

Threatened & Endangered Species, Agency Consultations and
Wildlife Studies

Agency Consultations

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

Jackson County, Minnesota



Local office

Minnesota-Wisconsin Ecological Services Field Office

☎ (952) 252-0092

📠 (952) 646-2873

MAILING ADDRESS

4101 American Blvd E

Bloomington, MN 55425-1665

PHYSICAL ADDRESS

4101 American Blvd E

-

Bloomington, MN 55425-1665

<http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html>

NOT FOR CONSULTATION

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 species¹ 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 Fisheries²).

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

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

Insects

NAME	STATUS
Rusty Patched Bumble Bee <i>Bombus affinis</i>	Endangered
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9383	

Flowering Plants

NAME	STATUS
Prairie Bush-clover <i>Lespedeza leptostachya</i>	Threatened
No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4458	

Critical habitats

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

This location overlaps the critical habitat for the following species:

NAME	TYPE
Poweshiek Skipperling <i>Oarisma poweshiek</i>	Final
For information on why this critical habitat appears for your project, even though Poweshiek Skipperling is not on the list of potentially affected species at this location, contact the local field office. https://ecos.fws.gov/ecp/species/9161#crithab	
Topeka Shiner <i>Notropis topeka</i> (=tristis)	Final
For information on why this critical habitat appears for your project, even though Topeka Shiner is not on the list of potentially affected species at this location, contact the local field office. https://ecos.fws.gov/ecp/species/4122#crithab	

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

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.)

American Bittern <i>Botaurus lentiginosus</i> 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/6582	Breeds Apr 1 to Aug 31
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Tern <i>Chlidonias niger</i> 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	Breeds May 15 to Aug 20
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Buff-breasted Sandpiper <i>Calidris subruficollis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9488	Breeds elsewhere
Dunlin <i>Calidris alpina arctica</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Franklin's Gull <i>Leucophaeus pipixcan</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Hudsonian Godwit <i>Limosa haemastica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Lesser Yellowlegs <i>Tringa flavipes</i> 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*

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>

Red-headed Woodpecker *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

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

Ruddy Turnstone *Arenaria interpres morinella*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Semipalmated Sandpiper *Calidris pusilla*

Breeds elsewhere

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

Short-billed Dowitcher *Limnodromus griseus*

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/9480>

Willet *Tringa semipalmata*

Breeds Apr 20 to Aug 5

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

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.

- 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.

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.

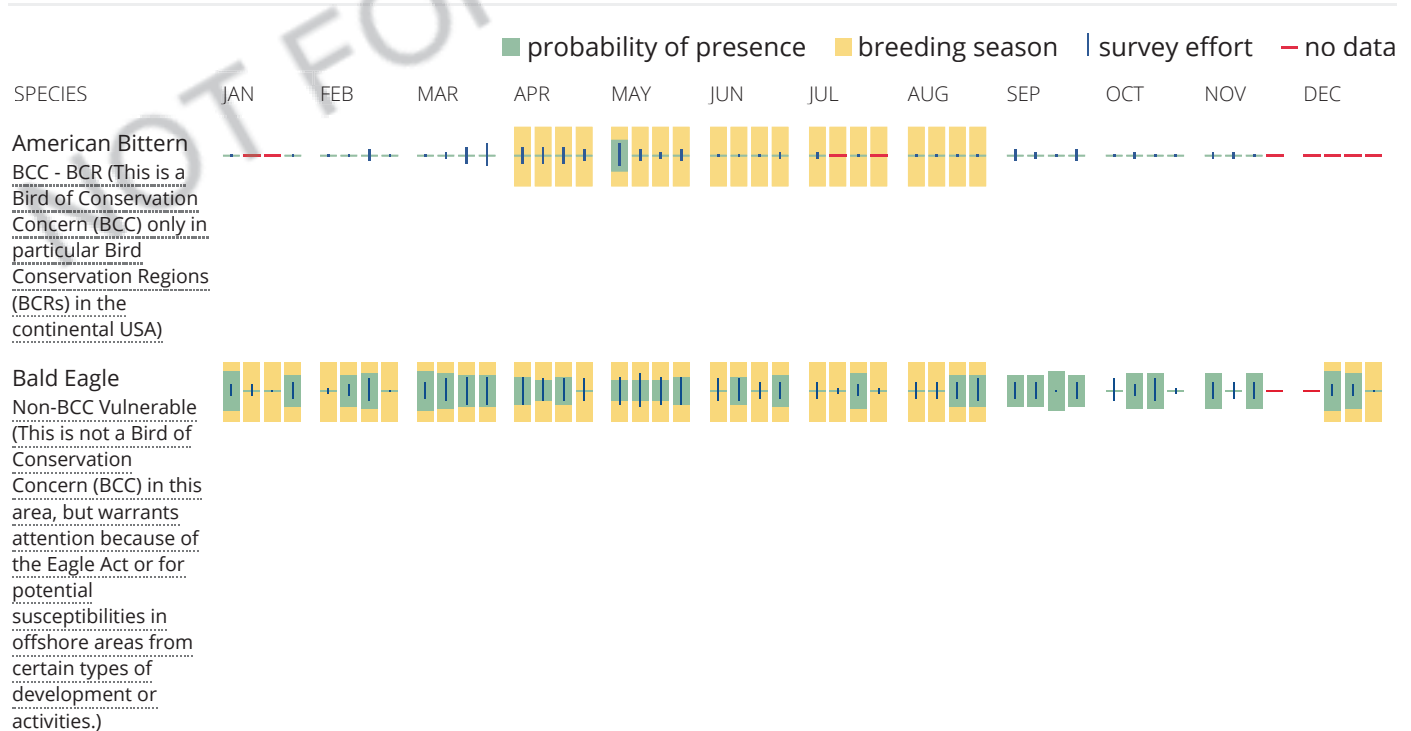
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

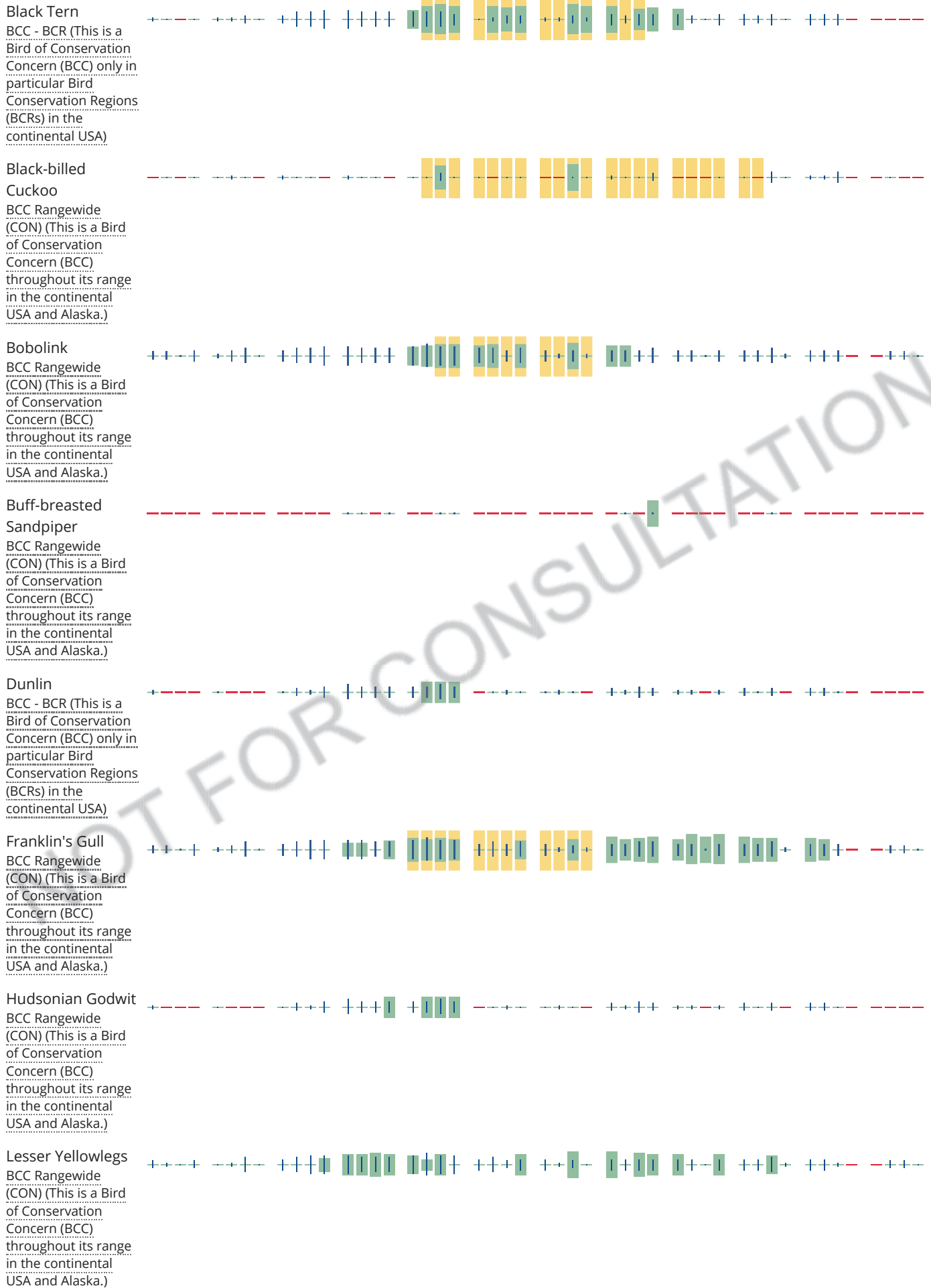
No Data (—)

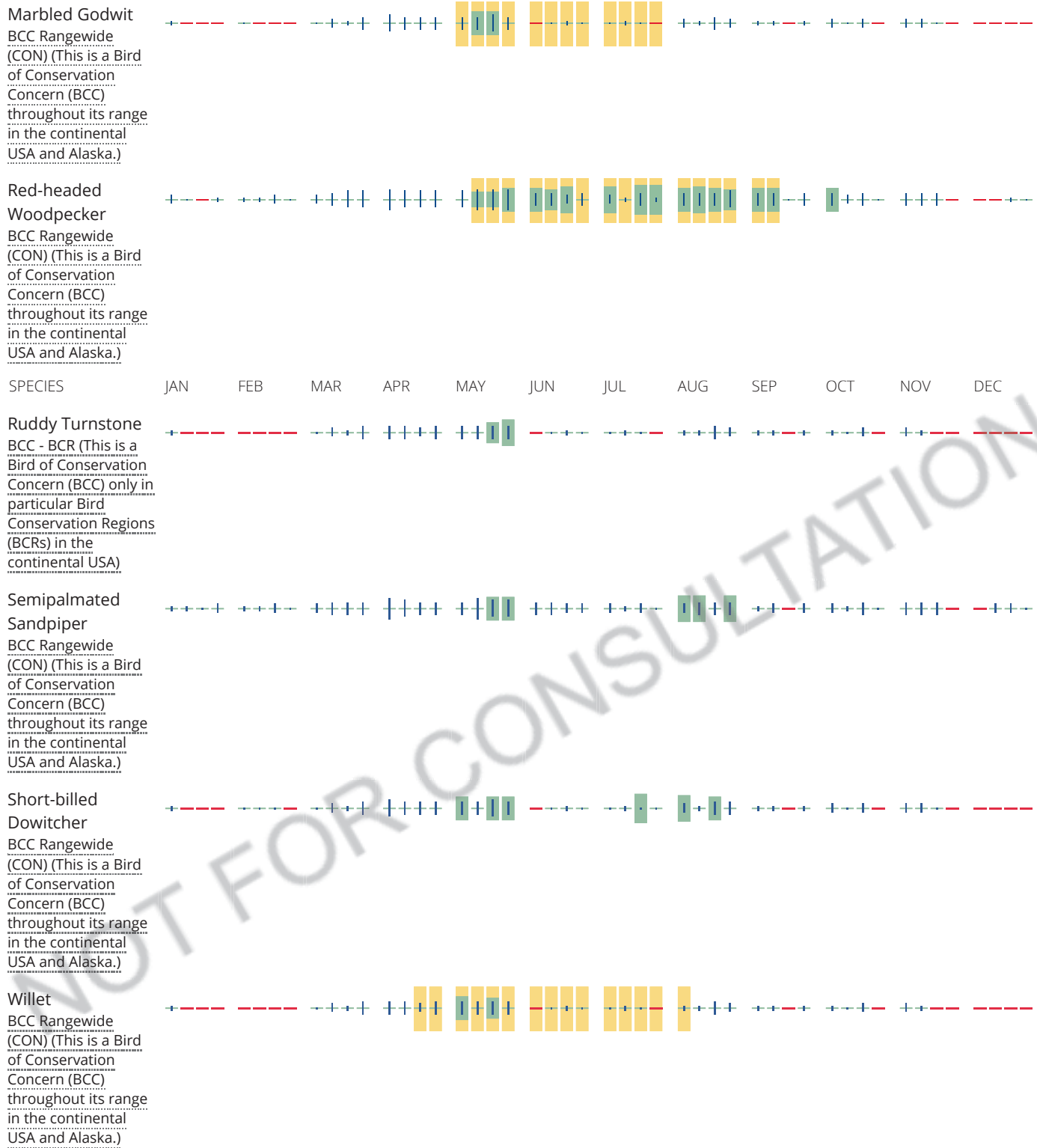
A week is marked as having no data if there were no survey events for that week.

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](#) 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 [AKN Phenology 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.



This location overlaps the following National Wildlife Refuge lands:

LAND

ACRES

Windom Wetland Management District

7,076.95 acres

 (507) 831-2220 (507) 831-5524

MAILING ADDRESS

49663 County Road Number 17
Windom, MN 56101-3026

PHYSICAL ADDRESS

49663 County Road Number 17
Windom, MN 56101-3026

<https://www.fws.gov/refuges/profiles/index.cfm?id=32587>

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

[PEM1A](#)[PEM1Af](#)[PEM1C](#)[PEM1F](#)[PEM1B](#)[PEM1Ch](#)

[PEM1Cx](#)

[PEM1Cd](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1A](#)

[PFO1C](#)

[PSS1A](#)

[PSS1Ax](#)

[PFO1Cx](#)

[PSS1B](#)

[PSS1Cx](#)

[PFO1Ax](#)

[PFO1Ch](#)

[PSS1C](#)

FRESHWATER POND

[PABH](#)

[PABF](#)

[PUBKx](#)

[PUBH](#)

[PUBHx](#)

[PABFh](#)

[PABFx](#)

[PUBFx](#)

[PABHh](#)

[PUBF](#)

LAKE

[L2UBH](#)

[L1UBH](#)

[L2UBKx](#)

[L2ABF](#)

[L2UBFx](#)

[L2ABHh](#)

[L2UBHh](#)

[L2ABH](#)

RIVERINE

[R4SBC](#)

[R2UBHx](#)

[R5UBFx](#)

[R2UBH](#)

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 tubercid 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.



