



# Memo

Date: April 9, 2018

Project: Prevailing Wind Park Project, Bon Homme, Charles Mix, Hutchinson, and Yankton Counties, South Dakota

To: Bridget Canty, sPower

From: Erika Eigenberger, M.A. (HDR)

Subject: Cultural Resources Desktop Review Summary

## Cultural Resources Desktop Review Summary

sPower (the Owners) proposes to construct, own and operate the Prevailing Wind Park Project (Project) in portions of Bon Homme, Charles Mix, Hutchinson, and Yankton counties, South Dakota (Figure 1). The Project includes a 200-megawatt (MW) wind farm, with associated turbines, collector lines, and access roads and an approximately 28-mile transmission line.

At this time, only a preliminary turbine array is available and the preferred layout for collector lines, access roads, and other auxiliary project components has not been finalized. Also, the specific location and width of the associated transmission line right-of-way has not been determined, nor has Western Area Power Administration (Western) defined an Area of Potential Effects. In order to adequately address resources that may be affected by Project components, a Study Area larger than the proposed Project was created to establish a context and determine site density. The Study Area is defined as a one-mile buffer surrounding the wind farm boundary and transmission line (Table 1 and Figure 1). The Study Area includes a small portion of Douglas County, although Project components will not be sited in this county. At this time, the Study Area is approximately 117,531 acres in size.

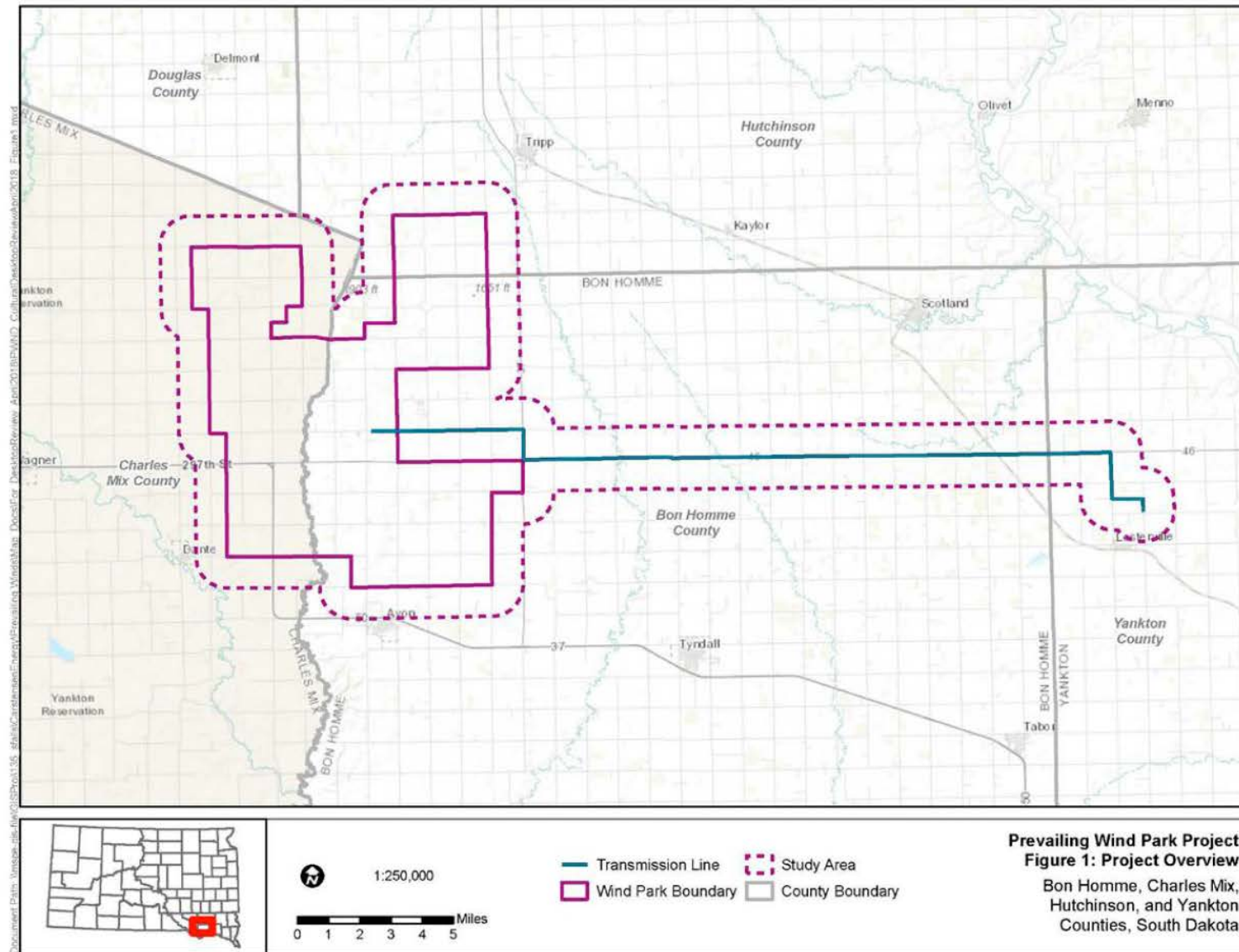
**Table 1. Study Area Legal Description**

County	Township	Range	Sections
Yankton	95N	57W	3–10, 15–17
Bon Homme	95N	58W	1–12
Bon Homme	95N	59W	1–12
Bon Homme	95N	60W	1–9, 12, 17–19, 30
Bon Homme Charles Mix	95N	61W	1–30, 32–33
Charles Mix	95N	62W	1–4, 9–16, 21–24
Yankton	96N	57W	31–33
Bon Homme	96N	58W	26–27, 31–36

County	Township	Range	Sections
<b>Bon Homme</b>	96N	59W	26–36
<b>Bon Homme</b>	96N	60W	5–7, 18–20, 25–36
<b>Bon Homme Charles Mix</b>	96N	61W	1–36
<b>Charles Mix</b>	96N	62W	1–5, 8–16, 20–29, 32–36
<b>Hutchinson</b>	97N	60W	18–20, 29–32
<b>Charles Mix Hutchinson</b>	97N	61W	13–16, 19–36
<b>Charles Mix Douglas</b>	97N	62W	21–29, 32–36

As part of the Project, HDR completed a Cultural Resources Desktop Review of the Study Area. The Cultural Resources Desktop Review included a review of files provided by the South Dakota Archaeological Research Center (SDARC), General Land Office (GLO) maps, and available aerial photographs. This information was used to develop a Geographic Information System-based (GIS-based) construction guidance grid (construction grid) (Figures 2.1 and 2.2). The purpose of the construction grid is to assist the Owners with siting facilities in areas that have a lower likelihood for containing intact cultural resources. The construction grid also identifies areas that have a higher likelihood for containing intact cultural resources eligible for listing on the National Register of Historic Places (NRHP), including Traditional Cultural Properties (TCPs).

The construction grid is designed to be used as a visual aid to assist the Owners in the Project siting process and is not intended to be used to identify cultural resource site locations. The construction grid does not guarantee that cultural resources will or will not be present or encountered in specific areas. Also, the Cultural Resources Desktop Review is a desktop exercise only. Findings during the review were not field verified via a windshield survey.



The construction grid is based on the Public Land Survey System (PLSS) quarter-section grid and uses variable data to assess the likelihood of encountering intact archaeological or TCP resources in an approximately 160-acre (40 by 40 acres) cell. The data used to create the construction grid is listed in Table 2. The cultural resources data used for the model was requested on March 30, 2018 and obtained from the SDARC on April 3, 2018. Aerial imagery and GLO maps were acquired from free and publically available sources (Table 2).

**Table 2. Construction Grid Variable Data**

Variable Data Type	Data Source	Description
<b>Archaeology Sites</b>	SDARC	Previously inventoried archaeological sites
<b>Historic Bridges</b>	SDARC	Previously inventoried historic bridges
<b>Historic Cemeteries</b>	SDARC	Previously inventoried historic cemeteries
<b>Historic Structures</b>	SDARC	Previously inventoried historic structures
<b>GLO Maps</b>	Bureau of Land Management (BLM)	1863, 1867, 1869, 1874, and 1875 GLO survey maps
<b>2016 NAIP Imagery</b>	US Department of Agriculture (USDA)	2016 aerial photographs
<b>2015–2017 Aerial Imagery</b>	ESRI	2015–2017 ESRI digital globe world imagery

A PLSS quarter-section layer was used as the base for the construction grid layout. Since a PLSS quarter-section dataset was not publicly available, one was created. This quarter-section dataset was created by clipping the PLSS section layer to the Study Area. The CustomGridTools.tbx script, available at ArcGIS Online, was then used to create intersecting polylines that split the PLSS sections into four equal quarter sections. Each quarter section was then assigned a unique identification based upon its position within the PLSS section (NE, NW, SE, or SW). Since the PLSS sections in this area of South Dakota are not equality partitioned into 640 acres (320 by 320 acres) the cells of quarter section grid used to create the construction grid are also not equally divided into 160 acre cells. Due to the variance in the PLSS system HDR selected to use vector data in the creation of the construction grid.

To create the construction grid, each quarter-section was assigned an alphanumeric attribute in the 'CODE' field (Table 3). The value of this attribute was assigned based on the presence or absence of previously identified cultural resources from the SDARC datasets, cultural features identified on GLO maps, and land use.

As a first step, quarter-sections with previously identified cultural resources were reviewed and assigned appropriate values by Erika Eigenberger (HDR Archaeology Project Director). It should be noted that certain previously identified cultural resources were assigned greater “weight” than others. Quarter-sections that contained previously identified archaeological sites were always coded as Red – Area of Caution, regardless of land use. Likewise, quarter-sections



containing previously identified cemeteries and structures were always coded as Yellow – Areas of Concern, regardless of land use. Previously identified bridges and certain GLO features were reviewed individually to determine the appropriate level of coding. As bridges link segments of roads (often section line roads), the presence of a previously identified bridge does not necessarily correlate to the likelihood of encountering additional cultural resources within the particular quarter-section. In addition, the presence of a previously identified bridge has no bearing on the type of land use that may be encountered. As such, quarter-sections that contained previously identified bridges were each reviewed and coded based on the predominant land use. Quarter-sections that contain previously identified bridges may potentially include Red – Areas of Caution, Yellow – Areas of Concern, and/or Green – Areas of Minimal Concern.

GLO features with varying codes include named features that would not be represented physically. For example, the “North Boundary of the Yankton Sioux Indian Reservation” is a noted GLO feature, however, this feature would not be physically encountered during survey. GLO features such as the “51st Mile Post” or the “Road from Yankton to Ft James” could potentially be encountered as a physical remnant. As such, quarter-sections containing GLO features were reviewed in a similar manner to previously identified bridges. These quarter-sections may potentially include Red – Areas of Caution, Yellow – Areas of Concern, and/or Green – Areas of Minimal Concern.

As a second step, quarter-sections without cultural attributes were reviewed jointly by Erika Eigenberger (Archaeology Project Director) and Stephen Sabatke (HDR Archaeology Project Manager). During this second step of the review, land use was the major factor taken into consideration. Quarter-sections with higher values of pasture/grassland were assigned higher cultural concern values as there is a greater chance of encountering intact cultural resources and/or TCPs within undisturbed land. Quarter-sections with higher values of cultivated land were assigned lower cultural concern values as there is a lower chance of encountering intact cultural resources and/or TCPs in areas disturbed by cultivation. Quarter-sections with higher values of wetlands and open water were assigned lower cultural concern values due to the higher percentage of the area covered by water. The second step of the review process was completed by referencing available aerial imagery from multiple sources, as noted in Table 2.

The model code attribute was assigned based on a “hierarchy of cultural concern” (Table 3). The hierarchy of cultural concern was established to assist the Owners in the interpretation of the level of cultural concern associated with the likelihood of encountering intact archaeological or TCP resources potentially present in a grid cell.

**Table 3. Construction Grid Codes and Descriptions**

Hierarchy of Cultural Concern	Model Code	Map Color	Description
<b>1</b>	1a	Red (Area of Caution)	Quarter section contains or intersects a previously identified Native American site or site of unknown cultural affiliation.
<b>2</b>	1b	Red (Area of Caution)	Quarter section contains or intersects a previously identified non-Native American, post-contact archaeological site.
<b>3</b>	1c	Red (Area of Caution)	Quarter section contains 75% or >75% pasture/grassland and therefore has a higher likelihood of containing intact cultural resources including TCPs.
<b>4</b>	2a	Yellow (Area of Concern)	Quarter section contains or intersects a SDARC inventoried structure, cemetery, or bridge*.
<b>5</b>	2b	Yellow (Area of Concern)	Quarter section contains or intersects a historic feature identified during desktop review of GLO* maps and aerial photographs.
<b>6</b>	2c	Yellow (Area of Concern)	Quarter section contains at least 25% pasture/grassland or >25% and <75% of pasture/grassland. These areas have a higher likelihood of containing intact cultural resources including TCPs.
<b>7</b>	3	Green (Area of Minimal Concern)	Quarter section contains at least 75% or >75% of cultivated land, wetlands, and/or open water. These areas contain a lower likelihood of containing intact cultural resources.

