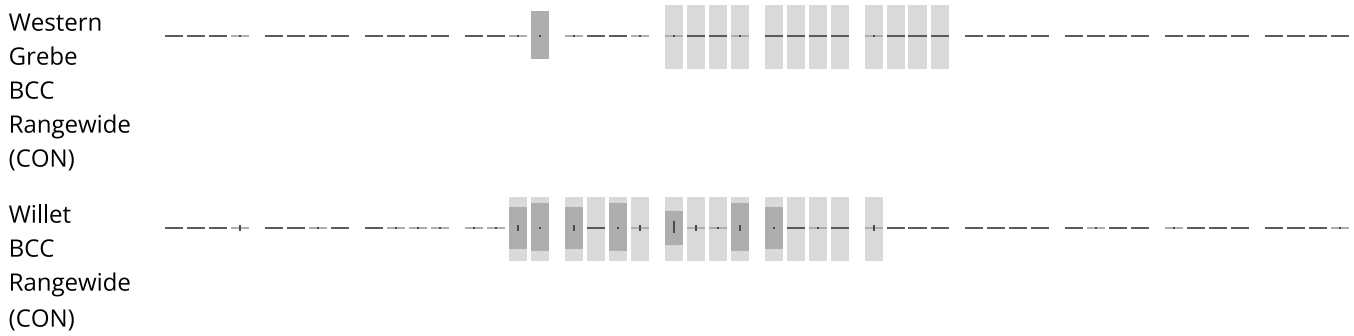
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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

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

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





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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

This location overlaps the following National Wildlife Refuge lands:

LAND	ACRES
WILLIAMS COUNTY WATERFOWL PRODUCTION AREA	89.62 acres

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

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

Data limitations

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

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

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

Data exclusions

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

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design

or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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

IPaC resource list

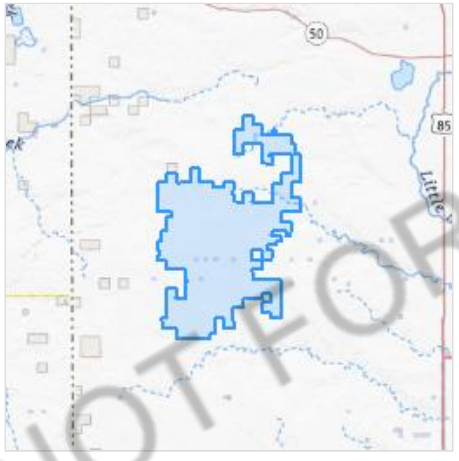
Migratory bird information is currently unavailable. We are aware of the problem and working on a solution. In the meantime, you can obtain similar project-specific bird occurrence results using the AKN RAIL tool.

This report ollectively referred to e known or expected t that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

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

Location

Williams County, North Dakota



Local office

North Dakota Ecological Services Field Office

(701) 250-4481
(701) 355-8513

3425 Miriam Avenue
Bismarck, ND 58501-7926

Endangered species

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

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

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

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

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

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

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

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

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

Birds

NAME	STATUS
Piping Plover Charadrius melodus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened

Rufa Red Knot Calidris canutus rufa Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane Grus americana There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/758	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee Bombus suckleyi No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10885	Proposed Endangered
Western Regal Fritillary Argynnis idalia occidentalis Wherever found No critical habitat has been designated for this species.	Proposed Threatened

Critical habitats

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

There are no critical habitats at this location.

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

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Additional information can be found using the following links:

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

Bald and Golden Eagle information is not available at this time

Bald & Golden Eagles FAQs

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

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

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

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

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

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

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

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (FWS). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The FWS interprets the MBTA to prohibit incidental take.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Migratory bird information is not available at this time

Migratory Bird FAQs

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

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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

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

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

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

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

Details about birds that are potentially affected by offshore projects

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

Proper interpretation and use of your migratory bird report

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

Interpreting the Probability of Presence Graphs
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
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To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

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Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
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Survey Timeframe
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Facilities

National Wildlife Refuge lands

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

This location overlaps the following National Wildlife Refuge lands:

LAND	ACRES
WILLIAMS COUNTY WATERFOWL PRODUCTION AREA	0 acres

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
- PEM1C
- PEM1A
- PEM1Ad
- PEM1Ch

PEM1Fh
PEM1Ah
PEM1Ax

FRESHWATER POND
PABFh
PABGh
PABF
PABG
PABFx

OTHER
Pf

RIVERINE
R4SBC
R4SBA

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

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

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

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

Data exclusions

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

Data precautions

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