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

April 6, 2018

Correspondence # ERDB 20170428-0002

Mr. Timothy Sichmeller
Western EcoSystems Technology (WEST), Inc.
2121 Midpoint Drive, Suite 201
Fort Collins, CO 80525

RE: Natural Heritage Review of the proposed Three Waters Wind Farm, Jackson County

Township (N)	Range (W)	Section(s)
102	38	13, 24, 25, 36
102	37	15-36
102	36	30, 31
101	36	6
101	37	1-36
101	38	11-16, 19-36

Dear Mr. Sichmeller,

As requested, the Minnesota Natural Heritage Information System has been queried to determine if any rare species or other significant natural features are known to occur within an approximate one-mile radius of the proposed project boundary (based on GIS shapefiles dated January 15, 2018). Based on this query, rare features have been documented within the search area. Please note that the proposed project has the potential to negatively affect the following rare features:

Ecologically Significant Areas

- The Minnesota Biological Survey (MBS) has identified three Sites of Moderate Biodiversity Significance within the project boundary in T101N R37W Sections 27-30. Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as Moderate contain occurrences of rare species and/or moderately disturbed native plant communities, and/or landscapes that have a strong potential for recovery. These particular Sites contain imperiled and critically imperiled native plant communities including dry, mesic, and wet native prairie remnants (GIS shapefiles of MBS Sites of Biodiversity Significance and DNR Native Plant Communities can be downloaded for free from the [MN Geospatial Commons](#)). Given the ecological significance of these areas, the DNR recommends that the MBS Sites be considered avoidance areas. Based on the preliminary turbine layout, the turbines will avoid the MBS Sites. **Please note that rare species surveys may be required if plans change and there are proposed impacts to MBS Sites from turbines, collector lines, cranewalks, or other associated disturbance.**

- If the Wetland Conservation Act (WCA) is applicable to this project, please note that the wet prairies within the MBS Sites of Biodiversity Significance may qualify as “rare natural communities” under this Act. Minnesota Rules, part 8420.0515, subpart 3 states that a wetland replacement plan for activities that modify a rare natural community must be denied if the local government unit determines that the proposed activities will permanently adversely affect the natural community. If you have any questions regarding this provision of the WCA, please contact Doug Norris, DNR Wetlands Program Coordinator, at 651-259-5125.
- The project boundary also includes several areas that the MBS considered for Sites of Biodiversity Significance but were determined to be below the minimum threshold for statewide significance. These areas, however, may have conservation value at the local level as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, or as areas with high potential for restoration of native habitat.

Birds

- Trumpeter swans (*Cygnus buccinators*), a state-listed species of special concern, have been documented using Skunk Lake during the breeding season. This is one of many records of this species in the vicinity of the proposed project. Potential concerns include construction disturbance during the breeding season, loss or degradation of habitat, and collisions with turbines or overhead transmission lines.
- The Henslow’s sparrow (*Ammodramus henslowii*), a state-listed endangered bird, has been documented during the breeding season in the vicinity of the project area. This species nests on the ground in uncultivated grasslands and old fields with standing, dead vegetation and a substantial litter layer. Grasslands over 100 ha are preferable, but smaller areas of suitable habitat are also used by this species. Concerns include habitat loss and degradation, and potential takings during construction activities. Suitable habitat should be considered avoidance areas. **If there will be any ground disturbance within suitable habitat between mid-May and mid-July, surveys will be needed to ensure avoidance.**
- It should be noted that the Natural Heritage Information System (NHIS) does not include records of migrating birds. Wind farms can affect birds due to collision mortality, displacement due to disturbance, habitat fragmentation, and habitat loss. Potential impacts to grassland birds are especially a concern because many of these species are declining in number nationwide. Even if collision mortality rates are low, the additional fatalities may be significant for rare species. We recommend post-construction avian fatality monitoring to provide information regarding unexpected impacts, if any, to rare birds. Knowledge of these types of extraordinary events would allow for the implementation of additional measures to minimize disturbance, such as the curtailment of turbine operations during certain conditions.

Bats

- The Natural Heritage Information System (NHIS) tracks bat roost trees and hibernacula plus some acoustic data, but this information is not exhaustive. Although there are no NHIS records for bats in the vicinity of the proposed project, all seven of Minnesota's bats can be found throughout Minnesota. The northern long-eared bat (*Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), big brown bat (*Eptesicus fuscus*), and little brown bat (*Myotis lucifugus*) are all state-listed species of special concern. Given the proximity to conservation lands, streams, lakes, and wetlands that provide bat habitat and the potential for turbines to cause bat fatalities, measures to minimize impacts should be considered. Actions to minimize impacts may include, but are not limited to, the following recommendations:
 - place turbines an adequate distance from waterbodies and waterways,
 - feather turbine blades below cut-in speeds, and
 - conduct post-construction fatality monitoring.

As the U.S. Fish and Wildlife Service (USFWS) has listed the northern long-eared bat as threatened under the Endangered Species Act (ESA), please coordinate with the USFWS regarding this species.

Environmental Review and Permitting

- The DNR looks forward to receiving the results of the avian surveys and acoustic bat surveys and may have additional comments regarding state-listed birds and bats at that time.
- **Given the presence of native prairie and the potential presence of state-listed species, further Natural Heritage Review will be needed once project details have been finalized.**

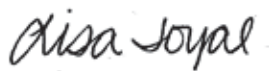
The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. **If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.**

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location (noted above) and the project description provided on the NHIS Data Request Form. Please contact me if project details change or for an updated review if construction has not occurred within one year.

The Natural Heritage Review does not constitute review or approval by the Department of Natural Resources as a whole. Instead, it identifies issues regarding known occurrences of rare features and potential effects to these rare features. If you have not done so already, please contact your DNR Regional Environmental Assessment Ecologist to determine whether there are other natural resource concerns associated with the proposed project (contact information available at http://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html). Please be aware that additional site assessments or review may be required.

Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources. An invoice will be mailed to you under separate cover.

Sincerely,



Lisa Joyal
Endangered Species Review Coordinator
lisa.joyal@state.mn.us

cc: Cynthia Warzecha, Kevin Mixon

Links: DNR Rare Species Guide

www.dnr.state.mn.us/rsg/index.html

Provides information on the biology, habitat use, and conservation measures of rare species

MBS Sites of Biodiversity Significance

http://www.dnr.state.mn.us/eco/mcbs/biodiversity_guidelines.html

DNR Native Plant Communities

<http://www.dnr.state.mn.us/npc/index.html>



**Division of Ecological & Water Resources
21371 Highway 15 South
New Ulm, MN 56073**

May 11, 2017

Matt Heck
Scout Clean Energy
2960 Center Green Ct., Suite 202
Boulder, CO 80301

**Subject: Three Waters Large Wind Energy Conversion System
MNDNR Preliminary Review
Jackson County, MN**

Dear Mr. Heck:

The Minnesota Department of Natural Resources (MNDNR) appreciates the opportunity to review and comment on the proposed Three Waters wind project. Please review the “DNR Guidance for Commercial Wind Energy Projects” and “Avian and Bat Survey Protocols For Wind Energy Projects” for our standard commercial wind project recommendations. Both documents can be located at the following link: (http://www.dnr.state.mn.us/eco/ereview/additional_resources.html).

The MNDNR Guidance For Commercial Wind Energy Projects should be reviewed and considered throughout project development. The following specific sections are known to pertain to this project area: Rare Species and Native Plant Communities, Native Prairies, Public Conservation and Recreation Lands, Properties in Government Programs or With Conservation Easements, and Lakes, Wetlands, Streams, and Rivers.

The Sioux Valley, Skunk Lake, Husen, and Illinois Lake Wildlife Management Areas (WMA) are within or adjacent to the project boundary with several of them containing multiple parcels. The MNDNR recommends that no direct impacts occur to these public recreational lands from turbine construction, transmission lines, substations, or road networks associated with the project. It is the MNDNR’s responsibility to seek avoidance, minimization, and mitigation for potential impacts to Minnesota Recreation System Units (Minnesota Statutes, chapter 86A) from turbine construction, transmission lines, substations, or road networks associated with a wind project. The wind resource of State lands is protected from encroachment through the wind access buffer of 5 rotor diameters (prevailing wind direction) and 3 rotor diameters (non-prevailing wind direction) that has been established by the Public Utilities Commission (PUC) to protect non-participating landowners wind rights.

The MNDNR has identified a portion of the project area that has higher bird and bat use (map attached) due to the large complex of diverse habitat concentrated in the area. The Avoidance Area has been slightly modified since our meeting on May 8, 2017 based on a field visit to the project area. The Avoidance Area contains numerous resources including Reinvest In Minnesota easements, state and federally owned lands, and numerous lakes, wetlands, and streams. The boundaries of the

Avoidance Area are drawn to indicate general areas of higher wildlife activity and they are not intended to be exact.

Avoiding the placement of turbines in the identified Avoidance Areas can minimize wildlife impacts, including fatalities. The MNDNR recommends that turbines not be placed in the Avoidance Area as a measure to potentially decrease fatalities and lessen the likelihood of having bat fatality estimates that could warrant operational mitigation (i.e. increased cut-in-speed).

Please note that additional WMA's, Waterfowl Production Areas, and Pheasants Forever acquisitions have occurred within the Avoidance Area. Further coordination will need to occur to ensure that wind leases/easements are not on the new acquisitions and that the 5x3 RD wind access buffer is applied to the parcels.

Outside of the Avoidance Area there is a limited amount of grassland and wetland that would concentrate avian or bat species to a particular location within the project boundary. As such, the MNDNR is not requesting any specific wetland or grassland bird use surveys for this project.

A portion of the Three Waters LWECS was part of the never completed Aurora Starlight LWECS project. Wildlife studies/data collected as part of the Aurora Starlight project should be included in the Three Waters wildlife study reports.

The MNDNR recommends that scientifically rigorous fatality monitoring be conducted for this project. The Avian and Bat Survey Protocols referenced above should be reviewed in order to develop a specific fatality monitoring plan. The fatality monitoring plan should be included in the Avian and Bat Protection Plan as it will be a key component to assess project impacts. Provided that turbines are not placed in the Avoidance Area, the MNDNR considers the project to be a low risk site. As such, we recommend a minimum of 1 year of fatality monitoring using scientifically valid protocols. Additional years of fatality monitoring may also be warranted depending on the first year of data collection.

The PUC required fatality monitoring report should include not only the estimated bat fatalities per MW, but also a facility wide bat fatality estimate on a yearly basis and for the permitted lifespan of the project. Understanding the facility wide and lifespan bat fatalities provides a more robust picture of the estimated cumulative bat fatalities.

If bat fatalities are high then operational mitigation such as raising the cut-in-speed will need to be discussed as a mechanism to reduce fatalities. Raising the cut-in-speed has been shown to significantly reduce bat fatalities at numerous commercial wind facilities. The MNDNR is indicating a potential need for operational mitigation early in the process so the project proponent can make decisions on turbine placement that may minimize bat fatalities and to factor in the possibility of future operational mitigation if high bat fatalities occur.

During development of the turbine layout it is recommended that 3-4 alternate turbine locations be included. The alternate turbine locations provide an opportunity to avoid or minimize potential impacts to natural resources and to work around other issues that arise during project development.

Mr. Matt Heck
May 11, 2017
Page 3

Our agency looks forward to working in a positive and collaborative manner on this project to ensure that sustainable energy sources are developed while protecting Minnesota's natural resources. Please contact me directly at (507) 359-6073, or kevin.mixon@state.mn.us, if you have any questions about this letter.

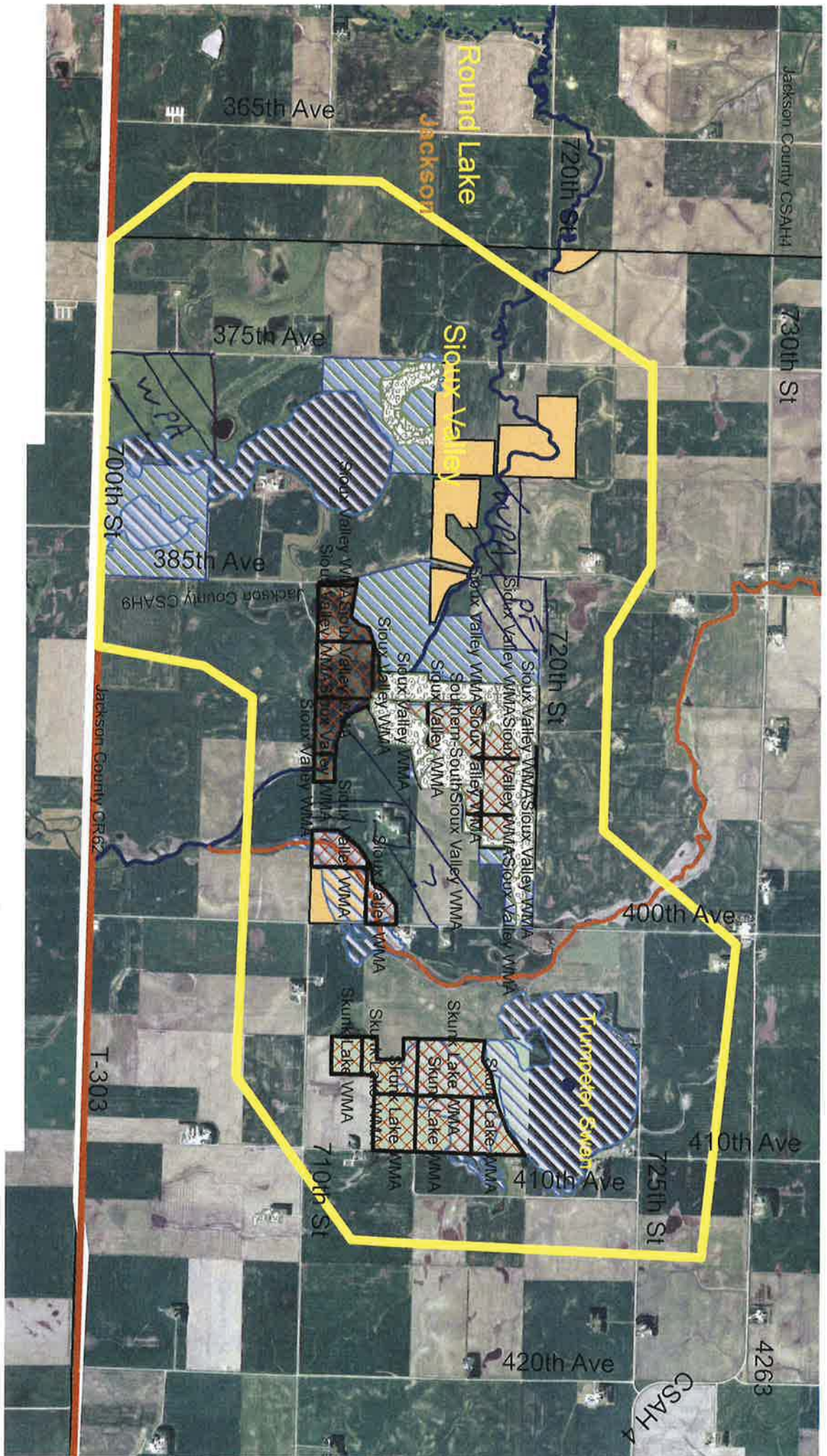
Sincerely,

A handwritten signature in blue ink that reads "Kevin Mixon". The signature is fluid and cursive, with the first name "Kevin" and the last name "Mixon" clearly legible.