\*See discussion in the text above regarding how these resources were coded

## Conclusions

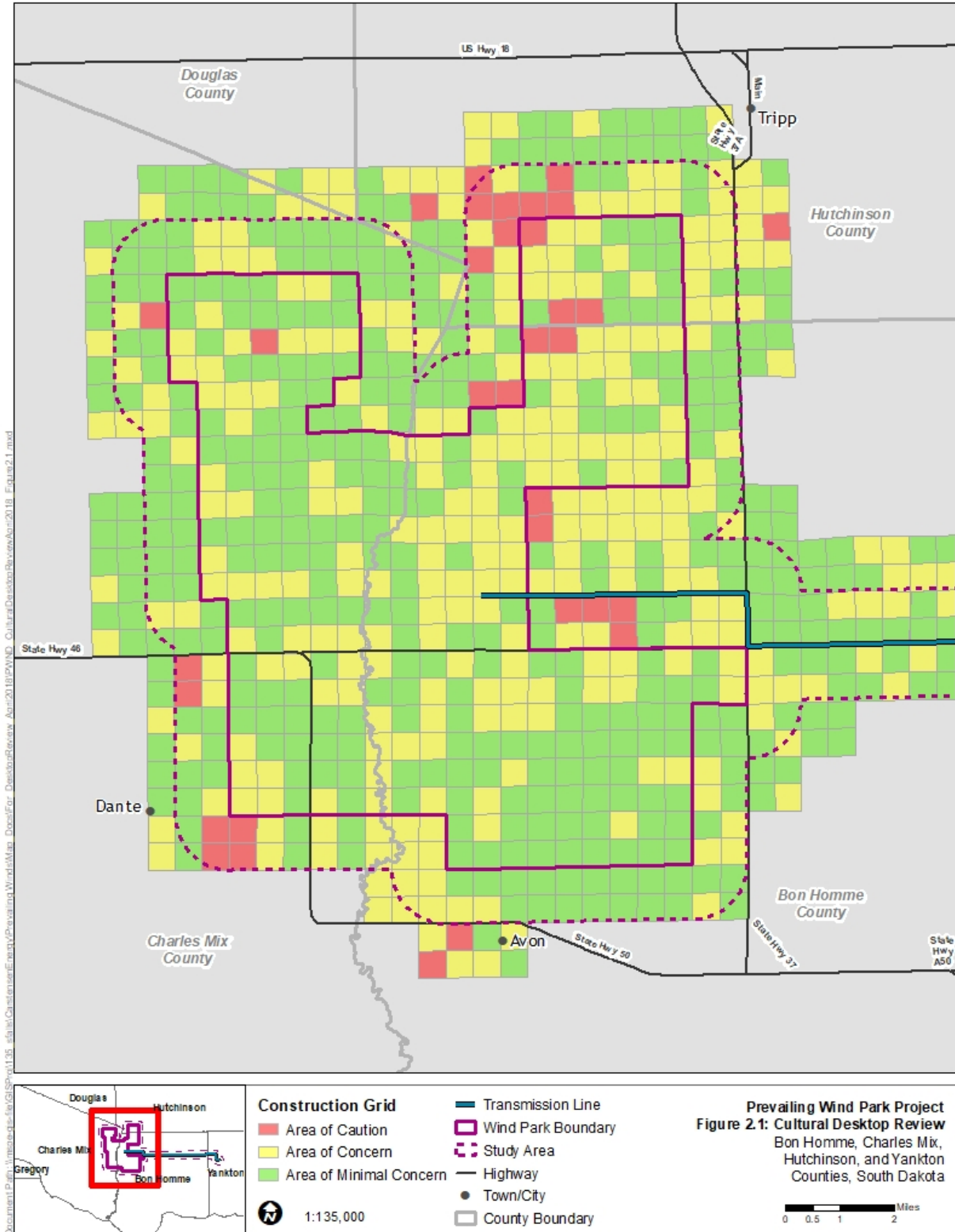
As part of the Project, HDR completed a Cultural Resources Desktop Review of the Study Area. The Cultural Resources Desktop Review included a review of files provided by SDARC, GLO maps, and available aerial photographs. This information was used to develop a construction grid to assist the Owners with siting facilities in areas that have a lower likelihood for containing intact cultural resources.

The Study Area includes 245 PLSS Sections and a PLSS quarter-section layer was used as the base for the construction grid layout. In total, 980 quarter-sections were reviewed and assigned an alphanumeric attribute based on the presence or absence of previously identified cultural resources from the SDARC datasets, cultural features identified on GLO maps, and land use. Of



the 980 quarter-sections, 41 were coded as Red (Area of Caution), 365 were coded as Yellow (Area of Concern), and 574 were coded as Green (Area of Minimal Concern).

The construction grid is designed to be used as a visual aid to assist the Owners in the Project siting process and is not intended to be used to identify cultural resource site locations. The construction grid does not guarantee that cultural resources will or will not be present or encountered in specific areas. Also, the Cultural Resources Desktop Review is a desktop exercise only. Findings during the review were not field verified via a windshield survey.





## References: Construction Grid Datasets

Below are the geospatial datasets used to determine the construction grid values listed in Table 3. All datasets are currently housed in the CulturalData\_2018 geodatabase: [\\mspe-gis-file\gisproj\135\\_sfalls\CarstensenEnergy\Prevailing Winds\Spatial\gdb\CulturalData\\_2018.gdb](\\mspe-gis-file\gisproj\135_sfalls\CarstensenEnergy\Prevailing Winds\Spatial\gdb\CulturalData_2018.gdb).

### ProjectArea\_20180328\_asPolygon

The *ProjectArea\_20180328\_asPolygon* dataset is the Project Area. The “Project Area” as provided by sPower is the anticipated extent of wind farm construction. The dataset only includes a wind farm boundary, it does not include individual wind farm components such as turbine locations, access roads, cabling, etc.

Source of data: This file was received from sPower on 03/28/2018.

### ProjectAreaTransmissionLine\_20180214

The *ProjectAreaTransmissionLine\_20180214* dataset is the proposed transmission line that is part of the overall Project.

Source of data: This file was received from sPower on 02/14/2018.

### StudyArea\_20180328

The *StudyArea\_20180328* dataset is the Study Area. The Study Area is a one-mile buffer surrounding the Project Area and the proposed transmission line.

Source of data: This file was created by HDR by adding a one-mile buffer to the *ProjectArea\_20180328\_asPolygon* dataset and the *ProjectAreaTransmissionLine\_20180214* dataset.

### SDARC\_Sites\_20180403

The *SDARC\_Sites\_20180403* dataset contains all of the previously SDARC inventoried archaeological sites within the Study Area.

Source of data: Dataset was provided by SDARC on 04/03/2018

### SDARC\_Structures\_20180403

The *SDARC\_Structures\_20180403* dataset contains all of the previously SDARC inventoried structures within the Study Area.

Source of data: Dataset was provided by SDARC on 04/03/2018

### SDARC\_Bridges\_20180403

The *SDARC\_Bridges\_20180403* dataset contains all of the previously SDARC inventoried bridges within the Study Area.

Source of data: Dataset was provided by SDARC on 04/03/2018

### SDARC\_Cemeteries\_20180403

The *SDARC\_Cemeteries\_20180403* dataset contains all of the previously SDARC inventoried cemeteries within the Study Area.





Source of data: Dataset was provided by SDARC on 04/03/2018

#### GLOFeature\_Line

The *GLOFeature\_Line* dataset contains all of the historic linear features identified within the Study Area during the desktop review of historic GLO maps by HDR Archaeology Project Director Erika Eigenberger.

Source of data: Dataset was created by reviewing historic GLO maps obtained from the USGS website (<http://www.glorerecords.blm.gov/search/>) in April 2018.

#### GLOFeature\_Point

The *GLOFeature\_Point* dataset contains all of the historic point features identified within the Study Area during the desktop review of historic GLO maps by HDR Archaeology Project Director Erika Eigenberger.

Source of data: Dataset was created by reviewing historic GLO maps obtained from the USGS website (<http://www.glorerecords.blm.gov/search/>) in April 2018.

#### StudyArea\_Sections\_April2018

The *StudyArea\_Sections\_April2018* dataset is the PLSS grid clipped to the Study Area.

Source of data: Dataset was created by clipping the PLSS layer for South Dakota to the Study Area.

#### StudyArea\_QuarterSections\_April2018

The *StudyArea\_QuarterSections\_April2018* dataset is the PLSS quarter section grid created for the Study Area.

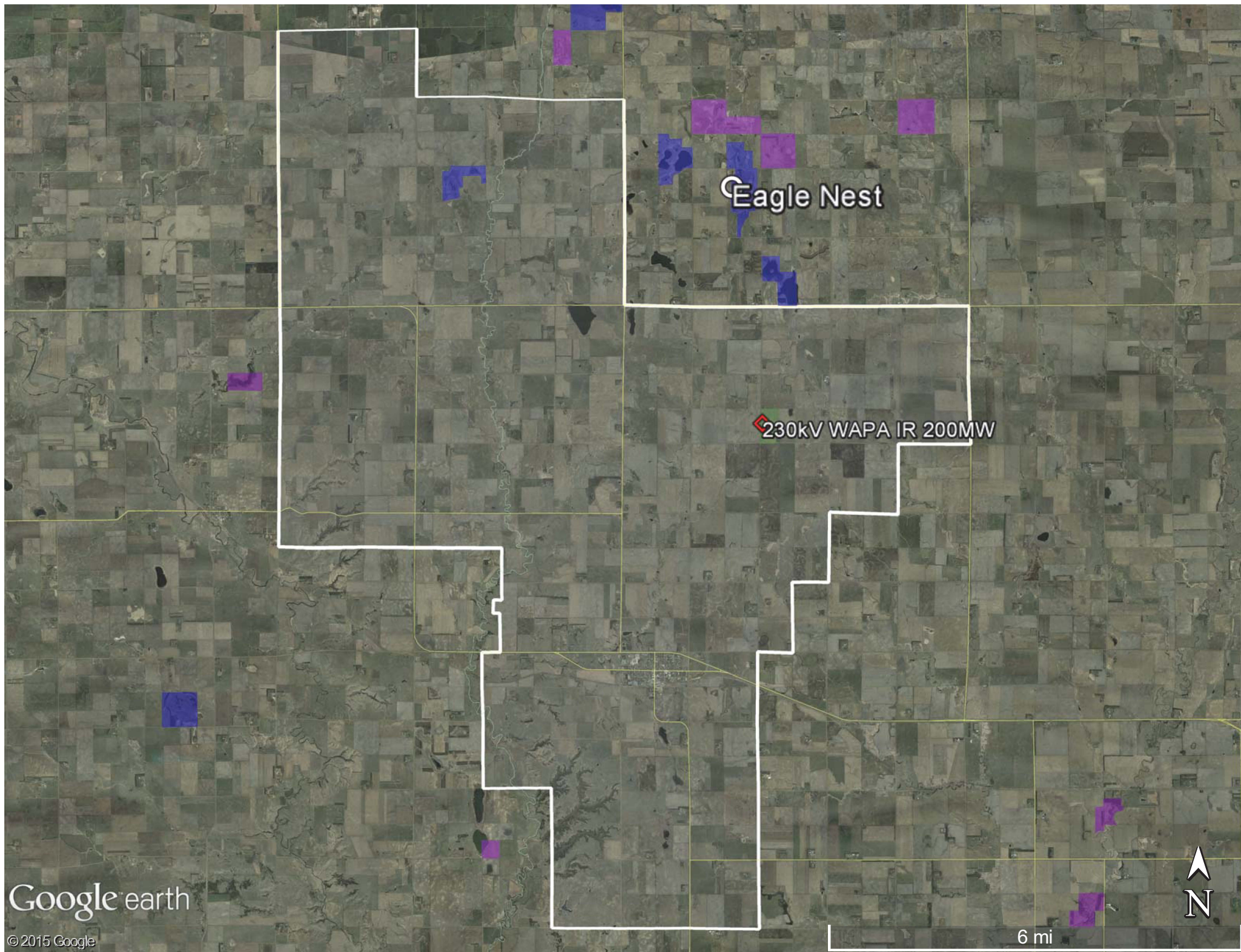
Source of data: Dataset was created by using the CustomGridTools.tbx script, available at ArcGIS Online. This tool was used to create intersecting polylines from the *StudyArea\_Sections\_April2018* dataset. The *StudyArea\_Sections\_April2018* dataset was divided into four quarter sections (each one-mile by one-mile section was divided into four, quarter sections).

#### ConstructionGrid\_April2018

The *ConstructionGrid\_April2018* is the Construction Grid created for the Study Area. Values are color-coded as red, yellow, and green depending on the value assigned as described in the document above.

*Source of Data:* Dataset was created by HDR Archaeology Project Director Erika Eigenberger and HDR Archaeology Project Manager Stephen Sabatke.

## **USFWS and SDGFP**



Google earth

© 2015 Google

Eagle Nest

230kV WAPA IR 200MW

6 mi

001037

**From:** Kempema, Silka  
**To:** [Derby, Clayton](#); [Gates, Natalie](#); [Roland Jurgens](#)  
**Subject:** BBA block in Prevailing Winds project boundary  
**Date:** Monday, April 6, 2015 11:16:20 AM  
**Attachments:** [BBA2 Avon Twnship data.xlsx](#)

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Hi all,

I have attached the tentative list of breeding birds found in block 2R0200 of the second SD Breeding Bird Atlas project. I say tentative, because the project has not been finished-big undertaking. Link to the website <http://www.rmbo.org/SDBBA2/>; definition of status codes is in the atlas handbook on page 15 (appendix 2).