Kevin Mixon
Regional Environmental Assessment Ecologist
Division of Ecological and Water Resources

Ec: Lisa Joyal, Endangered Species Review Coordinator
Cynthia Warzecha, Environmental Review
Jim Sehl, EWR Assistant Supervisor
Randy Markl, Area Wildlife Supervisor
Phil Nasby, Parks and Trails
Margaret Rheude, USFWS
Richard Davis, Department of Commerce-EERA
DNR R4 REAT
ERDB#20170428

Three Waters Avoidance Map
May 2017



Kristina DeName

From: Tim Sichmeller <tsichmeller@west-inc.com>
Sent: Friday, September 27, 2019 2:59 PM
To: Kristina DeName; Kevin Mueller; Chad R. Anderson; Joe Sedarski
Subject: Fwd: NHIS Concurrence
Attachments: TW_Boundary_Shapefile_2019.zip; TW_Location 2017.jpg; TW - Location 2019.jpg; MN DNR NHIS Review_April 2018.pdf

[CAUTION: This email originated from outside of the organization.]

Kristina,

Here's the concurrence request.

Thanks,

----- Forwarded message -----

From: Tim Sichmeller <tsichmeller@west-inc.com>
Date: Tue, Sep 24, 2019 at 9:25 AM
Subject: NHIS Concurrence
To: Joyal, Lisa (DNR) <lisa.joyal@state.mn.us>

Good Afternoon Ms. Joyal,

WEST, Inc. is submitting information for your review and concurrence for the Three Waters Wind Farm in Jackson County, Minnesota. This request for concurrence was recommended to Scout Clean Energy and WEST, Inc. during the August 5th Agency Meeting in St. Paul.

Scout Clean Energy is seeking concurrence for slight alterations to the previously reviewed Three Waters Wind Farm project boundary. WEST, Inc. has assessed the potential for impacts to resources identified in MN-DNR NHIS Database within 1 mile of the updated Three Waters Wind Farm project boundary. Based on the review, WEST, Inc. has identified the same ecological areas and bird species as your NHIS Review dated, April 6, 2018.

WEST, Inc. is requesting your concurrence with the updated Three Waters Wind Farm project boundary review.

Thank you,

--

Tim Sichmeller
Wildlife Biologist / Texas Branch Manager



Western EcoSystems Technology, Inc.
Environmental & Statistical Consultants
2990 Richmond Ave., Suite 510
Houston, TX 77098
Office: 346-998-6011
Cell: 307-760-5464
www.west-inc.com

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--

Tim Sichmeller
Wildlife Biologist / Texas Branch Manager



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Meeting Notes



MEETING NOTES

SUBJECT: Three Waters Wind Energy Project – Project Introduction	
PROJECT: Three Waters Wind Energy Project	MEETING LOCATION: MN DOC Office, Minneapolis, MN
MEETING DATE: 8 May 2017	NOTES BY: T. Sichmeller

Attendees:

- Tim Sichmeller (WEST)
- Matt Heck (Scout Clean Energy)
- Kevin Mixon (Minnesota DNR)
- Richard Davis (Minnesota DOC)
- Margaret Rheude (USFWS)
- Cynthia Warzecha (MN DNR)

Topics Discussed:

Scout Clean Energy and WEST met with USFWS and MN-DNR to introduce them to the Three Waters Wind Energy Project in Jackson County, Minnesota. The intent of the meeting was to provide USFWS and MN-DNR with a project introduction/update, review site condition/habitats, review 2017 avian and bat study plans, and obtain USFWS and MN-DNR feedback on project issues and studies (per the USFWS's *Wind Energy Guidelines and Avian and Bat Survey Protocols for Large Wind Energy Conversion Systems in Minnesota*.)

- Introductions
- Project Background/Status
 - 80 turbines
 - Tier 3 studies underway in 2017
 - Commercial Operation Date (COD) 2019-2020
- Siting
 - 87% Cultivated crops
 - MN-DNR provided an Area of Avoidance in the southern portion of project area where siting is recommended to be avoided.
 - Discuss project with IA DNR since the project is bordering Osceola and Dickinson Counties
- Birds
 - WEST is conducting avian/eagle use fixed point surveys at 18 points once a month in 2017 and 2018
 - USFWS recommended to conduct two full years of avian/eagle use fixed point surveys
 - WEST conducted two rounds of helicopter surveys for eagle nests within 10 miles of 1km buffer of proposed turbine array and raptor nests within 1 mile of project footprint
 - Preliminary results were discussed; 8 active bald eagle nests located, all over 1 mile from project boundary, 7 red-tailed hawk nests, 2 great horn owl nests, 1 inactive great blue heron rookery



ENVIRONMENTAL & STATISTICAL CONSULTANTS

2121 Midpoint Drive, Suite 201, Fort Collins, CO 80525
www.west-inc.com

- Other avian surveys (wetland and grassland) discussed
- MN-DNR is going to provide a review letter after visiting the site
- Bats
 - Acoustic activity surveys to commence May – November 2017
 - One met tower with paired units and two ground units sampling other potential bat habitat
 - WEST will provide sites of acoustic activity detectors
 - 4 survey locations proposed for northern long-eared bat surveys in 2017
 - These 4 locations will be surveyed with acoustic detectors and follow up mist-netting will be conducted if any positive recordings of NLEB are detected
 - Radio telemetry will be conducted if NLEB are captured
- Action Items
 - WEST to send meeting notes (including presentation used for meeting)
 - WEST to send updated eagle nest map
 - WEST to send NHIS letter for review to Lisa Joyal
 - MN-DNR to provide prelim review letter and Area of Avoidance shapefiles
 - USFWS and MN-DNR to help coordinate and provide shapefiles of lands that would be non-participants and areas of interest (Wildlife Management Areas, State Parks, DNR, USFWS, Waterfowl Production)
 - WEST and Scout to discuss project with IA-DNR
 - Scout to include BOWSER GIS data in project planning



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Three Waters Wind Farm

Agency Meeting

May 8, 2017

Meeting Objectives

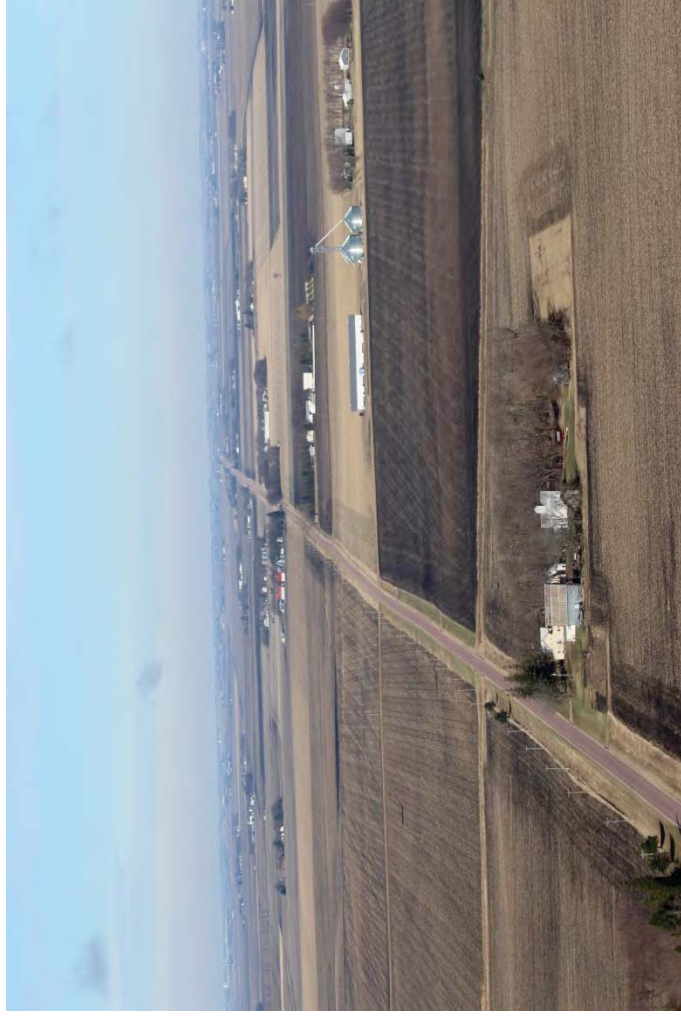
- Comply with the WEG and Minnesota DNR Survey Protocols
- Re-introduce project
- Review avian and bat survey plan
- Obtain USFWS and DNR feedback on project

Scout Energy

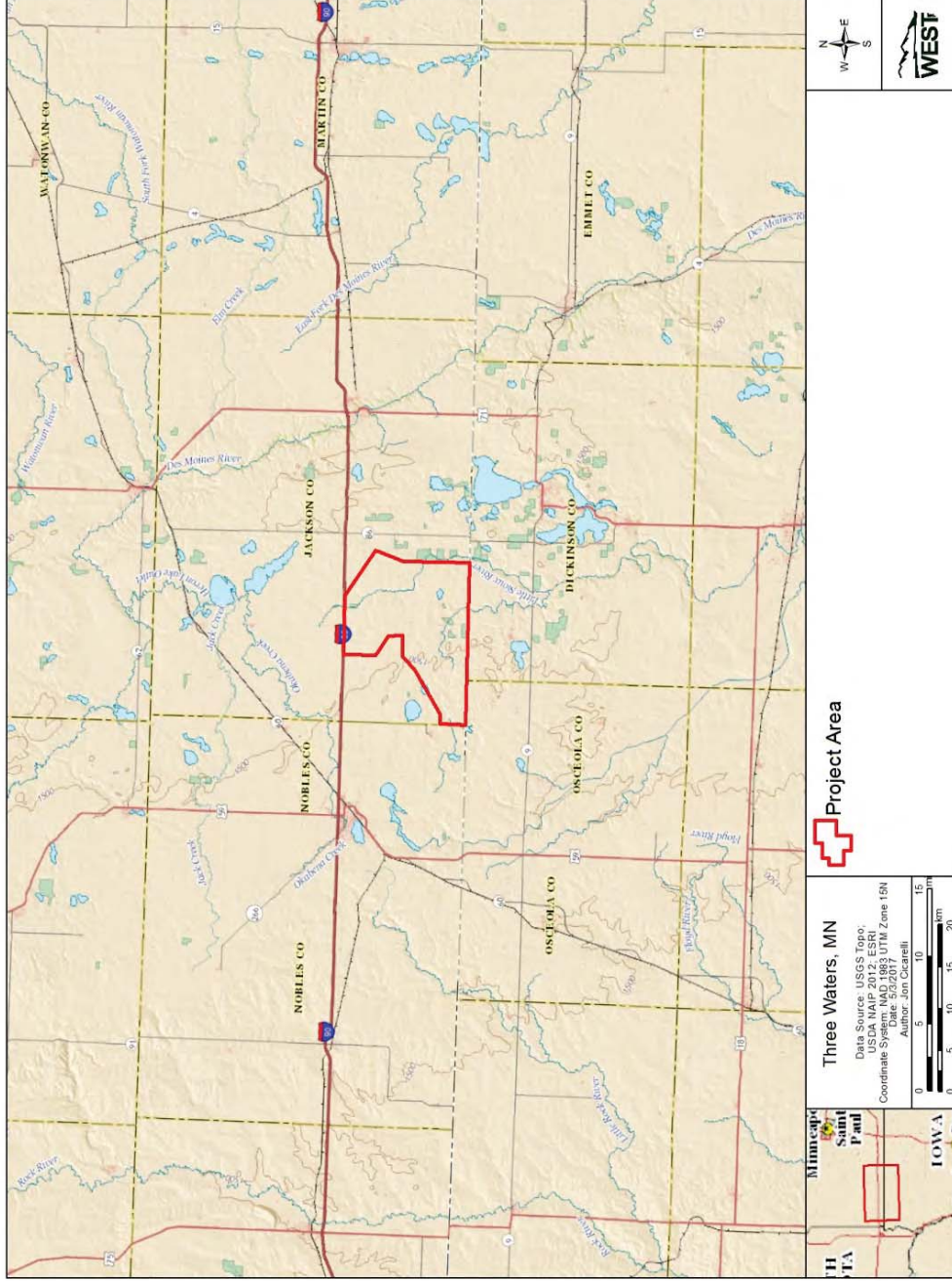
- Matt Heck, Director of Development
- Scout Clean Energy
 - Community Wind South
- History – Clipper (Aurora/Starlight)
- Production Tax Credit (PTC)

Three Waters

- Development Efforts:
 - COD target: 2019-2020
 - Land Acquisition
 - Meteorological Assessment
 - Permitting
 - Tier 3 environmental studies underway in 2017 and 2018

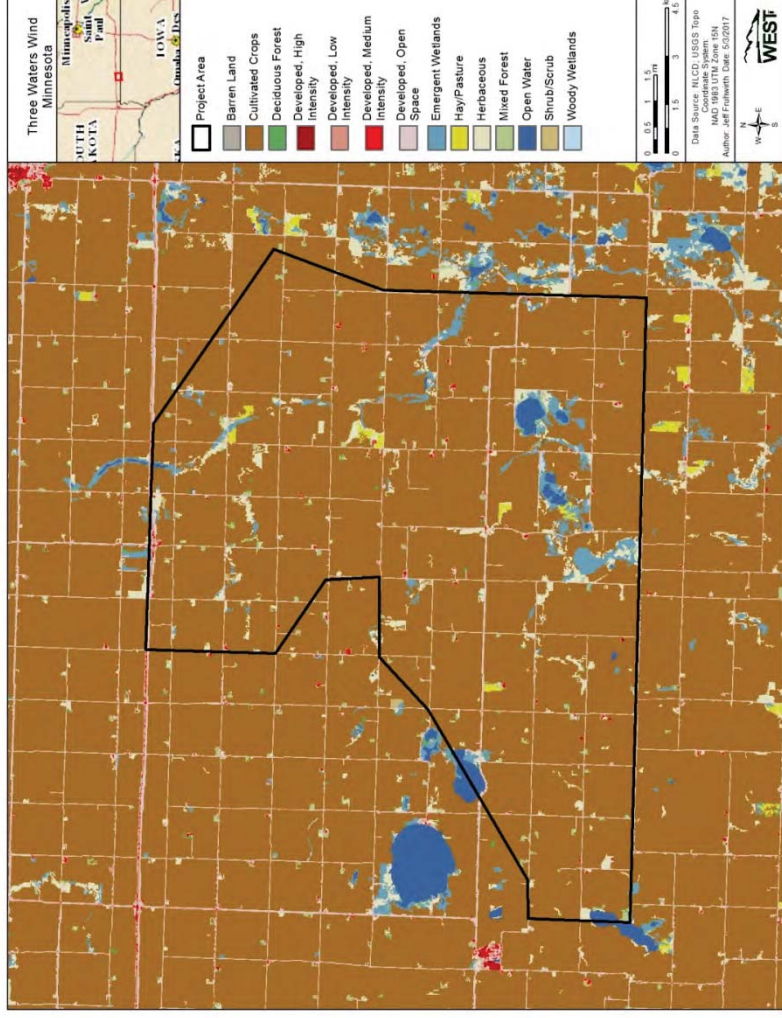


Three Waters



Three Waters

- ## Project Characteristics
- 87% Cultivated crops
 - 4% Developed; open space
 - 3% Herbaceous
 - 2.6% Emergent herbaceous wetlands
 - 1% Open water



Biological Surveys

Birds

- Fixed-point Avian Use and Eagle Use
- Raptor Nest Surveys

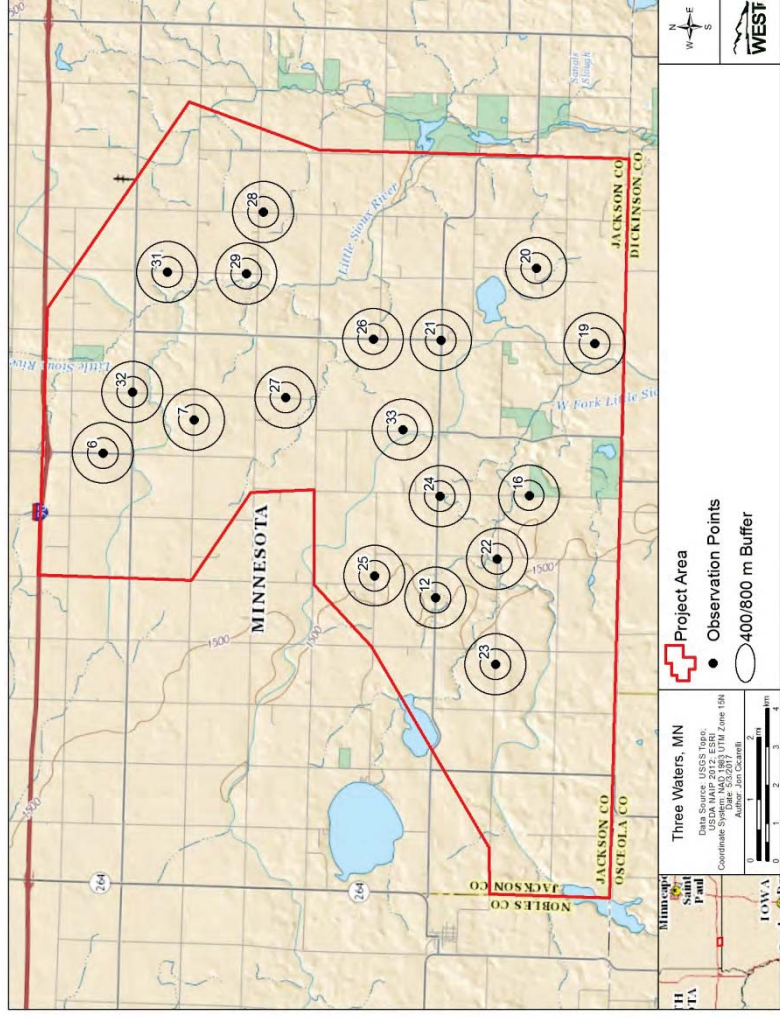
Bats

- Acoustic Surveys
- Presence/Probable Absence Surveys



Fixed-Point Avian Use Surveys

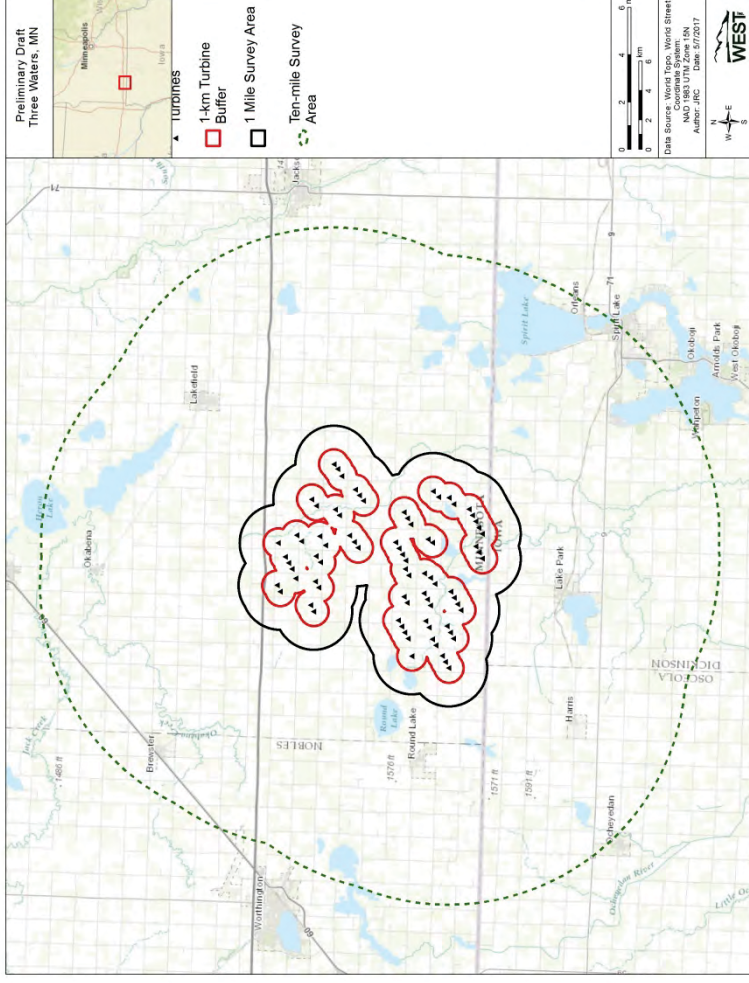
- Following ECP Guidance
- 18 points – 30% of project footprint, surveyed once per month
- 10 minute surveys at points for all small birds within 100-m radius
- 60 minute surveys at points for eagles and large birds within 800-m radius



Three Waters

Raptor Nest Surveys

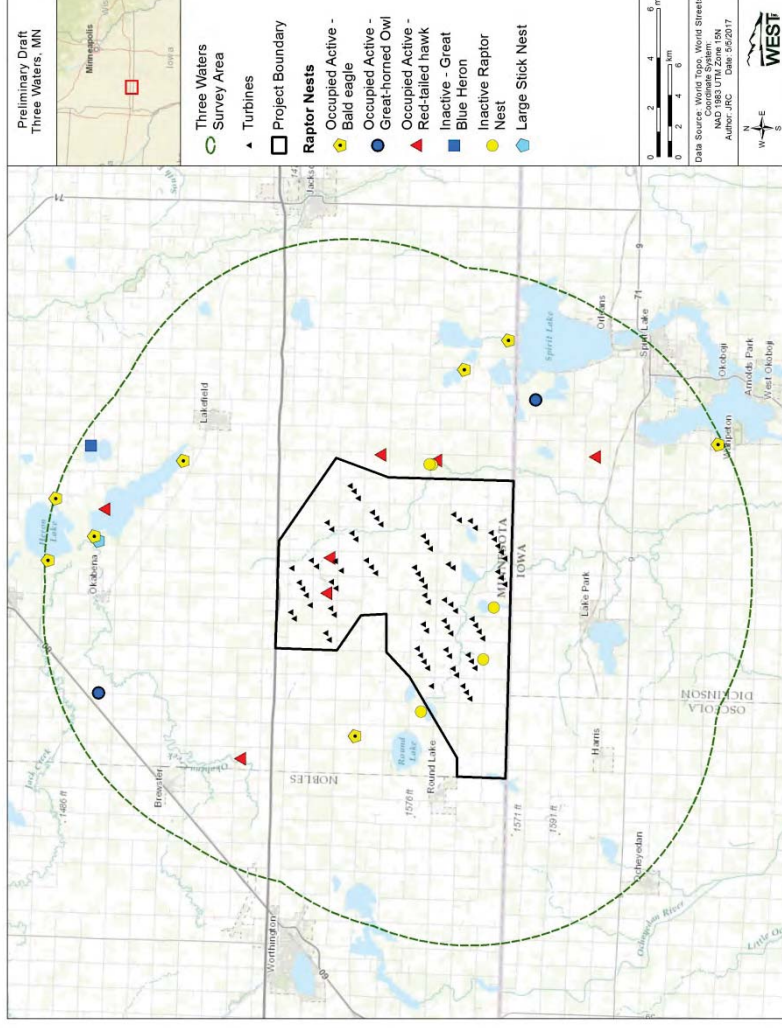
- Two rounds of helicopter surveys
- Eagle nests within 10 miles
- All other raptor nests within 1 mile of project footprint



Three Waters

Preliminary Eagle and Raptor Nests and Results

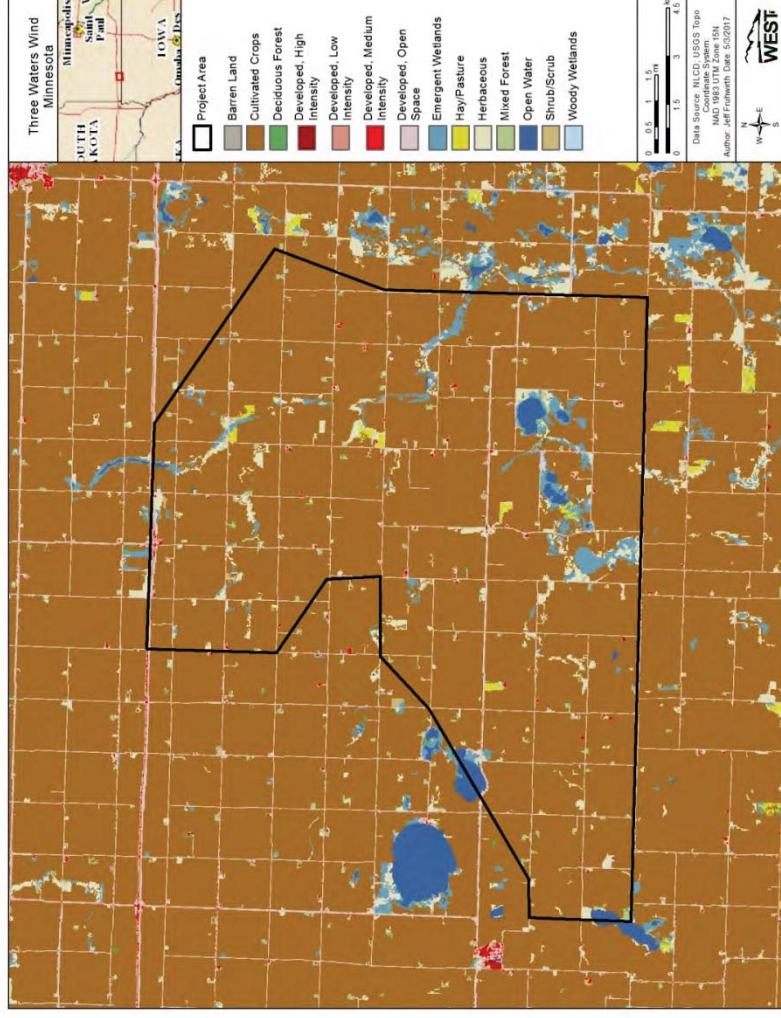
- 8 Bald eagle nests located
 - All over 1 mile from project boundary
- 7 Red-tailed hawk nests
- 2 Great horn owl nests
- 1 inactive Great blue heron rookery



Three Waters

Other Avian Surveys

- **Wetland Use Surveys**
 - Surveys at potential wetlands will be conducted
 - 3 surveys to be conducted before June 30
- **Grassland Use Surveys**
 - Landcover and potential sensitive species habitat will be mapped
 - If non-CRP grassland tracts greater than 40 acres are mapped, WEST will conduct grassland bird surveys