Silka L. F. Kempema | Wildlife Biologist  
South Dakota Dept. of Game, Fish and Parks  
523 East Capitol Ave | Pierre, SD 57501  
605.773.2742 | <http://gfp.sd.gov>



**From:** Clayton Derby  
**To:** [Natalie Gates](#)  
**Cc:** [Roland Jurgens](#); [Hanebury, Lou](#)  
**Subject:** Bat survey plan  
**Date:** Tuesday, June 23, 2015 12:15:18 PM  
**Attachments:** [Prevailing Winds Bat Acoustic Study Plan.pdf](#)

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Hello Natalie

Attached please find a written acoustic bat survey plan for the Prevailing Winds site. Recall this was the project in which Roland and I visited you at your office earlier this year.

It is a standard effort to implement the NLEB survey guidelines (2 detector locations for every 123 acres of woodland within the project boundary). Right now we are only looking at the acoustic end of things so no netting or handling under our current permit.

We plan to implement the acoustic efforts starting in the next couple of weeks so let me know if you have any issues.

Thanks  
Clayton

**Clayton Derby**  
**Senior Manager / Wildlife Biologist**



Environmental & Statistical Consultants  
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Bismarck, ND 58503  
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## **Prevailing Winds, Site Visit Agenda – 07/14/2016**

1. 9:15 - Meet at Casey's in Wagner
2. 9:30 - Leave Wagner
3. 9:30-10:15 Prevailing Wind (Northwest Area POIs)
  - a. 2016 Bat Survey (PW1, PW2)
  - b. Juran WPA
  - c. Potential Grassland Turbine (12p,36h,37h)
  - d. Out of 87 turbines, 11 are in pasture and hay land
4. 10:15-10:50 Prevailing Wind (Southwest Area POIs)
  - a. 2015-PW09a (299th Street, 2016-PW5)
  - b. 2016 Bat Survey (PW5, PW6, PW7)
  - c. Potential Grassland Turbine (49h,71p)
5. 10:50-11:30 2015 Bat Survey (South of Avon)
  - a. 2015 PW13
  - b. Wooded ravines (view from Stone House Road)
6. 11:30-12:20 Lunch (Toslma Cove in Avon)
7. 12:20-1:00 Prevailing Wind (Southeast Area POIs)
  - a. 2016 Bat Survey (PW8, PW4)
  - b. Schaefer WPA
  - c. Potential Grassland Turbine (75h,84p,87p)
8. 1:00-1:45 Prevailing Wind (Northeast Area POIs)
  - a. 2016 Bat Survey (PW3)
  - b. SDGFP GPA
  - c. Potential Grassland Turbine (26p,31h,32p)
9. 1:45-2:30 Beethoven tour
10. 2:30-3:00 Eagle nest visit
11. 3:15 - Return to Wagner

### **Exhibits:**

Site Maps

2015 Bat Survey Report

2016 Raptor Nest Survey



**From:** Gates, Natalie  
**To:** [Roland Jurgens](#); [Clayton Derby](#); [Michael Bryant](#); [Kempema, Silka](#)  
**Subject:** Re: Prevailing Winds - 2015 & 2016 bat detector locations  
**Date:** Friday, July 15, 2016 12:33:32 PM  
**Attachments:** [image001.jpg](#)

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Hey Roland, thank you for the files and the tour - it was very helpful to see things firsthand!

Thanks to you too, Clayton for driving way down there and please tell Donald again that I appreciated his time & the lesson on the bat stuff. Very cool. (I hope he's recovered from that double cheeseburger, but I suspect it could still take awhile....).

So, there definitely are varying quality of grassland/wetland habitats at the Prevailing Winds site, but as you know, even the sub-optimal areas provide some refuge for wildlife so our top recommendation is always avoidance.

As I mentioned yesterday, if complete avoidance of grasslands isn't possible, it'd be good to offset the impacts to grassland birds - some species will avoid turbines out to 300m. This is not a requirement, and doesn't address mortality of migratory birds under MBTA (we currently have no incidental take permit for that), but does help mitigate the issue of long-term habitat loss.

Hopefully with the ever-changing, fast-paced technology you described, you'll be able to take a few more turbines off the table (next week??)? It'd be great if you could prioritize removal of those grassland sites from the layout.

I don't think we talked much about golden eagles yesterday (none observed yet, right?), but golden eagle use along the Missouri River has come to my attention lately. They typically nest in western SD, and bald eagles are more of a concern along the MO river and eastward, but since Prevailing winds is close to the river, golden eagles might show up in the winter/spring too. They generally seem more susceptible to turbine collision mortality than bald eagles. You've obviously got bald eagle nests/roosts in the project vicinity to worry about, but golden eagles aren't necessarily out of the picture. Something to keep in mind.

The changes you've made so far (particularly pulling out of that southern portion of the project area due to NLEB detections/habitat considerations) have likely reduced risk to wildlife at Prevailing Winds. To me, that's the primary intention of our guidelines - to actually use the wildlife and habitat data collection in your development decisions, as opposed to just gathering information so boxes can be checked off. That's definitely been helpful, and I personally appreciate the willingness to make those changes. Thank you.

-Natalie

*Natalie Gates, U.S. Fish and Wildlife Service  
Ecological Services South Dakota Field Office  
420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501  
Phone: 605-224-8693, Ext. 227; Fax: 605-224-9974  
<http://www.fws.gov/southdakotafieldoffice/>*

On Fri, Jul 15, 2016 at 12:46 PM, Roland Jurgens <[rjurgens@thorstadcompanies.com](mailto:rjurgens@thorstadcompanies.com)> wrote:

Natalie and Silka, attached are Google Earth files for the 2015 & 2016 bat detector locations

and the current project boundary. Just encase you wanted to look at where the detector were placed. FYI, the locations of 2016 points may change slightly after we get the field notes from Donald. Let me know if you have any questions.

Thanks for coming out to see the project and hope everyone had a safe drive home, I am kind-of missing the Yukon!

Best Regards

Roland Jurgens III

Project Manager



## **THORSTAD COMPANIES**

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**From:** Kristen Nasman  
**To:** [natalie\\_gates@fws.gov](mailto:natalie_gates@fws.gov); [Clayton Derby](#); [Korina Cassidy](#); [silka.kempema@state.sd.us](mailto:silka.kempema@state.sd.us); [leslie.murphy@state.sd.us](mailto:leslie.murphy@state.sd.us); [Bridget Canty](#)  
**Subject:** Prevailing Winds Meeting  
**Date:** Wednesday, December 13, 2017 6:16:01 AM  
**Attachments:** [Prevailing Winds Data Summaries 13 December 2017.pptx](#)

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Hi All,

Attached is a powerpoint that will help guide part of our discussion this morning.

Talk to you all soon.

Best,  
Kristen

**Kristen Nasman**  
**Research Biometrician**



Western Ecosystems Technology, Inc.  
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307-631-4746  
[knasman@west-inc.com](mailto:knasman@west-inc.com)  
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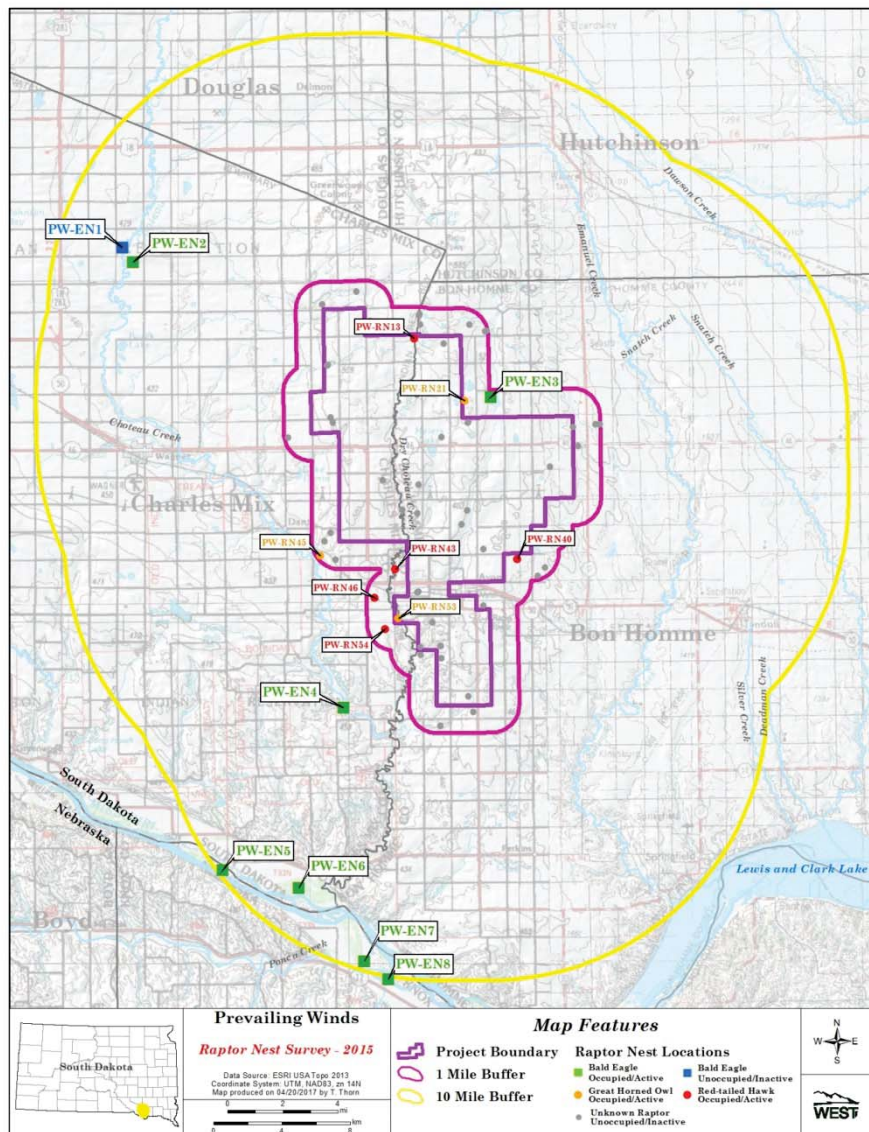
# Prevailing Winds Avian Use Data Summary

13 December 2017

## Tier 3 – Raptor Nest Surveys

- Aerial raptor nest surveys completed in 2015 and 2016.
- All raptor nests recorded within the Project boundary both years and within 1-mile buffer of the Project in 2015
- Eagle nest locations recorded within a 10-mile buffer in both 2015 and 2016

# Tier 3 – Raptor Nest Surveys

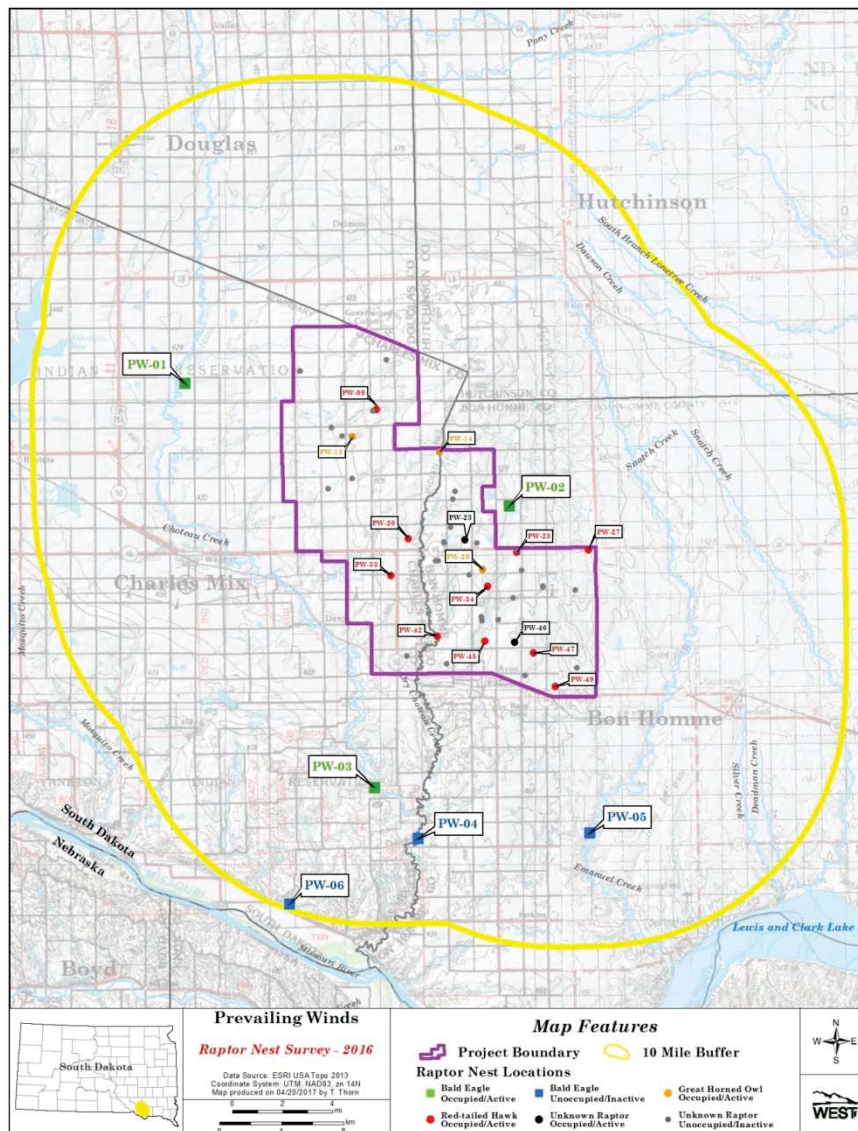


## 2015 Nest Survey

- Within the Project there was one active great horned owl and one active red-tailed hawk nest along with 28 other unoccupied raptor nests
- For bald eagles, no occupied nests located within the Project, 6 occupied nests within 10 mile buffer (approximately 792 square mile area). One nest was a known nest location within 1 mile of Project.
- Most bald eagle nests along the Missouri River to the south



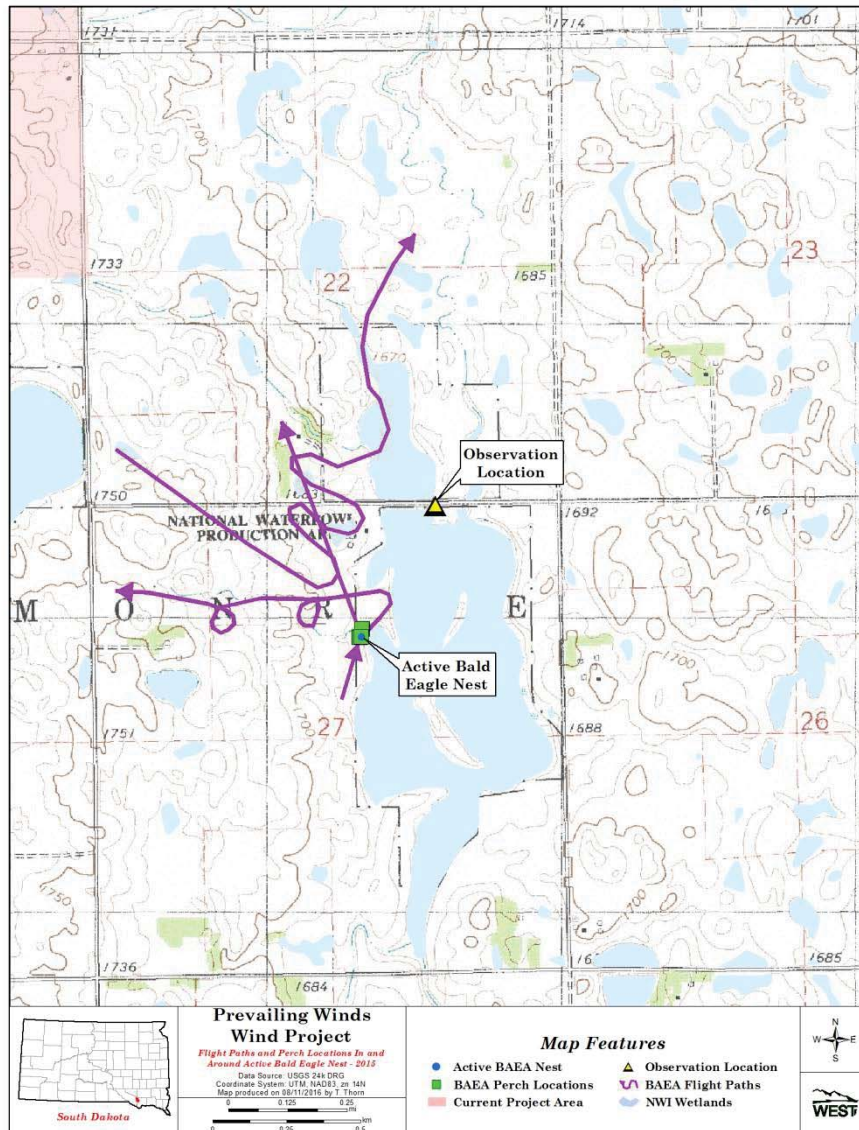
# Tier 3 – Raptor Nest Surveys



## ■ 2016 Nest Survey

- Within the Project there were 3 occupied great horned owl nests; 10 occupied red-tailed hawk nests; 2 unknown occupied, and 29 unoccupied.
- No bald eagle nests within the Project. A total of 3 occupied bald eagle nests and 3 unoccupied. Occupied nests were previously known nest locations from SDGFP and/or 2015 surveys

# Eagle Nest Monitoring

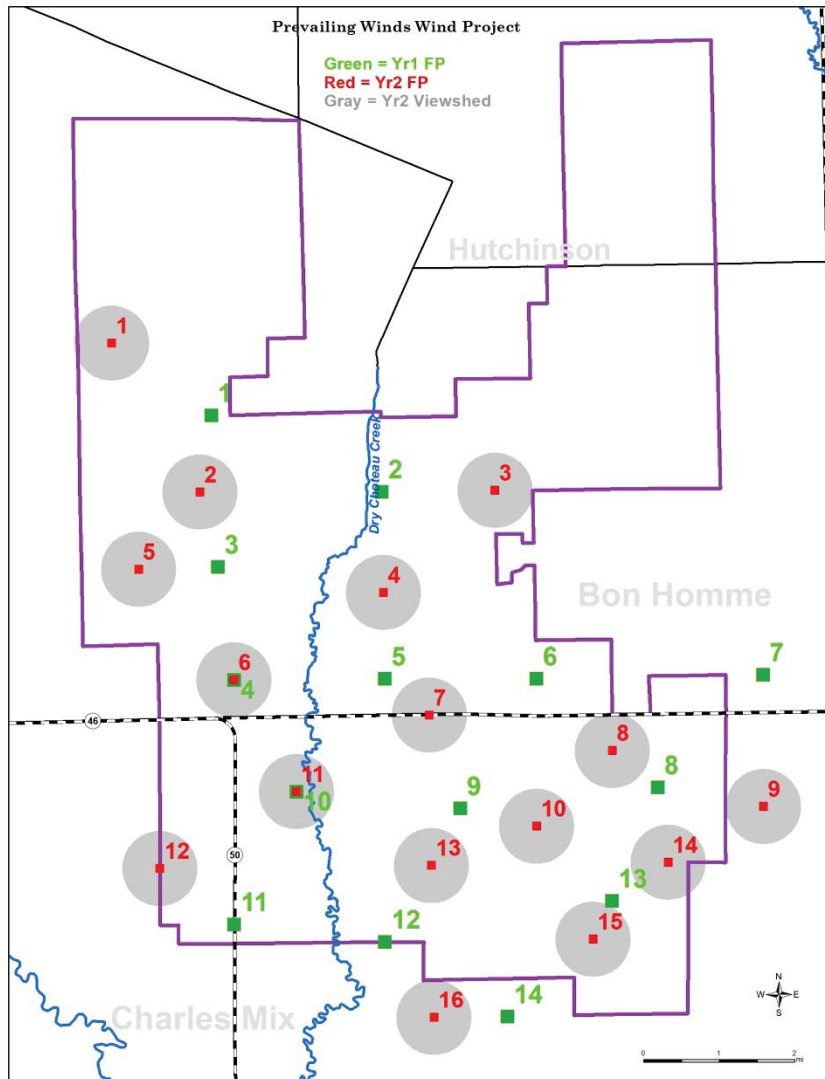


- 2015 data presented
- Observer watched eagle nest for one hour each time on site for use surveys
- Limited flight paths recorded, most observations of adults perched in trees
- Flight paths in variable directions.
- Only one eagle observed in 2016 after mid-July

# Eagle/Avian Use Monitoring

- Year 1: Surveys from March 25, 2015 to February 21, 2016
  - 16 point count locations
  - 60-minutes at each point twice per month in spring and fall, monthly in summer and winter
- Year 2: Surveys from May 3, 2016 to April 19, 2017
  - 16 point count locations
  - 60-minutes at each point once per month
- All birds for first 20-minutes, eagles and listed species last 40 minutes

# Eagle/Avian Use Monitoring



- Year 1: 271 hours of survey
- Year 2: 205 hours of survey

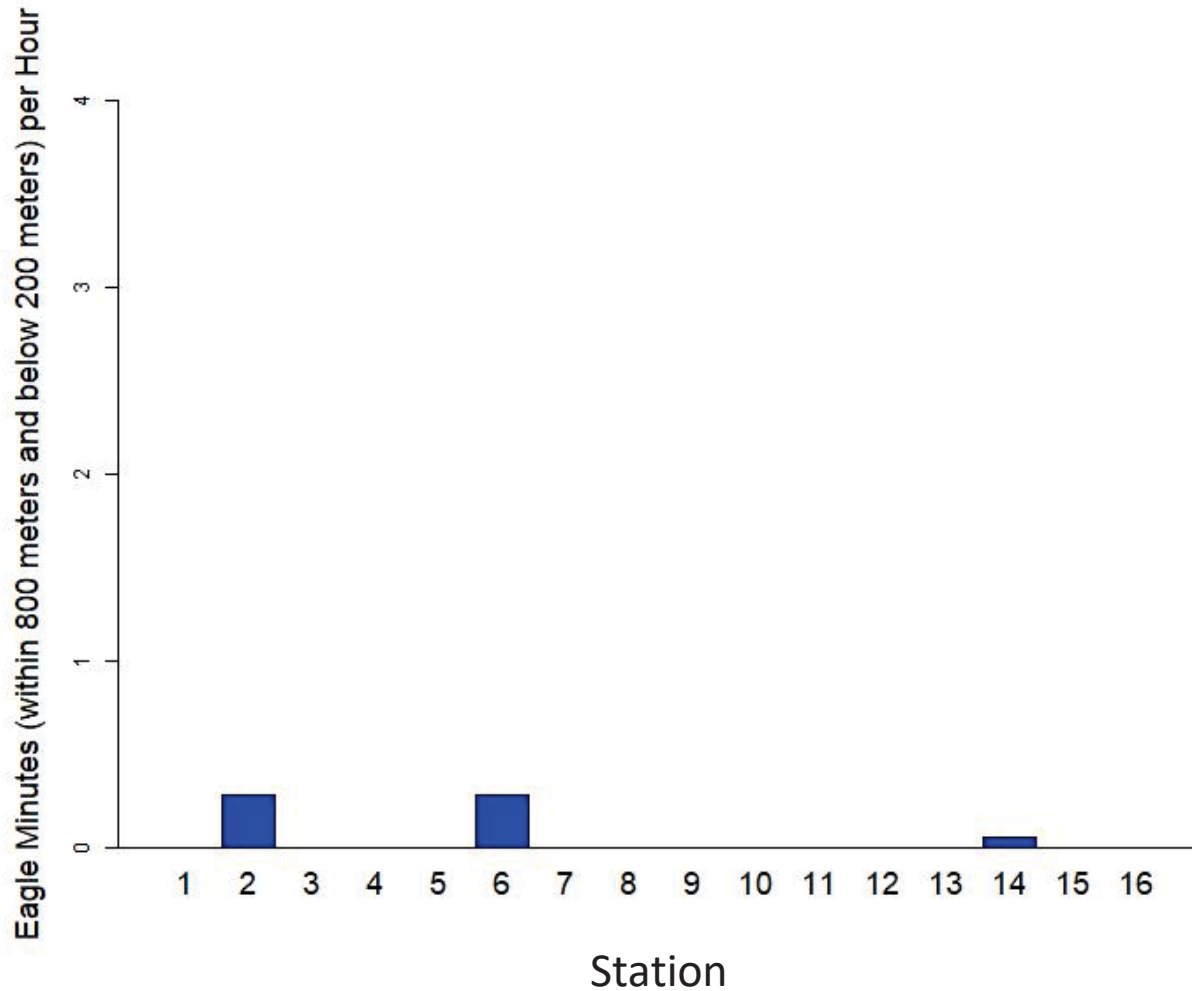


# Eagle/Avian Use Monitoring – Year 1: 2015 - 2016

- 72 species recorded. The most common species included Canada geese, European starlings, Franklin's gulls, horned larks, red-winged blackbirds, snow geese, and sandhill cranes.
- 4 bald eagles observations
  - 11 bald eagle-minutes within 800 meters and flying below 200 meters

Season	Spring	Summer	Fall	Winter
Number of Surveys	63	77	78	53
Number of Bald Eagles Observations	0	1	2	1
Number of Bald Eagle Minutes (within 800 meters and flying below 200 m)	0	5	5	1