Bat Acoustic Activity

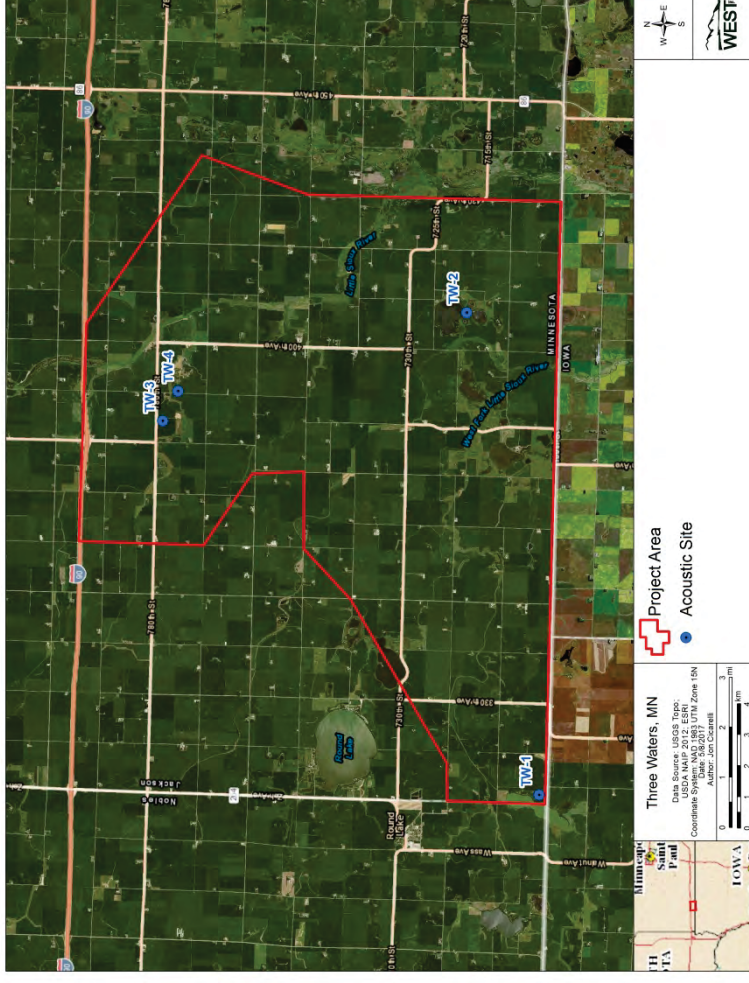
- General acoustic use data at met towers to be collected in 2017
- One met tower with paired units
- Surveys running from May – November, 2017
- Two ground units sampling potential bat habitat



Three Waters

Northern long-eared bat Surveys

- ~460 acres of potential NLEB suitable habitat within project boundary
- 4 proposed survey locations
 - 2 detectors for 2 nights each
- Follow-up mist-netting at any sites with positive NLEB detection
- Radio-telemetry on any captured female or young NLEB



Three Waters

Questions

Matt Heck
Director of Development
303.305.9968
Mheck@scoutcleanenergy.com

WEST Tim Sichmeller
Project Manager/Research
Biologist
307.760.5464
tsichmeller@west-inc.com





west-inc.com

Corporate Headquarters

415 West 17th Street, Suite 200, Cheyenne, WY 82001
307.634.1756



MEETING NOTES

SUBJECT: Biological Studies Update	
PROJECT: Three Waters Wind Energy Project	MEETING LOCATION: St. Paul, MN
MEETING DATE: August 13, 2018	NOTES BY: R. McDonald

ATTENDEES

Three Waters, LLC (Three Waters): Mark Wengierski and Pat Landess

U.S. Fish and Wildlife Service (USFWS): Margaret Rheude

WEST, Inc.: Tim Sichmeller and Ryan McDonald

Minnesota Department of Natural Resources (MN-DNR): Cynthia Warzecha, Kevin Mixon, and Lisa Joyal

TOPICS DISCUSSED

Scout Clean Energy and WEST met with USFWS and MN-DNR to re-introduce them to the Three Waters Wind Energy Project in Jackson County, Minnesota. The intent of the meeting was to provide USFWS and MN-DNR with a project update, review site condition/habitats, review 2017 avian and bat survey results and 2018/19 study plans, and obtain USFWS and MN-DNR feedback on project issues and studies (per the USFWS's *Wind Energy Guidelines* and *Avian and Bat Survey Protocols for Large Wind Energy Conversion Systems in Minnesota*.)

Introductions

Project Background

- Scout provided an overview of the Three Waters Wind Energy Project
- Anticipated COD ~Q4 2020
- Three Waters was formerly known as the Clipper Project – Aurora Starlight
- Up to 80 turbines planned, with 15 alternates
- Project area ~ 26,000 acres; ~50% under lease
- Discussed the possibility of extending the project to the east and agreed that the presence of several waterfowl production areas and wildlife management areas prohibit expansion to the east.
- If expanding, a new Environmental Review by the Minnesota DNR is needed.

Avian Surveys

- WEST is conducting avian/eagle use fixed point surveys at 18 points once a month in 2018 and 2019
- 9 bald eagles, 1 golden eagle in Year 1 surveys
- 8 Bald eagle nests located
 - o All over 1 mile from project boundary
- 7 Red-tailed hawk nests
- 2 Great horn owl nests
- 1 inactive Great blue heron rookery
- Nests within 1-mile warrant conversation with the USFWS
- If expanding, additional avian use survey coverage may be needed

- Discussed the coverage of the existing polygons with current project boundary and additional point locations are not needed at this time
 - o If any major changes to boundary or layout occur, then survey points should be added as soon as possible, but USFWS discussed that data would not need to be collected for a full two years at the added point locations

Bat Surveys

- Ran from July 6 – November 16, 2017
- One met tower with paired units
- Average bat pass rate was 3.58 ± 0.61 bat passes per detector-night
- 2018 Surveys: April 15 – October 15
- ~460 acres of potential NLEB suitable habitat within project boundary
- 4 proposed survey locations
- 2 detectors for 2 nights per site
- 8 total detector nights
- Followed 2017 Summer Survey Guidance
- June 17 – 20, 2017
- Range of 27 to 394 bat calls per detector night (average of 61.2 bat calls per detector night)
- 5 northern long-eared bat calls identified by software
- Qualitative review of potential bat calls were not indicative of northern long-eared bat calls
- Follow up mist-netting was not conducted
-

Action Items

- Share nest data with USFWS and MN-DNR
- Request the Iowa DNR Environmental Review
- Change bat passes per detector night calculations according to the first and last call of the season
- Provide avian use report when finalized



Environmental
& Statistical
Consultants

Three Waters Wind Farm

Agency Meeting
August 13, 2018

Introductions

- Mark Wengierski, Project Manager, Scout Clean Energy
- Pat Landess, Assoc. Project Manager, Scout Clean Energy
- Tim Sichmeller, Project Manager/Research Biologist, WEST, Inc.
- Ryan McDonald, Wildlife Biologist, WEST, Inc.

Meeting Objectives

- Scout Clean Energy Overview
- Three Waters Wind Farm (Jackson County, MN) Overview
- Discuss Wind Energy Guidelines and MN DNR Survey Protocols
- Review project avian and bat historical study results
- Review ongoing avian and bat studies
- Obtain USFWS and MN DNR feedback
- Project discussion

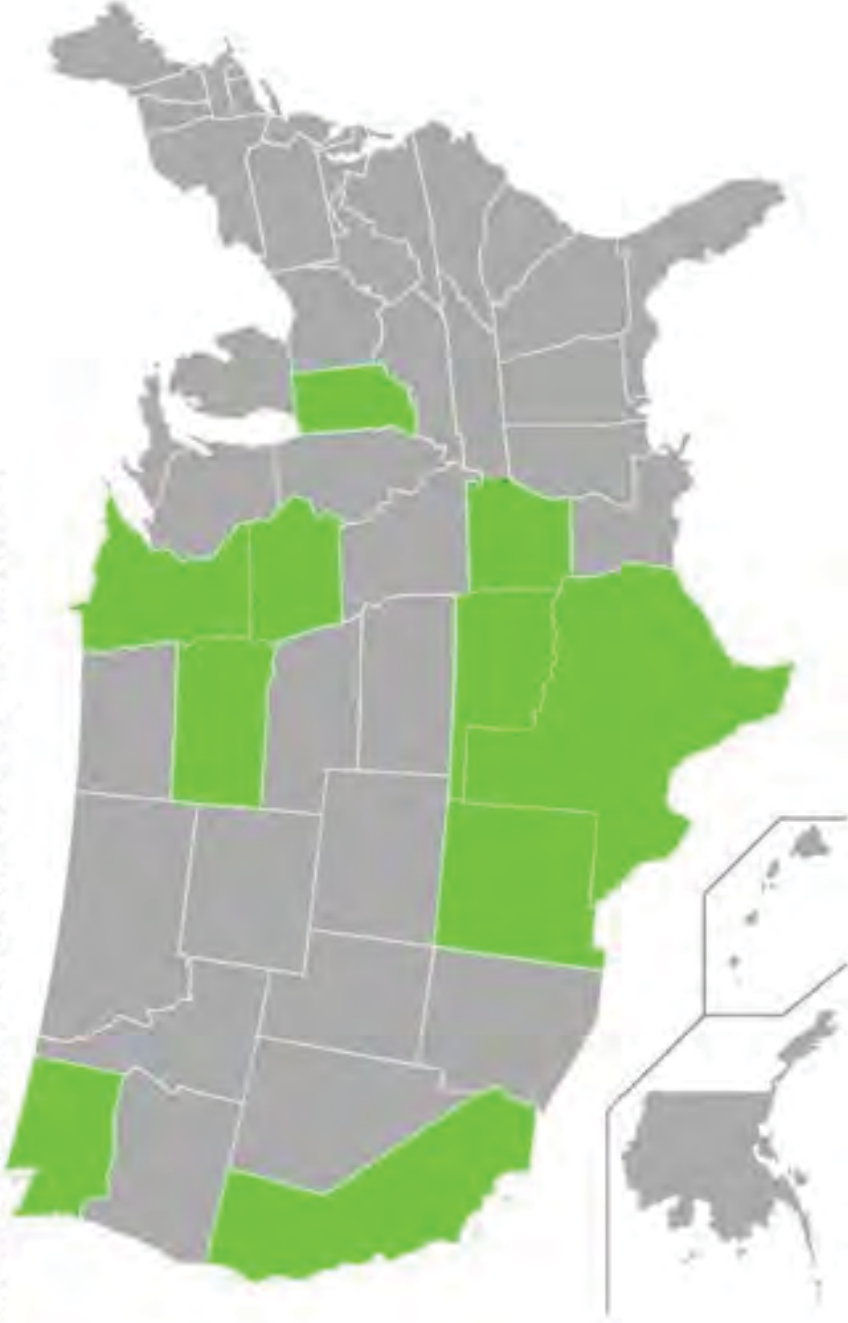
Scout Clean Energy Overview

- Scout Clean Energy was formed in July of 2016 and is located in Boulder, Colorado. Scout is a renewable energy development company focused on utility scale wind development.
- Scout Clean Energy is committed to working closely with property owners and local stakeholders to develop responsible wind energy projects, with experience across dozens of communities and thousands of property owners.
- The Scout team has an extensive track record developing large-scale wind energy projects. The most recent, Persimmon Creek 1 Wind Farm in Oklahoma is currently under construction, scheduled for COD in the summer of 2018.
- The portfolio comprises 12 projects across 10 states in active development.
- Scout Clean Energy is an affiliate of Harvest Energy Services whose focus is on operation and maintenance services. Harvest is a 75-employee company providing construction management and operation and maintenance services in 23 states and 3 Latin American countries

Scout Clean Energy Overview

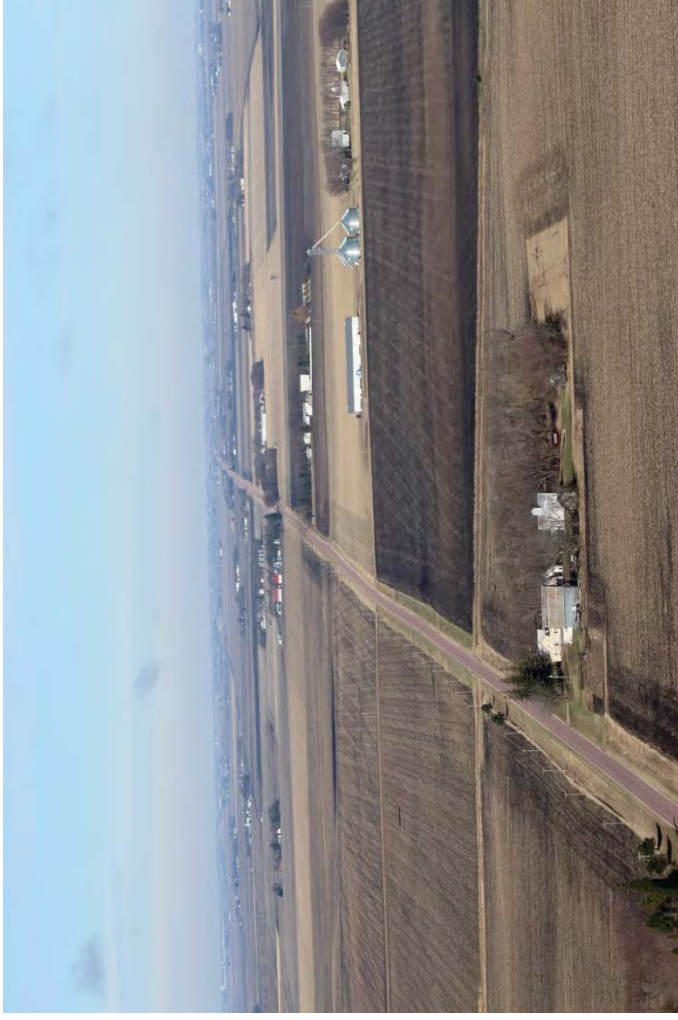
Scout Clean Energy currently has projects under development in the following states:

- Arkansas
- California
- Indiana
- Iowa
- Minnesota
- New Mexico
- Oklahoma
- South Dakota
- Texas
- Washington