# Eagle/Avian Use Monitoring – Year 1: 2015 - 2016



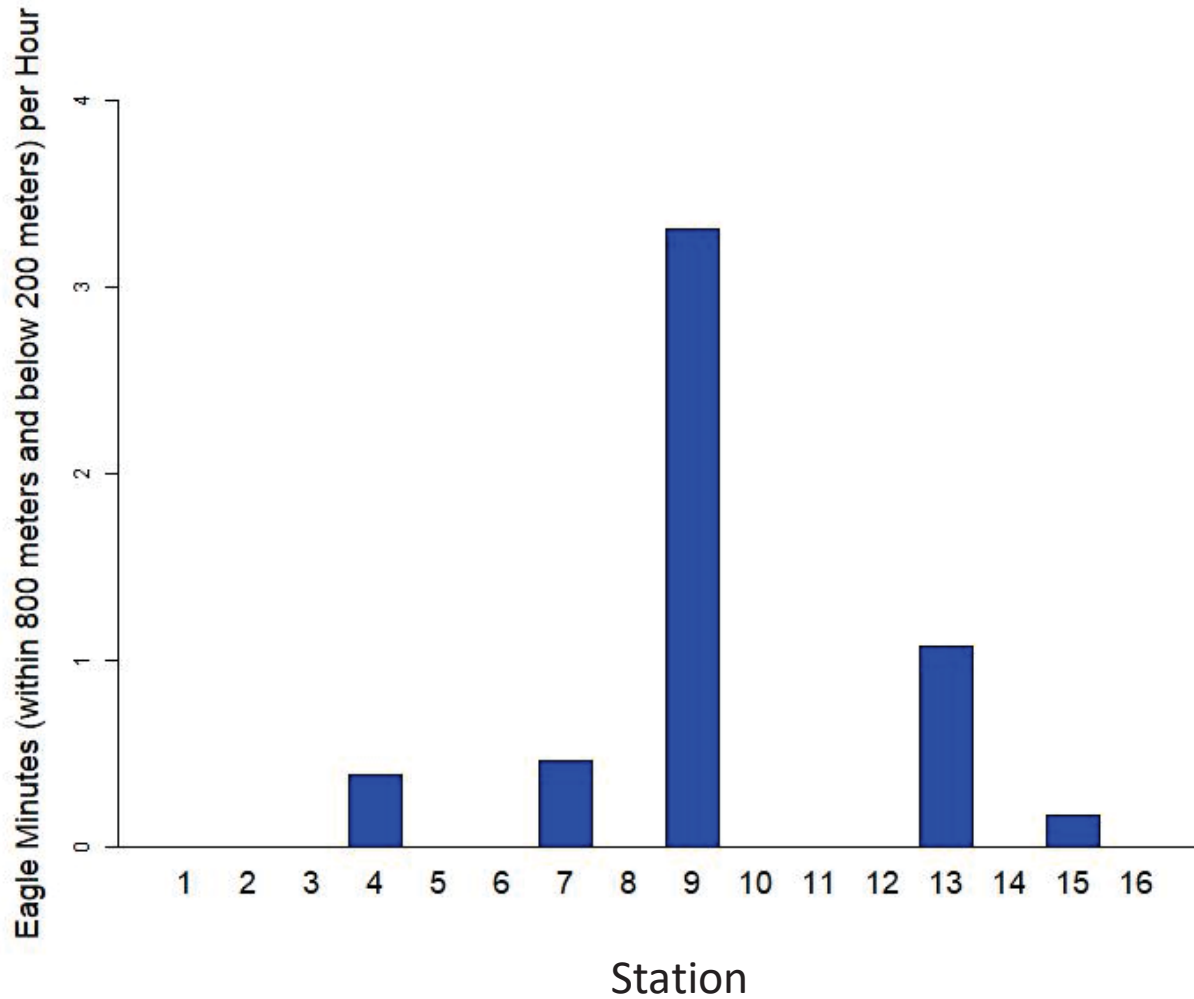


# Eagle/Avian Use Monitoring – Year 2: 2016 – 2017

- 90 species recorded. The most common species included Canada geese, common grackle, European starlings, greater white-fronted geese, red-winged blackbirds, snow geese, and sandhill cranes.
- 20 bald eagles observations
  - 70 bald eagle-minutes within 800 meters and flying below 200 meters
- 1 unidentified eagle observation (likely bald eagle) in fall
  - 8 unidentified eagle-minutes within 800 meters and flying below 200 meters

Season	Spring	Summer	Fall	Winter
Number of Surveys	47	63	47	48
Number of Bald Eagles Observations	14	2	1	3
Number of Bald Eagle Minutes (within 800 meters and flying below 200 m)	45	6	5	14

# Eagle/Avian Use Monitoring – Year 2: 2016 – 2017

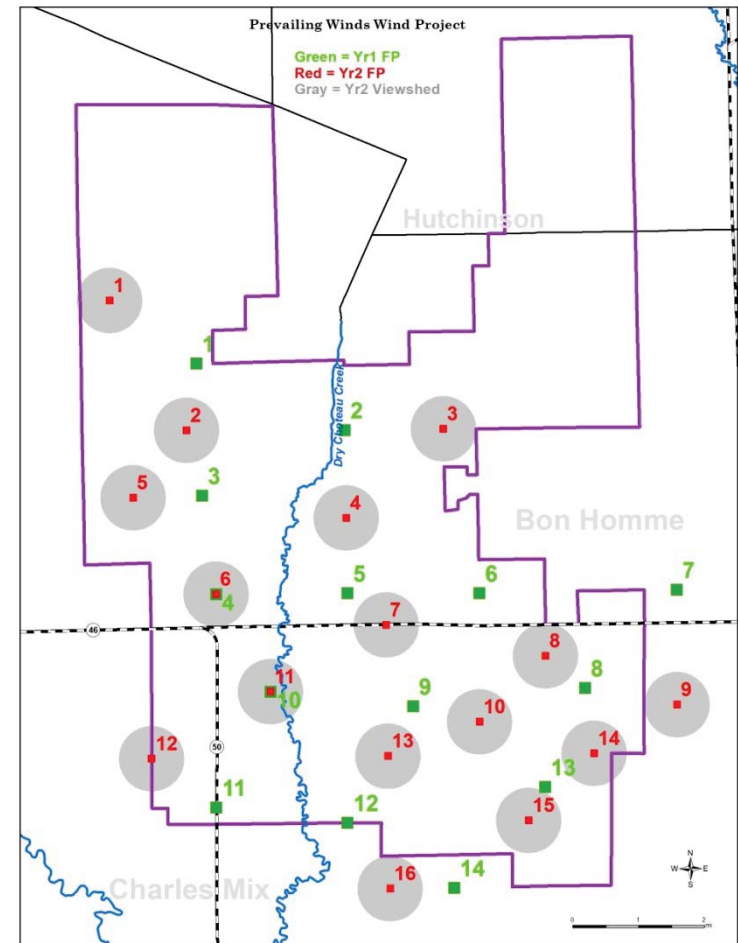
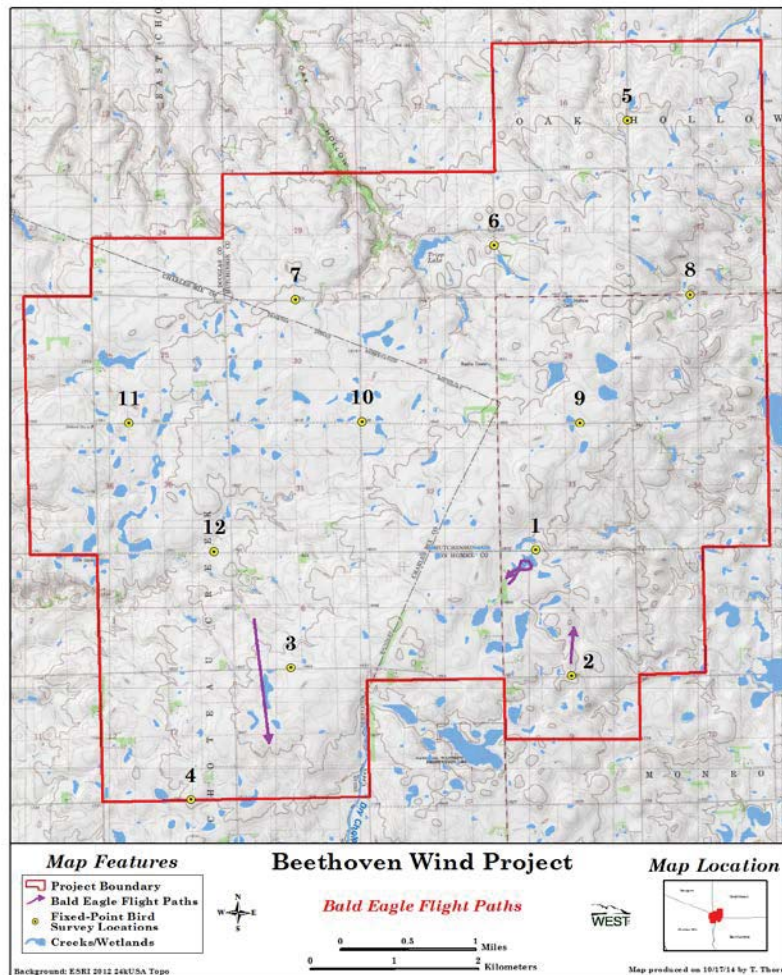


# Beethoven Wind Project - Eagle/Avian Use Monitoring

- Beethoven Wind Project is adjacent to the Prevailing Winds Wind Project
- Surveys from September 3, 2013 to August 8, 2014
  - 12 point count locations
  - 60-minutes at each point weekly in spring and fall, twice per month in summer and winter
- All birds for first 20-minutes, eagles and listed species last 40 minutes

# Beethoven Wind Project - Eagle/Avian Use Monitoring

- 387 hours of survey

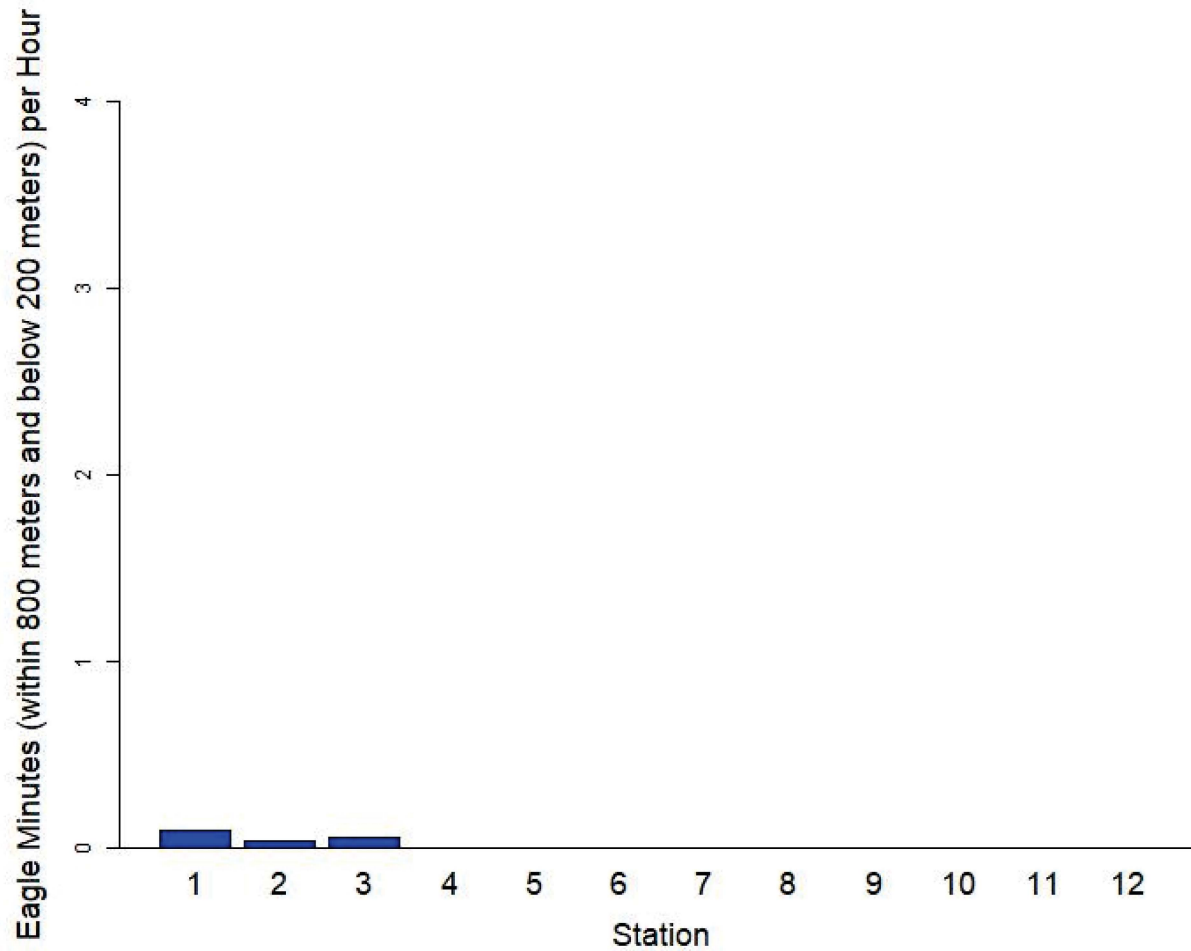


# Beethoven Wind Project - Eagle/Avian Use Monitoring

- 68 species recorded. The most common species included western meadowlark, red-winged blackbird, brown-headed cowbird, mourning dove, and barn swallow.
- 3 bald eagles observations
  - 6 bald eagle-minutes within 800 meters and flying below 200 meters

Season	Spring	Summer	Fall	Winter
Number of Surveys	103	67	123	94
Number of Bald Eagles Observations	2	0	1	0
Number of Bald Eagle Minutes (within 800 meters and flying below 200 m)	4	0	2	0

# Beethoven Wind Project - Eagle/Avian Use Monitoring





[www.west-inc.com](http://www.west-inc.com)



**From:** Gates, Natalie  
**To:** [Bridget Canty](#); [Korina Cassidy](#)  
**Cc:** [Clayton Derby](#); [Leslie Murphy](#); [Michael Bryant](#)  
**Subject:** Papers and Powerpoints on avian avoidance - Prevailing Winds Project  
**Date:** Wednesday, December 13, 2017 9:29:43 AM  
**Attachments:** [Loesch et al 2013 - wind and breeding waterfowl densities in prairie potholes.pdf](#)  
[Loesch et al powerpoint on 2013 pub - compensation for duck avoidance of turbines Sept 2017.ppt](#)  
[Shaffer and Buhl 2016 - effects of wind energy on grassland birds.pdf](#)  
[Shaffer Buhl MethodforEstimatingImpact.9.14.2017.ppt](#)

---

Hi Everyone,

As promised at our meeting this morning, I've attached two papers and two powerpoints regarding indirect (avoidance) impacts to birds at wind energy facilities. After all avoidance and minimization efforts have been made, we recommend compensating for loss of avian habitat that may occur due to avoidance behavior. Some wind companies to date have provided funding for easements to protect grasslands/wetlands, but other options (e.g. habitat restoration) could be pursued as well. We can talk more about this as the project progresses.

Please do coordinate with Mike Bryant at Lake Andes regarding whether the indirect area of impact surrounding turbines may include easement lands.

Thank you,

-Natalie

*Natalie Gates, U.S. Fish and Wildlife Service  
Ecological Services South Dakota Field Office  
420 South Garfield Avenue, Suite 400  
Pierre, South Dakota 57501  
Phone: 605-224-8693, Ext. 227; Fax: 605-224-9974  
<http://www.fws.gov/southdakotafieldoffice/>*

**From:** Gates, Natalie  
**To:** [Bridget Canty](#)  
**Subject:** Re: [EXTERNAL] Prevailing Wind Park - rare plants  
**Date:** Friday, March 30, 2018 9:32:07 AM

---

That sounds like a good plan, Bridget, thank you. The orchid hasn't been found in SD in a long time, but we have not formally determined that the species has been extirpated from SD. The orchid has been located in ND, MN, and NE (so we're nearly surrounded by states that still have it) and it is possible the plant persists in some unsurveyed sites in SD.

-Natalie

*Natalie Gates / U.S. Fish and Wildlife Service / Ecological Services South Dakota Field Office  
420 South Garfield Avenue, Suite 400 / Pierre, South Dakota 57501  
Phone: 605-224-8693, Ext. 227 / Fax: 605-224-9974 or 605-224-1416  
<http://www.fws.gov/southdakotafieldoffice/>*

On Tue, Mar 27, 2018 at 4:50 PM, Bridget Canty <[bcanty@spower.com](mailto:bcanty@spower.com)> wrote:

Hi Natalie,

In reviewing the updated iPaC search, I noticed that western prairie fringed orchid turned up in the Hutchinson County portion of the project. Further googling indicates that this species is believed extirpated from SD. I've asked the wetland delineation crew to look for suitable habitat for this species when they conduct the delineation in late April/early May. If suitable habitat is present, we would conduct a field survey during the species bloom time. Could you please advise me on whether this approach would meet the Service's expectations under the ESA.

Regards,

**Bridget Canty | Permitting Project Manager**

M: 831.430.6326

[201 Mission Street, Suite 540](#)

[San Francisco, CA 94105](#)



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message and attachments.

**From:** Bryant, Michael  
**To:** [Bridget Canty](#)  
**Cc:** [Mick Hanan](#)  
**Subject:** Re: Prevailing Wind Park - USFWS easements  
**Date:** Tuesday, January 23, 2018 12:16:24 PM  
**Attachments:** [FWS FmHA Protected Wetlands for Prevailing Winds.pdf](#)  
[FWS Protected Wetlands for Prevailing Winds.pdf](#)

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Hi Bridget,

I've attached two maps showing the protected wetlands within the two areas depicted on the map you sent me. Please keep in mind that Waterfowl Production Areas (including the one adjacent to the wet easements) will need to be avoided entirely. I'm checking to see if there are recommendations for setbacks from wetlands and will let you know what I find out. To avoid bird strikes, it would be wise to avoid being too close to wetlands; especially larger and more permanent wetlands. I've included language that goes along with both maps below:

The Service has purchased and owns perpetual rights which restrict or prohibit the right to drain, burn, level or fill any wetland basin depicted on the attached map. This map represents the Service's effort to depict the approximate location, size and shape of all protected wetlands based on information, maps and aerial photographs available at the time this map was prepared. This map is not meant to depict water levels in the wetland in any given year. The Service reserves the right to correct this map provided the mapped acreage remains consistent with the Easement's Summary Acres.

Although the wetlands depicted on the map are the only wetlands protected under the wetland easement contract, other wetlands existing on your property not depicted on the map may be protected by other means. It is important that you contact the appropriate agency before doing any work around a wetland or if you have any questions.

The water levels of these wetlands naturally increase and decrease depending on the natural water cycle.

In summary there are three points to remember about this wetland easement map:

1. The map does not and is not intended to provide the exact size or configuration of the wetlands protected by the provisions of the easement.

2. The US Fish and Wildlife Service only protects the wetlands depicted in the map. However, other wetlands that may exist, but are not depicted in the map, may be protected by other means.

3. Any burning, draining, filling or leveling of wetlands depicted on the wetland easement map without a permit issued by the Service is a violation of the provisions of the easement.

On Thu, Jan 18, 2018 at 11:50 AM, Bridget Canty <[bcanty@spower.com](mailto:bcanty@spower.com)> wrote:

Hi Mike,

Following up on the message I left for you the other day, attached is a map depicting the USFWS easements that I'd like to discuss with you in relation to setbacks. Would you have time today to discuss?

**Bridget Canty | Permitting Project Manager**

O: 415.496.4913

M: 831.430.6326

201 Mission Street, Suite 540

San Francisco, CA 94105



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*Mike*

**Mike Bryant  
Project Leader  
Lake Andes National Wildlife Refuge Complex  
South Dakota  
(605) 487-7603**

**From:** Gates, Natalie  
**To:** [Bridget Canty](#)  
**Subject:** Re: Prevailing Wind Park Project - grasslands  
**Date:** Thursday, March 15, 2018 11:32:07 AM

---

Hi Bridget, I apologize for the delayed response - catching up on emails today. I'm here for only about another hour, in tomorrow (Fri) in the morning only.

Might next week work? Best times for me are usually in the am, between 8:30 and noon. Yep, would be good to invite Leslie as well as Silka Kempema from GFP. If you'll be on/near easements, would be good to invite USFWS staff at Lake Andes as well.

-Natalie

*Natalie Gates / U.S. Fish and Wildlife Service / Ecological Services South Dakota Field Office  
420 South Garfield Avenue, Suite 400 / Pierre, South Dakota 57501  
Phone: 605-224-8693, Ext. 227 / Fax: 605-224-9974 or 605-224-1416  
<http://www.fws.gov/southdakotafieldoffice/>*

On Mon, Mar 12, 2018 at 5:44 PM, Bridget Canty <[bcanty@spower.com](mailto:bcanty@spower.com)> wrote:

Hi Natalie,

We have just finalized our turbine locations for the Prevailing Wind Park Project outside of Tripp. I'm writing to follow up on our December 2017 meeting where we had some very preliminary discussions about grasslands. I'd like to discuss this topic with you again now that I know more about where our turbines will likely be installed. Do you have any availability this week for a brief call? I am on the West Coast, so the best times for me are generally from 11am (ET) and later. Let me know what works for you. Also, would you recommend inviting Leslie Murphy to this discussion?

Regards,

**Bridget Canty | Permitting Project Manager**

M: 831.430.6326

[201 Mission Street, Suite 540](#)

[San Francisco, CA 94105](#)



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USFWS Natalie Gates, SDGFP Leslie Murphy

March 16, 2018

Discussion about native grassland definitions and mitigation expectations

Pasture - Include in there

Hayfield – can be just plain old grass;

Wetlands – avoid by ½ mile. Waterfowl avoid on some level. Indirect impacts.

Grassland easements – no official buffer, at the line that's where the authority ends, but recommend off-setting.

PUC aware that grassland and wetland

WAPA – address in the EA, indicate how many wetlands (w/in ½ mile); native grassland bird displacement (Shaffer – 300m). Offset with mitigation. Multiply values by displacement rate that was found in these papers.

Mitigation – Some wind companies struck a deal with Ducks Unlimited to purchase easements often willing to transfer management of easements. Preservation only. If you can find landowners who are willing to replant/restore some grasslands/wetlands (obviously not too close to turbines). Very difficult to restore native prairie. Northern Prairies Land Trust. Cost might be in the neighborhood of \$2100/ac (just grass on the ground). For wetlands, talk to people in mitigation banking business. Nothing in SD law that requires us to mitigate

**WAPA**

# AGENDA

## Prevailing Winds Project – Biology Meeting

Wednesday, May 17<sup>th</sup>, 2017

1:30 p.m. - 4:30 p.m.

**RedRossa Italian Grille (Located within ClubHouse Hotel & Suites)**

**Prairie Meeting Room**

**808 West Sioux Avenue, #200**

**Pierre, SD 57501**

Meeting called by **Western Area Power Administration**

**Attendees:** Western Area Power Administration; U.S. Fish and Wildlife Service; South Dakota Game, Fish and Parks; Thorstad Companies; Sustainable Power Group; Burns & McDonnell; WEST, Inc.

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**1:30 p.m. – 2:30 p.m.**

**Introduction**

Western interconnection      *WAPA*

Project background      *Burns & McDonnell/Thorstad Companies*

---

**2:30 p.m. – 4:00 p.m.**

**Biological Survey Status**

Methods and results      *WEST, Inc.*

Comments and discussion      *All*

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**4:00 p.m. – 4:30 p.m.**

**Next Steps**

Identification of remaining biology needs      *WAPA/USFWS/SDGFP*

Project schedule      *Burns & McDonnell/Thorstad Companies*

---

**Additional Instructions:**

[Map and directions to meeting location](#)



# Meeting Agenda



Meeting Subject: Prevailing Winds EA Kick-Off  
Meeting Date: April 27, 2017  
Start Time: 8:00 AM CDT  
End Time: 5:30 PM CDT  
Location: HDR  
6300 S. Old Village Place, Suite 100  
Sioux Falls, SD 57108

<u>Invitee</u>	<u>Organization</u>	<u>Title</u>
Matt Marsh	WAPA	Environmental Manager
Christina Gomer	WAPA	NEPA Coordinator
Lou Hanebury	WAPA	Biologist
Dave Kluth	WAPA	Archaeologist
Roland Jurgens	Prevailing Winds	Project Manager
Jennifer Bell	Burns & McDonnell	NEPA Specialist
Jill Rust	HDR	Biologist (wetlands)
Meg Thornton	HDR	Archaeologist
Korina Cassidy	S-Power	Environmental Specialist
Peter Pawlowski	S-Power	Project Manager
Clayton Derby (unavailable)	WEST	Biologist (wildlife)

## Agenda:

8:00 AM – 11:00 AM EA Kick-Off Discussion at HDR

1. Introductions
2. Project Overview
  - a. Project history and description (Roland)
  - b. Wildlife/T&E overview (Roland)
  - c. Wetlands overview (Jill)
  - d. Cultural resources overview (Meg)
3. EA Process
  - a. Programmatic EIS/tiered EA overview (Matt/Christina)
  - b. Scoping/public meeting (Matt/Christina)
  - c. EIS conservation measures (Jennifer)
  - d. Endangered Species Act Section 7 compliance (Matt/Christina)
  - e. National Historic Preservation Act Section 106 compliance (Dave)
  - f. Tribal consultation (Dave)
4. Schedule
5. Other discussion items
  - a. Alternative layouts

## Meeting Agenda *(cont'd)*



April 27, 2017

Page 2

b. Other?

11:00 AM – 12:00 PM      Lunch at HDR

12:00 PM – 1:30 PM      Drive to Project site (additional Q&A time)

1:30 PM – 4:00 PM      Project site tour

1.    WAPA's Utica Junction substation
2.    Proposed transmission line route
3.    Prevailing Winds project area

4:00 PM – 5:30 PM      Return to Sioux Falls

## Prevailing Winds EA Kick-Off Meeting - 4/27/2017

### 1. Project History

- a. Prevailing Winds, LLC was started by a group of progressive people from the local communities that started the first wind farm, B&H Wind, LLC.
- b. The Project has been developed under Prevailing Winds' mission statement:
  - i. Our commitment is to develop wind energy projects that are sustainable, long term and environmentally sound. We are committed to the social and economic improvement of rural South Dakota by maximizing a projects economic benefit within the local communities.
- c. Project Ownership
  - i. Wholly owned by 160 SD residents and companies (the Members).
  - ii. Members invested over \$3 million to fund development.
  - iii. At some point in the future the project will be sold to an Equity Partner.
  - iv. Equity Partner will assume all permits and build the project.
- d. Project Board of Governors
  - i. The Board contains eight local persons and a developer's representative.
  - ii. The Board manages all business and affairs of the Company.
  - iii. The Board has a fiduciary responsibility to the Members (Investors)
- e. Developer/Project Manager
  - i. Mnioka Construction, LLC from Chokio, MN (We build Wind Farms)
  - ii. Retained to assist Prevailing Winds, NOT AN OWNER OR INVESTOR
  - iii. Assisted B&H Wind, LLC with developing first project
- f. What has been done and Team members.
  - i. Interconnection (B&McD)
  - ii. Wind Resource Campaign (4 MET towers) (Simon Wind)
  - iii. 2 years of Avian Point count surveys (WEST)
  - iv. 2 years of Bat surveys (WEST)
  - v. 2 years of Raptor Nest surveys (WEST)
  - vi. Wetlands review, desktop and site visit (HDR)
  - vii. Archeological and Cultural Research (HDR)
  - viii. Civil Engineering/Surveying (McLaury)
  - ix. Electrical Engineering (CEG)
  - x. Land Leasing (19,000 acres leased) (PW)
  - xi. Community & Landowner Meetings (PW)
  - xii. County Staff and Elected Officials Meetings (PW)
  - xiii. State permit application (B&McD)
  - xiv. WAPA EA (B&McD)

## 2. Project Description

### a. Project Location (the box)

#### i. Site considerations (#1)

1. Interconnection driven
2. Site's characteristics
3. Wind Resource
4. Project Size (200MW)

#### ii. Potential Project Area (#2 & #3 & #4)

1. Elevations
2. Wind Resource
3. Public lands
4. Regional Environmental Concerns

#### iii. Working Project Area (#5 & #6)

1. Beethoven Wind (B&H Wind)
2. Site Specific Environmental Concerns
3. Residents
4. State and Local Zoning
5. Beam Paths
6. Topography
7. Turbine Model (straw-man layouts)
8. School Districts

## 3. Wildlife

### a. WEST Summary

- i. 2 years of on-site work
- ii. Project design is informed by the on-site work
- iii. Project area has been moved based on on-site work
- iv. BBCS will be completed as project design moves forward
- v. More detail at Pierre Meeting

## 4. Wetlands (Jill)

## 5. Cultural Resources (Meg)

## 6. Alternative Layouts

### a. Facilities Siting

- i. Project is located by site considerations above
- ii. All Facilities are located by landowner participation
  - 1. Turbine locations have NOT been determined
  - 2. Turbine model has NOT been determined (constantly changing)
  - 3. Straw-man turbine layouts
  - 4. Turbine layouts will change up to just before construction
  - 5. All sites will be cleared or re-cleared before construction

### b. Project is driven by economics

- i. The Project does not increase revenues as project costs decrease
- ii. PPA Rates decrease as project costs decrease
- iii. PPA Rates are driven by project competition across a large geographic area
- iv. Because of project competition. All projects need to maintain flexibility until PPA is executed and project financials are set.
- v. The PPA is the control for project design and the PPA has not been executed.