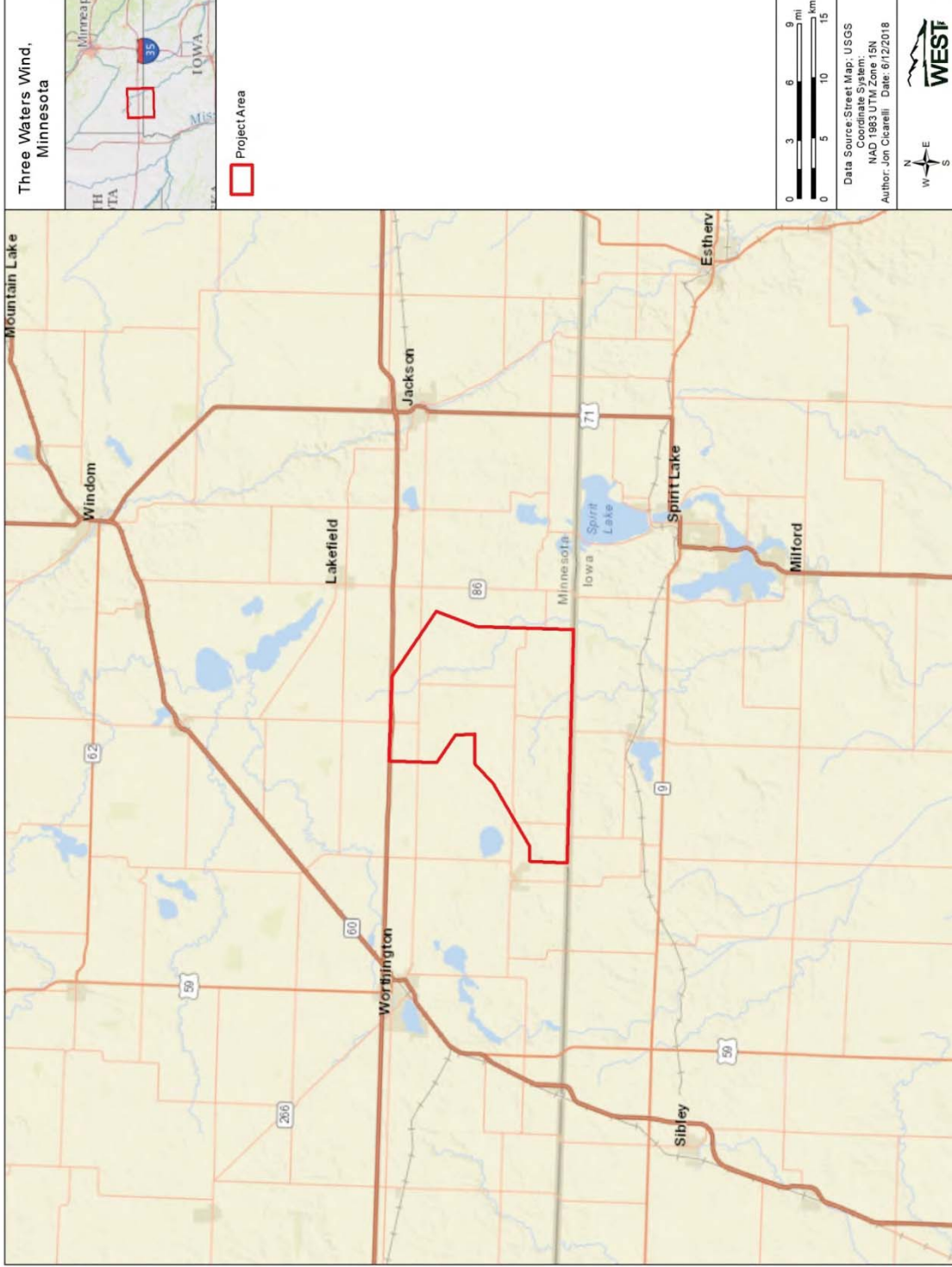


Three Waters Wind Farm

- Development Efforts:
 - COD target: Q4 2020
 - Land Acquisition
 - Meteorological Assessment
 - Permitting
 - Tier 3 environmental studies underway in 2017 and 2018

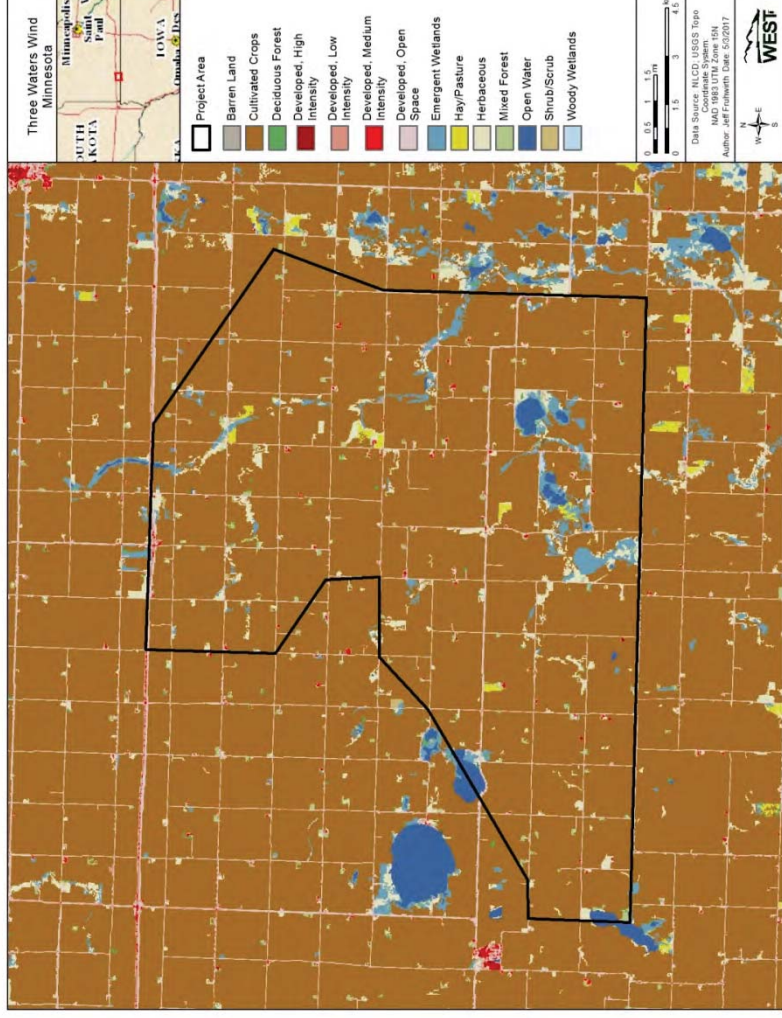


Three Waters Wind Farm Location



Three Waters Wind Farm

- ## Project Characteristics
- 87% Cultivated crops
 - 4% Developed; open space
 - 3% Herbaceous
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 - 1% Open water



Three Waters Wind Farm

Biological Surveys

Birds

- Fixed-point Avian Use and Eagle Use
- Raptor Nest Surveys

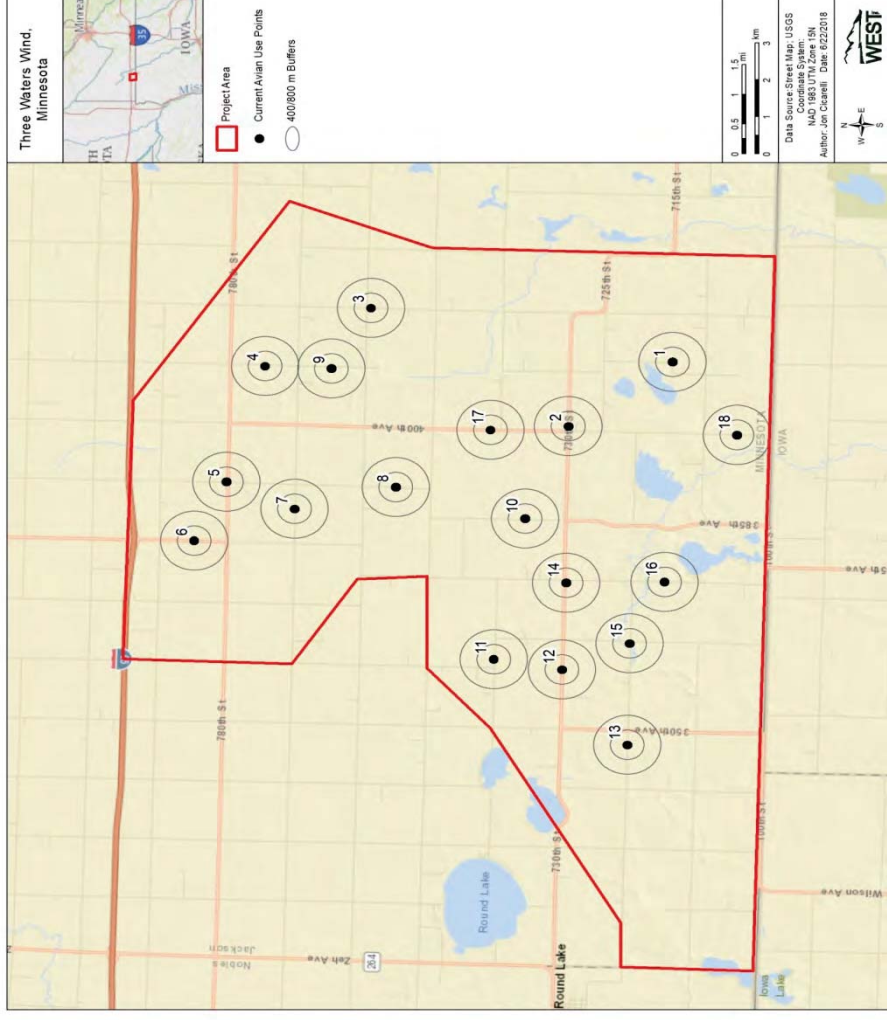
Bats

- Acoustic Surveys
- Presence/Probable Absence Surveys



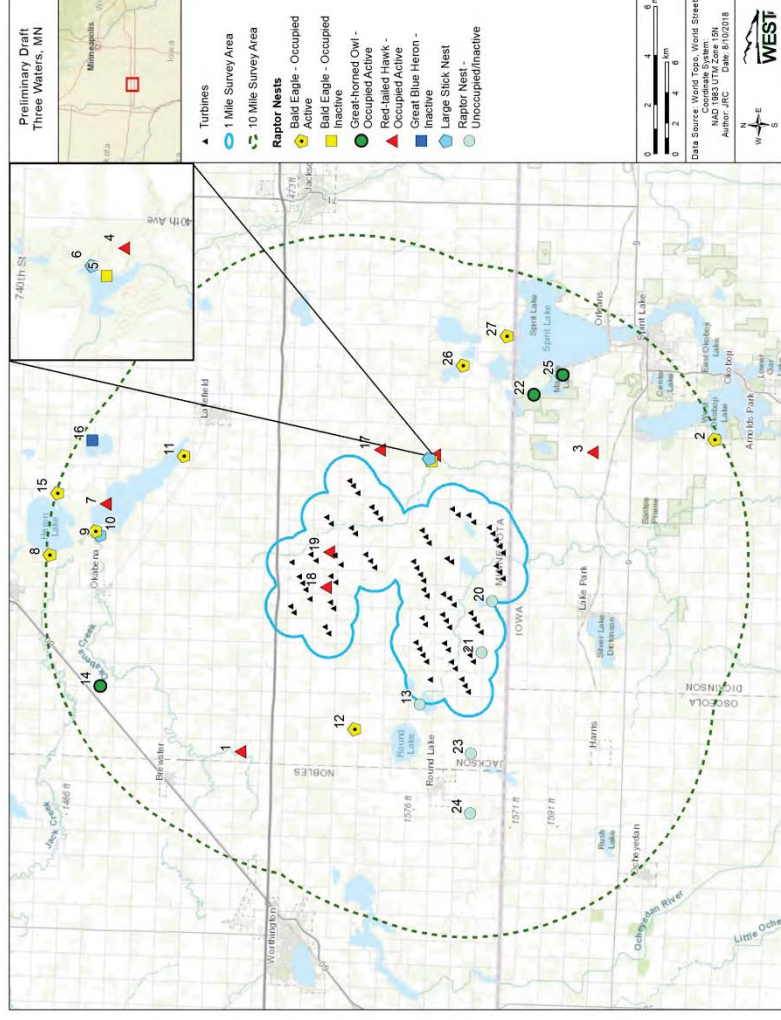
Three Waters Wind Farm – Fixed-point Avian Use Surveys

- Surveys began March 2017 until February 2018
- Large bird surveys follow Eagle Conservation Plan Guidance and Reynolds et al. 1980
- 800-meter observation radius for hour-long large birds/eagle surveys
- Eighteen points surveyed a month
- 9 bald eagles, 1 golden eagle in Year 1 surveys
- 100-meter observation radius for 10-minute small bird surveys



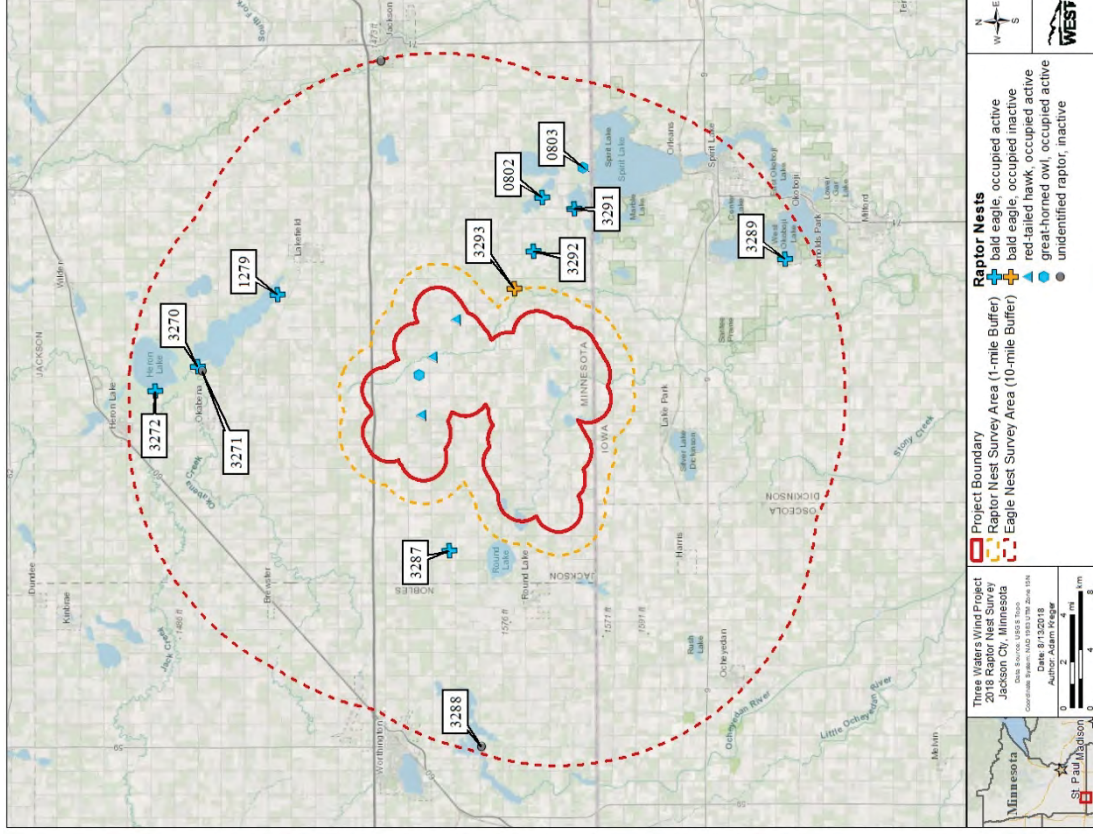
Three Waters Wind Farm – Raptor Nest Surveys