## 7. Site Tour Map and Requests



# PREVAILING WINDS, LLC

## Meeting: Prevailing Winds Project – Biology Meeting

**Date:** May 17, 2017 – 1:30 p.m. - 4:30 p.m.

**At:** RedRossa Italian Grille (Located within ClubHouse Hotel & Suites)

**Prairie Meeting Room**

**808 West Sioux Avenue, #200, Pierre, SD 57501**

**Conference Call Number: 952-236-1190 Conference ID# 32742**

**Meeting called by Western Area Power Administration**

**Attendees:** Western Area Power Administration; U.S. Fish and Wildlife Service; South Dakota Game, Fish and Parks; Thorstad Companies; Sustainable Power Group; Burns & McDonnell; WEST, Inc.

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<b>1:30 p.m. – 2:30 p.m.</b>	<b>Introduction</b> Western interconnection <i>WAPA</i> Project background <i>Burns &amp; McDonnell/Thorstad Companies</i>
<b>2:30 p.m. – 4:00 p.m.</b>	<b>Biological Survey Status</b> Methods and results <i>WEST, Inc.</i> Comments and discussion <i>All</i>
<b>4:00 p.m. – 4:30 p.m.</b>	<b>Next Steps</b> Identification of remaining biology needs <i>WAPA/USFWS/SDGFP</i> Project schedule <i>Burns &amp; McDonnell/Thorstad Companies</i>

---

### **Additional Instructions:**

[Map and directions to meeting location](#)





# PREVAILING WINDS, LLC

## Bat Curtailment

- 1,286 MWh per year out of 785,000 MWh per year
- Or about \$21,000 per year
- 0.16% of production and revenue

## Project size: up to 206 megawatts (with losses)

- Interconnection limit: 200 megawatts at Utica Junction
- 2.x megawatt turbine layouts - 80-88 turbines
- 3.x megawatt turbine layouts - 53-60 turbines

## Transmission Line Route (preliminary)

- Length: 27.5 miles
- Voltage: 230kV
- Structure: Single pole
- 19.5 miles in Highway ROW
- 6.5 miles adjacent to ROW
- 1.5 miles cross country

## Project Schedule (working backwards):

- December, 2020 - PTC Qualifications require project to be finished
- June, 2020 - project begins commercial operations (COD)
- April-May, 2019 - construction start (clean up/restoration in Spring 2020)
  - Construction takes ≈9 months (excluding Dec-March)
- 4th Quarter, 2018 - Order long lead equipment
- Fall, 2018 - final window for layout clearing (wetlands and cultural) prior to SOC
- 3th Quarter, 2018 - final project design and contracts (4-6 months)
- 3rd Quarter, 2018 - WAPA EA and State Permit decisions
- 3rd Quarter, 2017 - Site and T-line permit start (12 month window)
- 2nd Quarter, 2017 WAPA EA start (12 month window)
- December, 2016 - project was PTC qualified

# Prevailing Winds Biological Kickoff Meeting

Pierre, South Dakota

WAPA, USFWS, and SDGFP

# Project Description

- Project size: up to 206 megawatts (with losses)
  - Interconnection limit: 200 megawatts at Utica Junction
  - 2.x megawatt turbine layouts - 80-88 turbines
  - 3.x megawatt turbine layouts - 53-60 turbines
- Transmission Line Route (preliminary)
  - Length: 27.5 miles
  - Voltage: 230kV
  - Structure: Single pole
  - 19.5 miles in Highway ROW
  - 6.5 miles adjacent to ROW
  - 1.5 miles cross country

# Project Overview

- Agency Discussions
  - Initial visit with USFWS and SDGFP on April 1, 2015
  - Site Visit July 14, 2016 with USFWS (ES and Refuge) and SDGFP
- Tier 2 SCS and Whooping Crane habitat evaluation
- Tier 3 Surveys:
  - Eagle/Avian use, Raptor nest, Eagle nest monitoring, NLEB presence/absence
- BBCS being prepared
- Biological Assessment Consistency Forms

## Tier 2

- Originally completed on a 76,500 acre Project boundary in 2015
- Updated in 2016 to a 37,000 acre Project boundary approximately same as currently being considered
- Based on the desktop review, no listed species were known to occur within the Project boundary, some could occur during migration or other times: interior least tern, whooping crane, piping plover, red knot; and northern long-eared bat
- Overall landcover not unique in region, some native landscapes

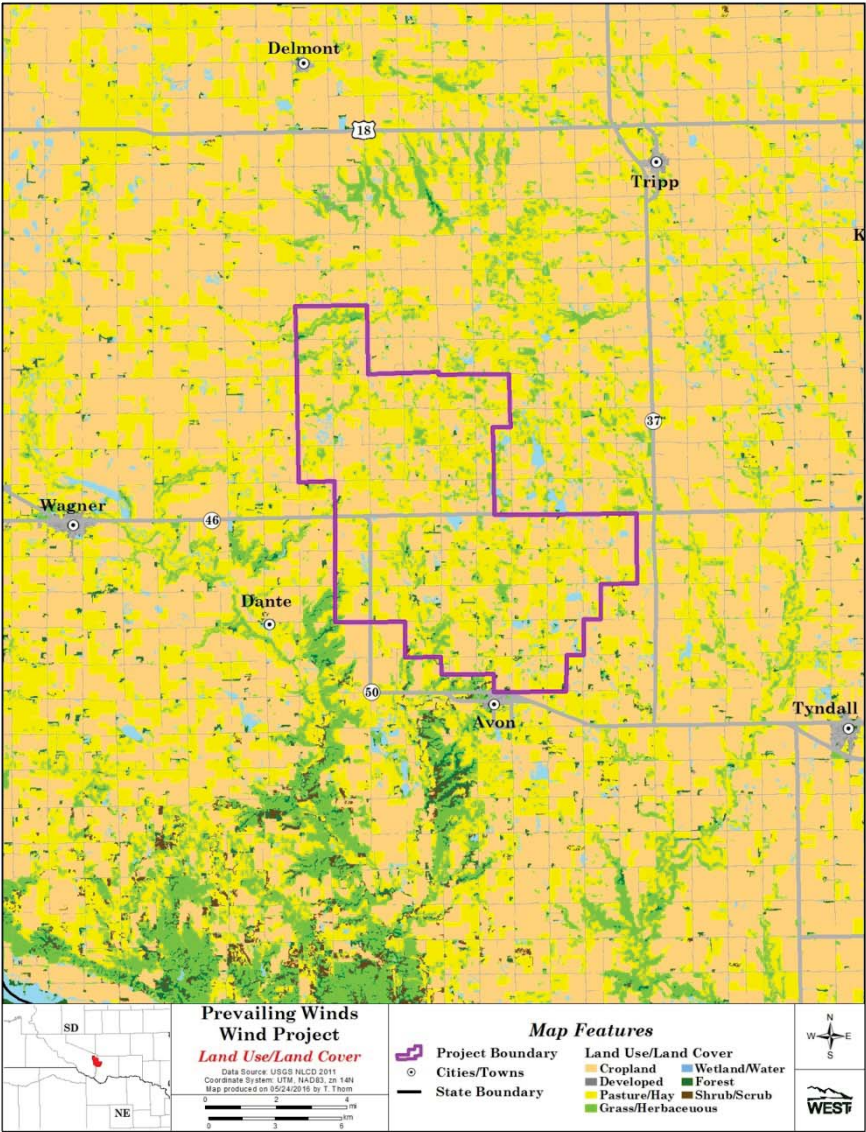
# Tier 2 Results



- Project located in south-central South Dakota, north of Avon
- Charles Mix and Bon Homme Counties
- Near existing Beethoven Wind Farm
- Approximately 12-15 miles north of Missouri River



# Tier 2: Land Cover



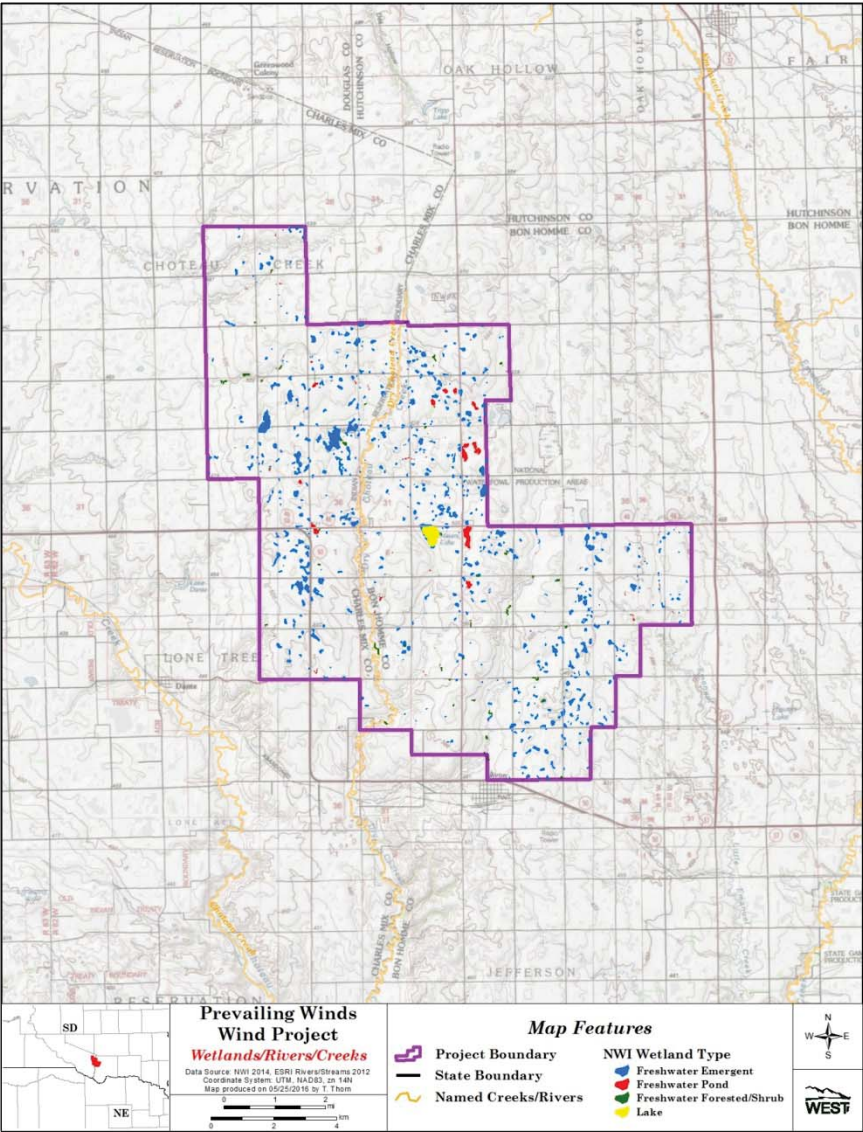
Land use/land cover within the Prevailing Winds Wind Project.

Land Use/Cover	Project Acres	% Total
Cultivated Crops	17,594.9	47.5
Pasture/Hay	13,901.8	37.6
Grassland/Herbaceous	2,479.6	6.7
Developed	1,575.1	4.3
Wetlands/Open Water	1,013.1	2.7
Deciduous Forest	368.3	1.0
Shrub/Scrub	67.5	0.2
Barren Land	14.7	<0.1
Evergreen Forest	1.1	<0.1
Total	37,016.1	100

Data Source: USGS NLCD 2011



# Tier 2: Wetlands



National Wetland Inventory (NWI) wetlands present within the Prevailing Winds Wind Project (USFWS NWI 2009).

Wetland Type	Project Acres	Percent Total
Freshwater Emergent Wetland	1,011.7	77.5
Freshwater Pond	192.3	14.7
Lake	57.4	4.4
Freshwater Forested/Shrub Wetland	44.4	3.4
Total	1,305.8	100

Data Source: USFWS NWI 2009

## Tier 2: Listed Species

- **Least Tern and Piping Plover** – Largely associated with Missouri River, potential to migrate through Project area
- **Rufa Red Knot** – Winters on Gulf of Mexico and breeds in Arctic, potential to migrate through Project area
- **Northern Long-eared Bat** – Western edge of range, summers in treed areas and buildings, no known winter hibernacula in Project area or region. *Tier 3 surveys conducted.*
- **Whooping Crane** – Potential to migrate through Project area, outside 95% national migration corridor, inside corridor based on South Dakota data. *Further review conducted.*

## Tier 2: Other Species/Issues of Concern

- Eagles – Bald eagles nesting in vicinity of Project area. Potential for golden eagles to migrate or winter in area. *Tier 3 surveys conducted.*
- Raptors and other Migratory Birds – Known occurrence of several species to occur in Project area. Site features unlikely to congregate species differently than regional features. *Tier 3 surveys conducted.*
- Grasslands and Wetlands – Minimizing impacts through siting

## Tier 2: Conclusions

- Project area dominated by tilled agriculture, hayland, and grasslands. Minimize impacts to grasslands through siting.
- Low potential for listed species to occur in Project area
- Known bald eagle nesting in vicinity of Project area
- Similar impacts as those observed at other South Dakota and regional facilities to birds and bats anticipated.
- Further Tier 3 surveys to be conducted to further evaluate potential species of concern and impacts.