- Two rounds of helicopter surveys
- Eagle nests within 10 miles
- All other raptor nests within 1 mile of project footprint
- 8 Bald eagle nests located
 - All over 1 mile from project boundary
- 7 Red-tailed hawk nests
- 2 Great horn owl nests
- 1 inactive Great blue heron rookery



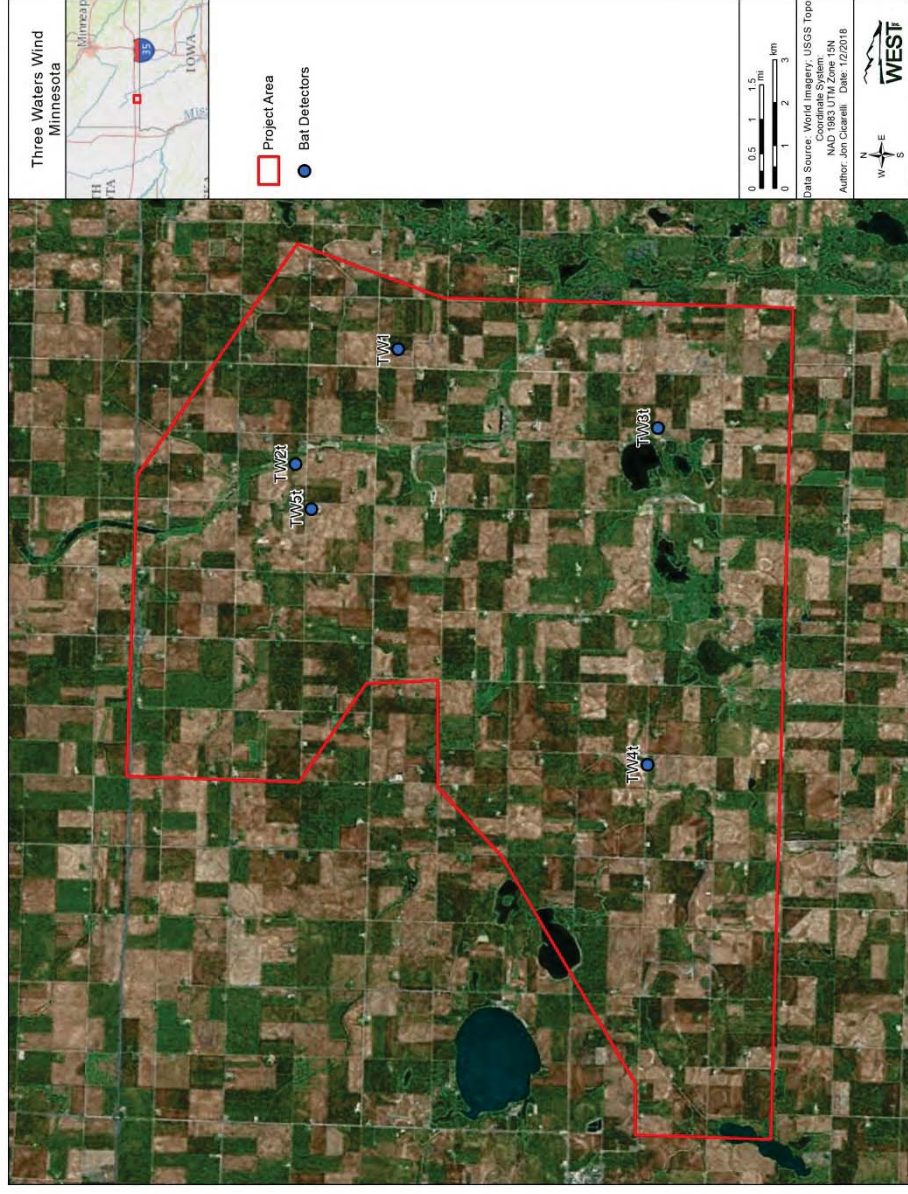
Three Waters Wind Farm – Raptor Nest Surveys

- Two rounds of helicopter surveys
- Eagle nests within 10 miles
- All other raptor nests within 1 mile of project footprint
- 9 Bald eagle nests located
 - All over 1 mile from project boundary
- 3 Red-tailed hawk nests
- 2 Great horn owl nests
- 2 inactive more than 8 miles



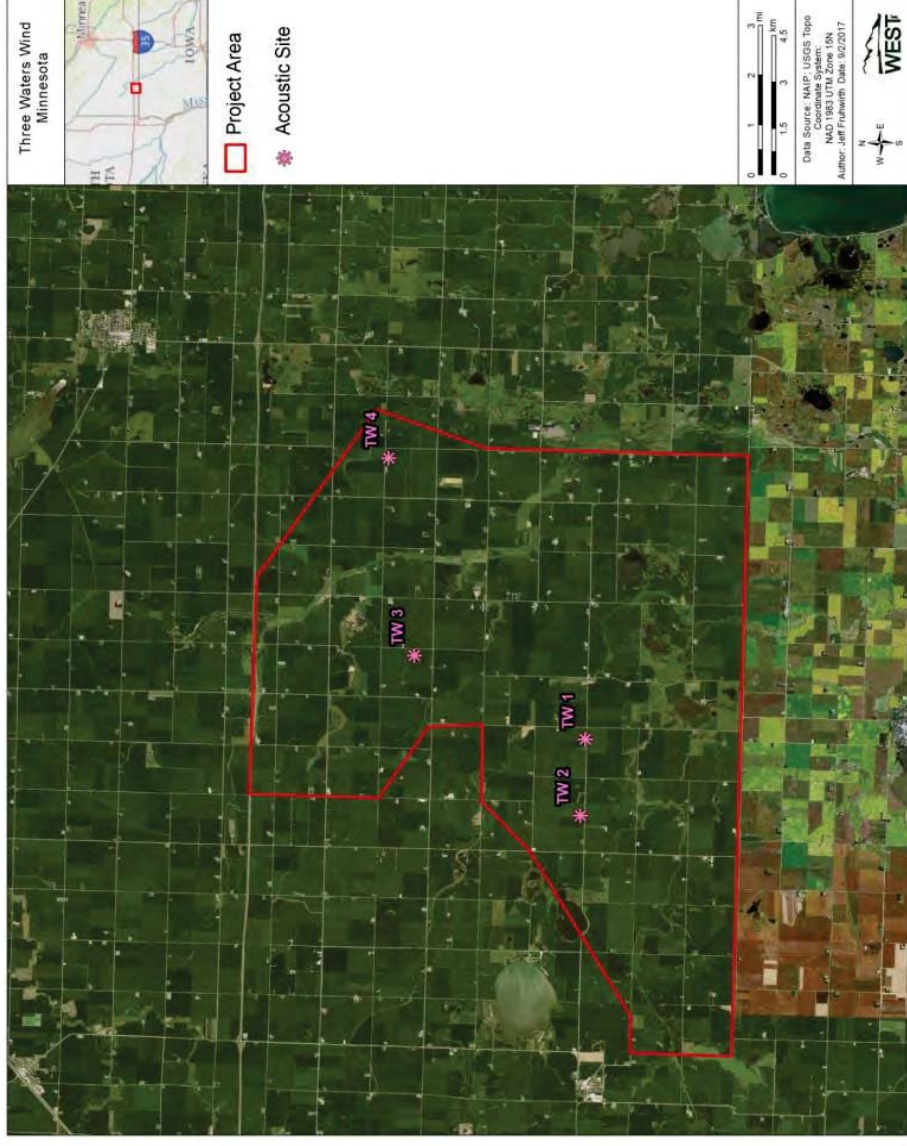
Three Waters Wind Farm – Bat Acoustic Activity

- Ran from July 6 – November 16, 2017
- One met tower with paired units
- Two ground units sampling potential bat habitat
- Average bat pass rate was 3.58 ± 0.61 bat passes per detector-night
- 2018 Surveys: April 15 – October 15



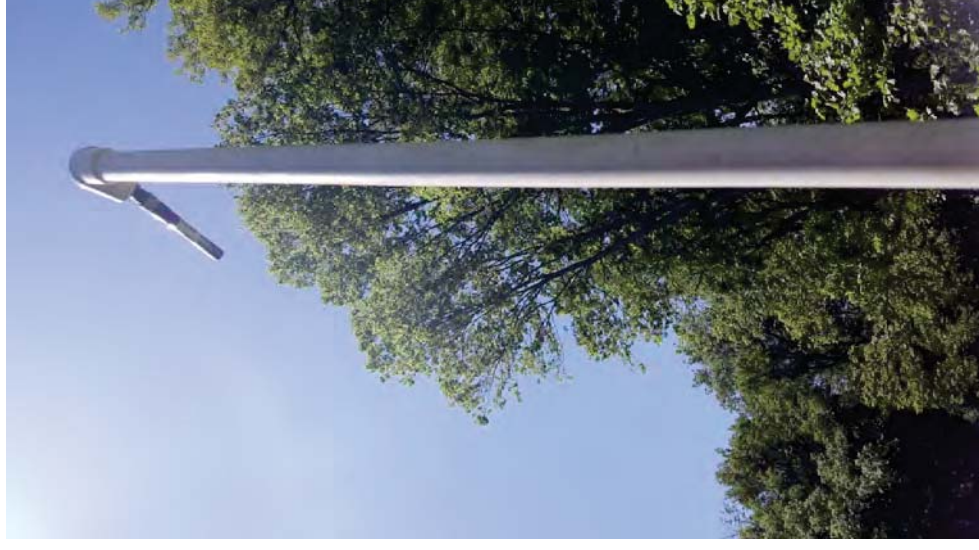
Three Waters Wind Farm – Northern long-eared bat Surveys

- ~460 acres of potential NLEB suitable habitat within project boundary
- 4 proposed survey locations
- 2 detectors for 2 nights per site
- 8 total detector nights
- Followed 2017 Summer Survey Guidance
- June 17 – 20, 2017



Three Waters Wind Farm – Northern long-eared bat Surveys

- Range of 27 to 394 bat calls per detector night (average of 61.2 bat calls per detector night)
- 5 northern long-eared bat calls identified by software
- Qualitative review of potential bat calls were not indicative of northern long-eared bat calls
- Follow up mist-netting was not conducted



Three Waters Wind Farm

Questions

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MEETING NOTES

PREDECISIONAL/DRAFT/NOT FOR DISTRIBUTION/CONFIDENTIAL BUSINESS INFORMATION

SUBJECT: Meeting to discuss project and pre-construction environmental studies	
PROJECT: Three Waters Wind Farm	MEETING LOCATION: St. Paul, MN
MEETING DATE: August 5, 2019	NOTES BY: WEST

ATTENDEES

Tim Sichmeller, WEST
Ryan McDonald, WEST
Kimberly Bay, WEST
Mark Wengierski, Three Waters Wind Farm, LLC

Patrick Landess, Three Waters Wind Farm, LLC
Cynthia Warzecha, Minnesota DNR
Becky Horton, Minnesota DNR

TOPICS DISCUSSED

Three Waters Wind Farm, LLC and WEST met with MN-DNR to provide a project update for the Three Waters Wind Farm in Jackson County, Minnesota. The intent of the meeting was to provide MN-DNR with a general project update, review site condition/habitats, review two years of avian and bat survey results, and obtain feedback on project boundary updates

Introductions

Project Overview

- The project team provided an overview of the Three Waters Wind Farm
 - 71 2.82/127 turbines
 - The 2.82 MW capacity may increase with technological advancements
 - 89m or 114m hub height, 89m is likely the most feasible
- No overhead transmission
- Site Permit Application being submitted in September- 2019
- 2021 Commercial Operations Date (COD)

Wildlife Assessments

- Review of sensitive species in Jackson County, MN
- Review of avian use survey results from two years of surveys (2017-2019)
 - Low use overall
 - More activity in spring and fall periods
 - Majority of use by waterfowl, gulls, and waterbirds
- Review of nest survey results from 2017 and 2018
 - No eagle nests within 2 miles of the project
- Review of general acoustic bat surveys
 - Higher activity by low frequency bats
- Review of northern long-eared bat presence/probable absence surveys

- Absence concluded (probable)

Post-Construction Fatality Monitoring

- MN-DNR requested shapefile of turbine locations before commenting on post-construction monitoring study plan
- Current study plan follows the road/pad protocol for low-risk sites, described in the MNDNR's *Avian and Bat Survey Protocols for Large Wind Energy Conversion Systems in Minnesota*
- Draft study plan will be provided to the MNDNR along with shapefiles for review

Other topics

- MN-DNR asked about avoidance areas previously identified and wants to know if these areas have been avoided in the new layout
 - Three Waters Wind Farm, LLC will provide MN-DNR with new layout compared with old layout
- Discussed an expansion of the previous Project boundary into Iowa
 - Will provide updated shapefiles and discuss with Minnesota Department of Commerce (David Birkholz and Richard Davis) and Iowa DNR and Iowa USFWS Field Office

Action Items

- Shapefile requested of turbine array and project boundary
- NHIS may be expired and should be resubmitted or a concurrence letter should be requested
- The MNDNR requested new copies of all reports
- Draft study plan will be provided to the MNDNR along with shapefiles for review
- Will provide a draft Bird and Bat Conservation Strategy (BBCS) to MN-DNR for review

Reports

Study Plan

STUDY PLAN

Baseline Wildlife Survey Services Three Waters Project



Prepared for:

Scout Clean Energy

2960 Center Green Ct. Ste 202
Boulder, CO 80301

Prepared by:

WEST, Inc.

2121 Midpoint Drive, Suite 201
Fort Collins, CO 80525

May 2, 2017



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1 INTRODUCTION AND BACKGROUND

Scout Clean Energy (Scout) is proposing to develop the Three Waters Wind Farm (Project) in Jackson County, Minnesota (Figure 1). As currently proposed, the Project would have a generation capacity of approximately 200 megawatts (MW) and consist of 80 wind turbines.

As part of the development process, biological field studies were designed as recommended in the U.S. Fish and Wildlife Services (USFWS) *Land-based Wind Energy Guidelines* (WEG; USFWS 2012), *Eagle Conservation Plan Guidelines* (ECPG; USFWS 2013), *Northern Long-eared Bat Interim Conference and Planning Guidance* (USFWS 2014), and the *2016 Range-Wide Indiana Bat Summer Survey Guidelines* (USFWS 2016) as well as the *Avian and Bat Survey Protocols for Large Wind Energy Conversion Systems in Minnesota* (DNR 2014). These studies were designed to address Tier 3 and Stage 2 questions using a risk-based approach.

This Study Plan describes surveys scheduled to be conducted for the Project from 2017–2018, including: vegetation/habitat mapping, avian and eagle use surveys, eagle and raptor nest surveys, additional potential avian surveys such as, grassland use surveys and wetland use surveys, bat acoustic surveys, and presence/probable absence bat surveys.

The overall objectives of these studies are to:

- identify whether potentially suitable habitat is available for federally or state-listed threatened or endangered species or Minnesota state species of greatest conservation need;
- evaluate potential impacts of the proposed Project on birds, bats, and species of concern; and
- determine if species protected under the Endangered Species Act are present within the Project area.

2 STUDY AREA

The proposed Three Waters Wind Farm is located at the Minnesota-Iowa border in Jackson County, Minnesota (Figure 1). According to the 2011 National Land Cover Database (NLCD 2011, Homer et al. 2015), approximately 87% of the Project area is cultivated crops and 4% is developed open space (Table 1; Figure 2). The remaining 9% is a combination of herbaceous, emergent herbaceous wetlands, open water, and other land cover types (Table 1).

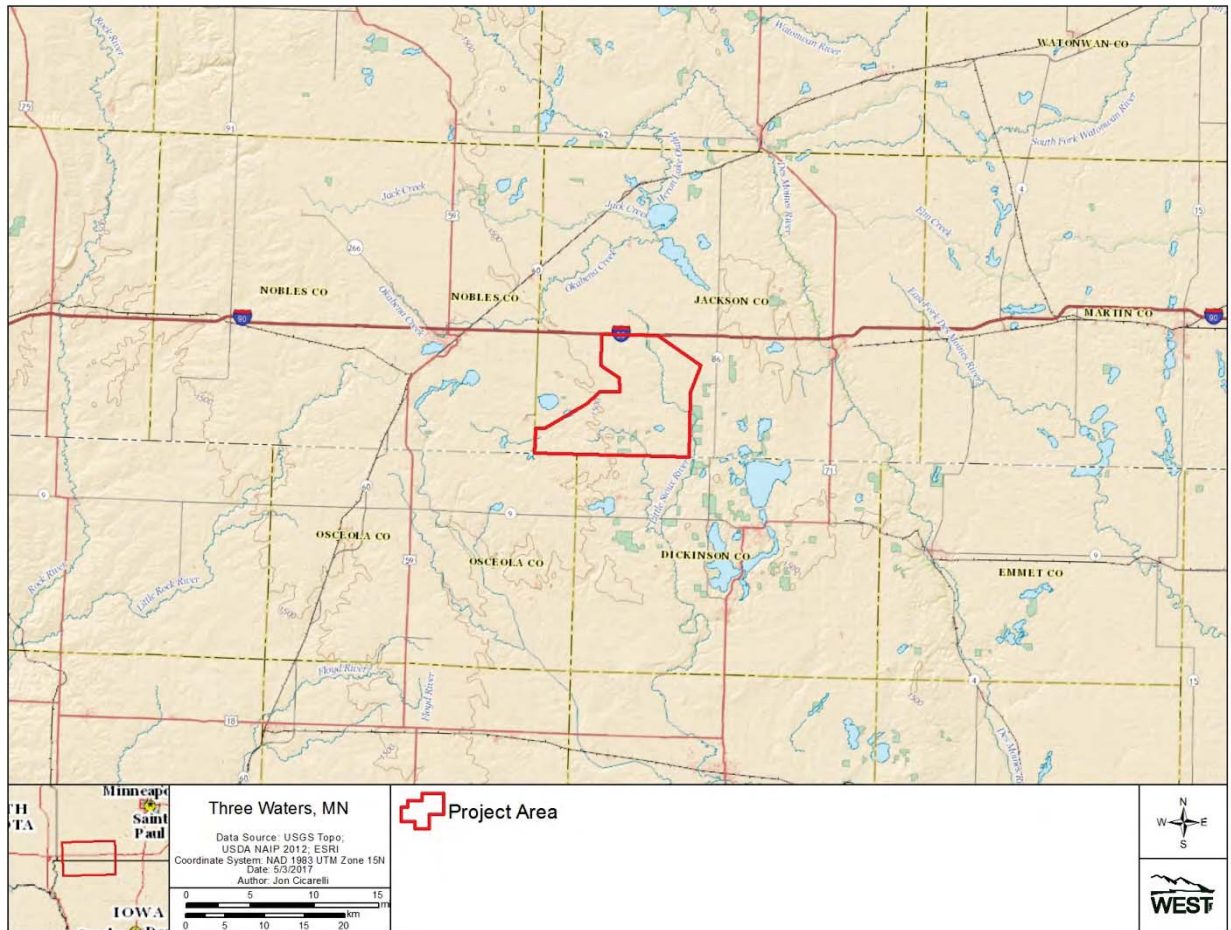


Figure 1. Location of the Three Waters Project area, in Jackson County, Minnesota.

Table 1. Land cover types, coverage, and percent composition within the Three Waters Wind Farm project boundary, Jackson County, Minnesota (Homer et al. 2015).

Land Cover	Acres	% Composition
Cultivated Crops	44,438	87.1
Developed, Open Space	2,140	4.2
Herbaceous	1,535	3.0
Emergent Herbaceous Wetlands	1,322	2.6
Open Water	531	1.0
Mixed Forest	383	0.8
Developed, Low Intensity	227	0.4
Hay/Pasture	190	0.4
Developed, Medium Intensity	81	0.2
Deciduous Forest	55	0.1
Shrub/Scrub	53	0.1
Woody Wetlands	22	<0.1
Barren Land	21	<0.1
Developed, High Intensity	7	<0.1
Total	51,005	100

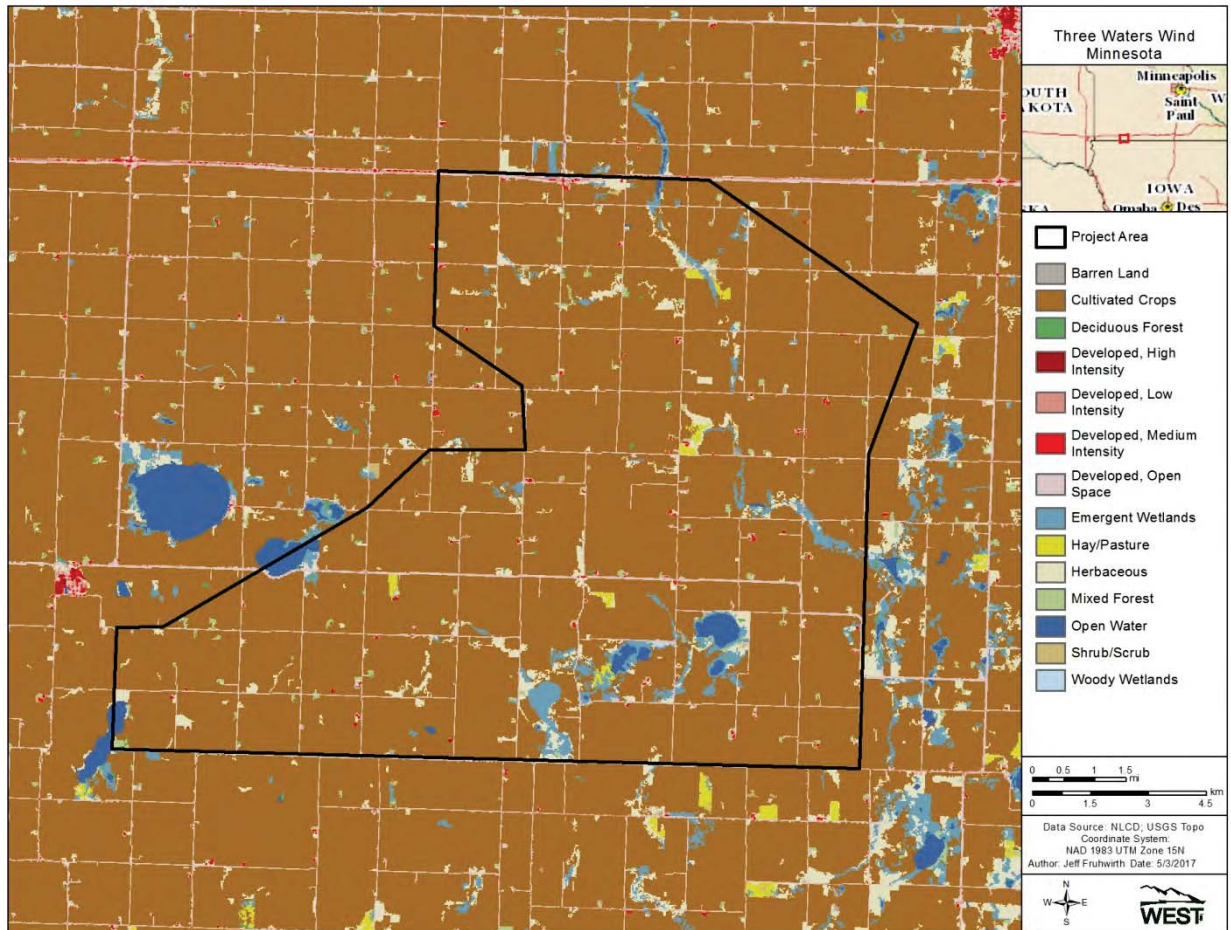


Figure 2. Land cover types near the Three Waters Project area, in Jackson County, Minnesota.

3 STUDY COMPONENTS AND METHODS

3.1 Vegetation and Sensitive Habitat Mapping

A survey of the Project area will be conducted to map the dominant land cover types and identify whether suitable habitat exists for federally or state-listed threatened or endangered species. Land cover types and potential habitat for sensitive species will be identified and delineated on maps using recent aerial imagery. A qualified biologist will conduct a vehicular ‘windshield’ survey along public roads to assess land cover and ecological features of the Project area. To assess areas not visible from public roads, permission to access private lands may be requested. The goal of the survey will be to obtain 100% visual coverage of the Project area.

3.2 Fixed-point Avian and Eagle Use Surveys

Fixed-point avian use surveys are recommended for characterizing levels of avian use at proposed wind energy sites (USFWS 2012, 2013). These surveys are designed according to the methods described in the ECPG (USFWS 2013). Additional data will be collected on all avian species to adhere to Minnesota Department of Natural Resources (DNR) guidelines. The primary objective of the fixed-point avian and eagle use surveys is to estimate abundance and land use by eagles, waterfowl, and other bird species within the Project area. Fixed-point avian and eagle use surveys will be conducted as two separate and concurrent survey efforts.

3.2.1 Fixed Point Eagle/Large Bird Use Surveys

WEST will conduct an avian and eagle use survey using point count methodology that is outlined within the USFWS *Land-Based Wind Energy Guidelines* (March 2012) and the *Eagle Conservation Plan Guidance* document (April 2013). The objective of the fixed-point avian use surveys will be to provide information regarding levels of use by birds, with a particular focus on bald eagles and other large bird species. The fixed-point avian use surveys consist of counts of bird use within circular plots around fixed observation points following methods similar to Reynolds et al. (1980).

The ECPG recommends that eagle/large bird survey plots cover 30% of the area within a 1-km buffer around proposed turbine locations (USFWS 2013). The current Project boundary encompasses 51,005 acres (20,641 ha). Survey plots are circular plots with a radius of 800 m centered on each survey point. Each plot covers an area of approximately 2 km². Eighteen survey plots were selected systematically along public roads within the Project area, providing over 30% coverage of the area within the current Project boundary. Points were separated by at least 1,600 m to avoid overlap of the 800-m plots.

The ECPG recommends that eagle/large bird point count surveys are a minimum of 60-minutes and conducted at least once per month (USFWS 2013). WEST has been conducting avian and eagle use surveys since March 2017 and will continue until February 2018, for a total of 216 survey hours of survey effort. Year two surveys will begin March 2018 and will continue until February 2019, following USFWS recommendations. Surveys will be conducted between sunrise and sunset and varied over the course of the year so that survey plots are not always surveyed at the same time of day.

During eagle/large bird point count surveys, biologists will focus on observing and recording eagles and other large birds. Estimated distance to each large bird observed will be recorded to the nearest five meters. Landmarks will be located to aid in estimating distances to each large bird. Biologists will record the date, start and end time of observation period, plot number, species (or best identification), number of individuals, sex and age class (if known), distance from plot center when first observed (m), closest distance (m), height above ground (m), activity, and habitat for each observation.

For bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) observations, additional data will be recorded during each 1-min interval the bird is within view, per the ECGP (USFWS 2013). Activity categories will include soaring flight, flapping-gliding, hunting/foraging, kiting/hovering, stooping/diving at prey, stooping/diving in an antagonistic context with other species, perched, being mobbed, undulating/territorial flight, auditory, and other. The initial flight patterns and habitat types will be recorded, along with subsequent activity patterns and habitats. The initial flight direction of observed birds will be recorded and a flight path will be mapped. Estimated flight height at first observation will be recorded to the nearest five meters, along with the approximate lowest and highest flight heights observed. Weather information recorded for each survey point will include temperature, wind speed, wind direction, precipitation, visibility, and cloud cover.

3.2.2 Fixed-point Small Bird Use Surveys

Prior to the start of each eagle/large bird point count survey, a separate 10-minute point count survey will be conducted for passerines and other small birds, to record patterns of abundance and habitat use within 100 m of each point count station. Information recorded for each observation will include: species, age, sex, number of individuals, initial distance from observer, closest distance to observer, activity, flight height, and habitat.