## Tier 3 Overview

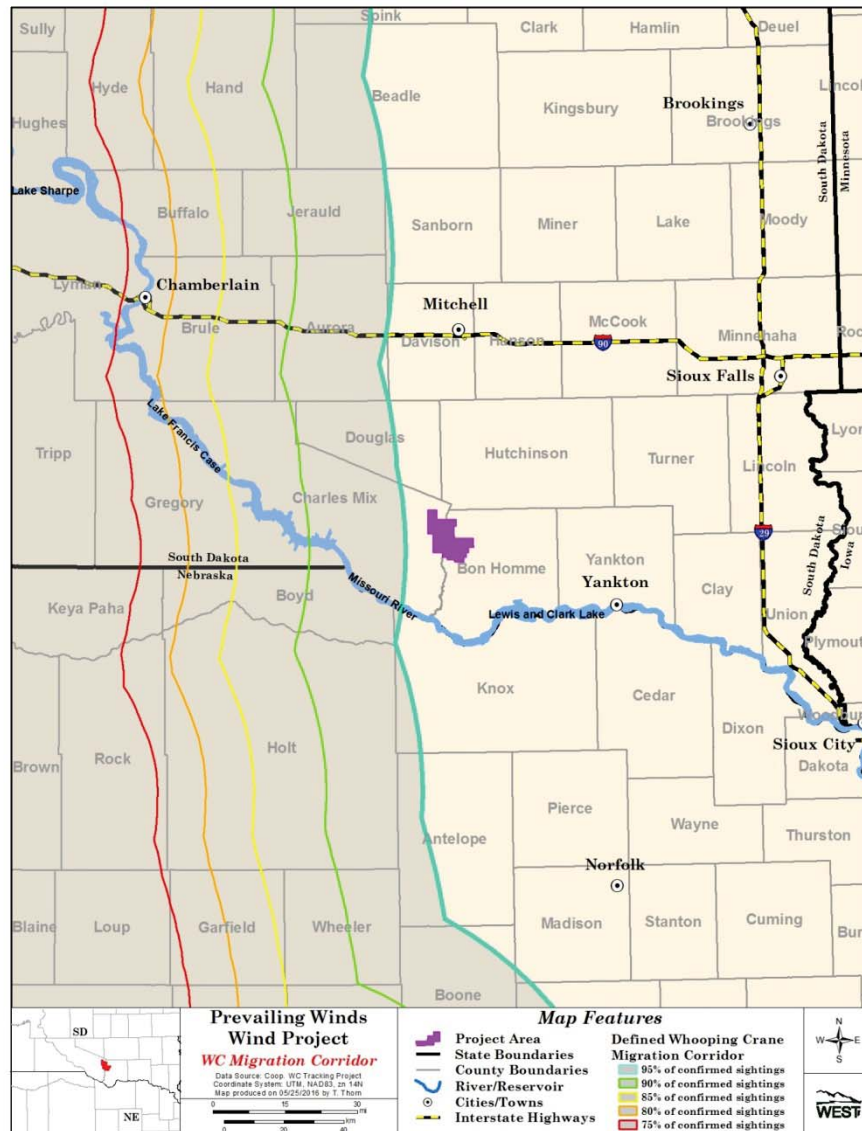
- Desktop Whooping Crane Habitat Assessment
- Raptor Nest Surveys – 2 Years
- Eagle Nest Monitoring – 2 Years
- Eagle/Avian Use Surveys – 2 Years
- Northern Long-eared Bat Surveys – 2 Years

# Tier 3 – Whooping Crane Assessment

- Desktop Assessment completed using:
  - ArcGIS, ArcMap 10.3, land cover information from the National Land Cover Database (NLCD), wetland data from the National Wetland Inventory (NWI), and 2014 National Agricultural Imagery Program (NAIP) aerial imagery
- Comparison of land cover within the Project area and four alternate areas of the same dimensions
- Application of the Watershed Institute's suitable habitat assessment
  - This assessment first screens all wetlands within the study areas for minimum size, visual obstructions, and disturbances. Those wetlands left are then quantified by their size, density of wetlands around them, distance to food, whether they are natural or man-made, and their water regime as a means to quantify suitability



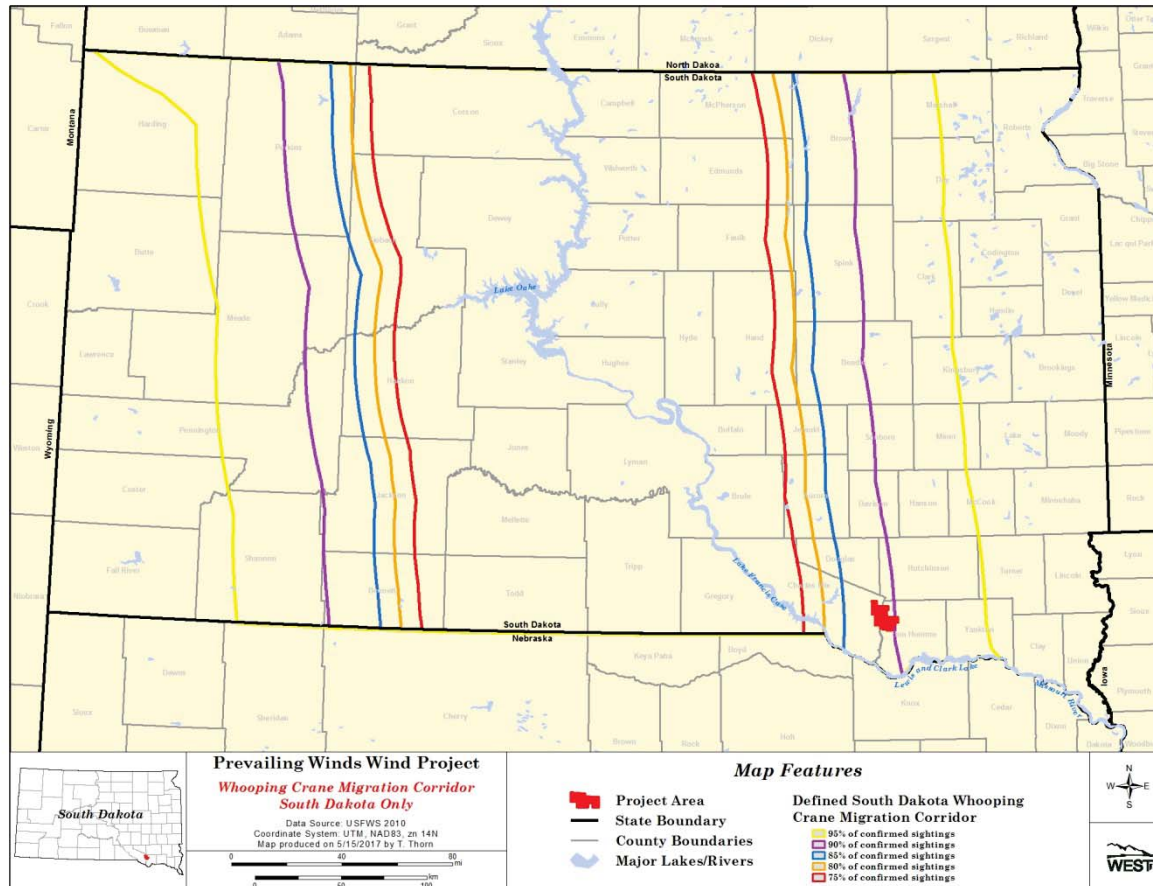
# Tier 3 – Whooping Crane Assessment



- Project area just east of approximately 200 mile wide corridor that contains 95% of historic observations throughout entire flyway.

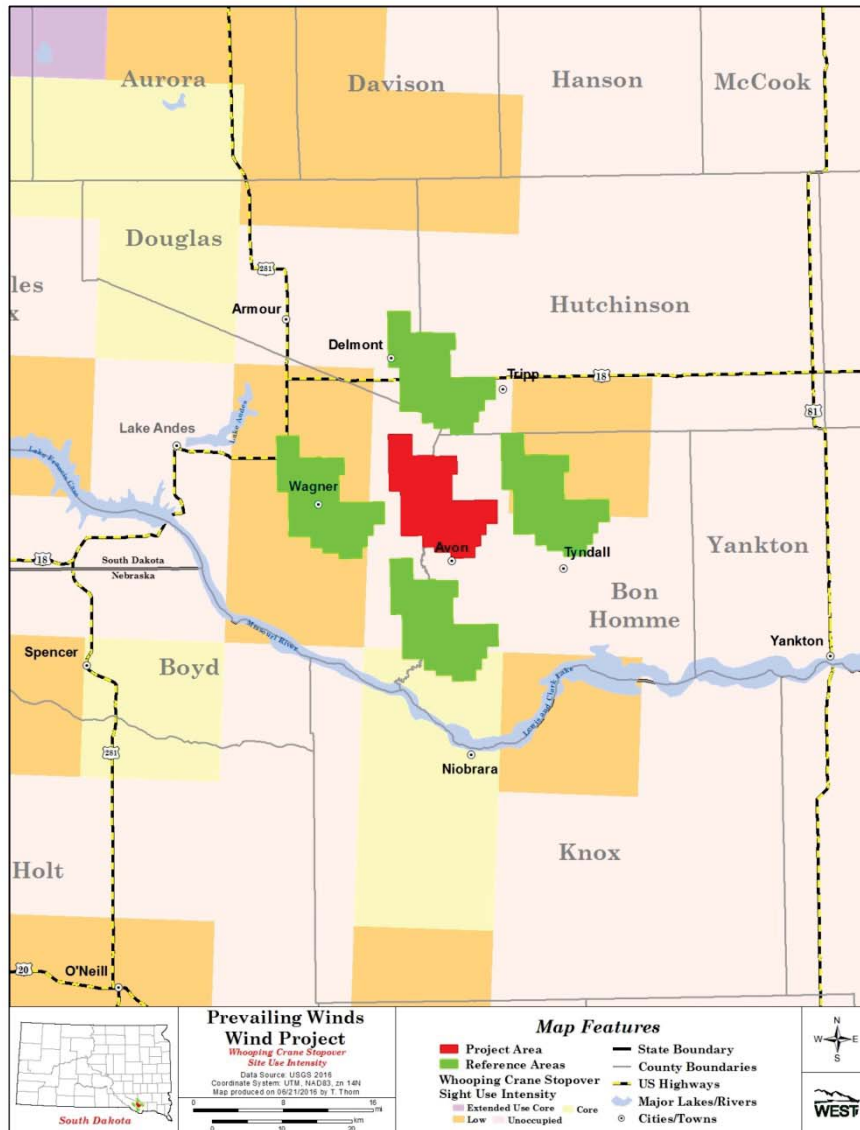


# Tier 3 – Whooping Crane Assessment



- Project is inside the 90% confirmed sightings corridor if look at just South Dakota data

# Tier 3 – Whooping Crane Assessment



- Comparison of habitat features within Project and 4 reference areas
- No use of birds with telemetry units in the Project, but in surrounding areas, including east of Project

# Tier 3 – Whooping Crane Assessment

Land Use/Land Cover within the Prevailing Winds Wind Project and adjacent areas.										
	Project		North		East		South		West	
Habitat Type	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Cultivated Crops	17,588.3	47.5	20,033.3	54.1	24,592.7	66.4	14,716.9	39.8	20,507.8	55.4
Grassland/Herbaceous	2,481.9	6.7	2,922.5	7.9	995.0	2.7	7,270.35	19.6	1,398.2	3.8
Pasture/Hay	13,897.5	37.5	11,676.7	31.5	8,853.2	23.9	9,985.0	27.0	1,1482.6	31.0
Developed	1,578.0	4.3	1,894.3	5.1	1,668.2	4.5	1,142.3	3.1	1,998.4	5.4
Water/Wetlands	1,016.5	2.8	327.6	0.9	562.2	1.5	682.0	1.8	1,086.7	2.9
Forests	372.1	1.0	152.5	0.4	307.5	0.8	958.8	2.6	441.8	1.2
Shrub/Scrub	67.5	0.2	9.7	<0.1	22.7	<0.1	2,251.6	6.1	93.3	0.3
Barren	14.7	<0.1			15.1	<0.1	9.7	<0.1	7.8	<0.1

# Tier 3 – Whooping Crane Assessment

Comparison of suitable whooping crane habitat within the Prevailing Winds Wind Project and adjacent areas using The Watershed Institutes model.

Area	Basins	Total - acres	Mean Score	Score range
Project	262	490.1	9.4	6 – 16
North	270	517.2	9.8	6 – 18
South	157	285.9	8.4	5 – 14
East	244	395.6	9.7	6 – 16
West	284	1,239.8	9.8	6 – 17

## Tier 3 – Whooping Crane Assessment - Summary

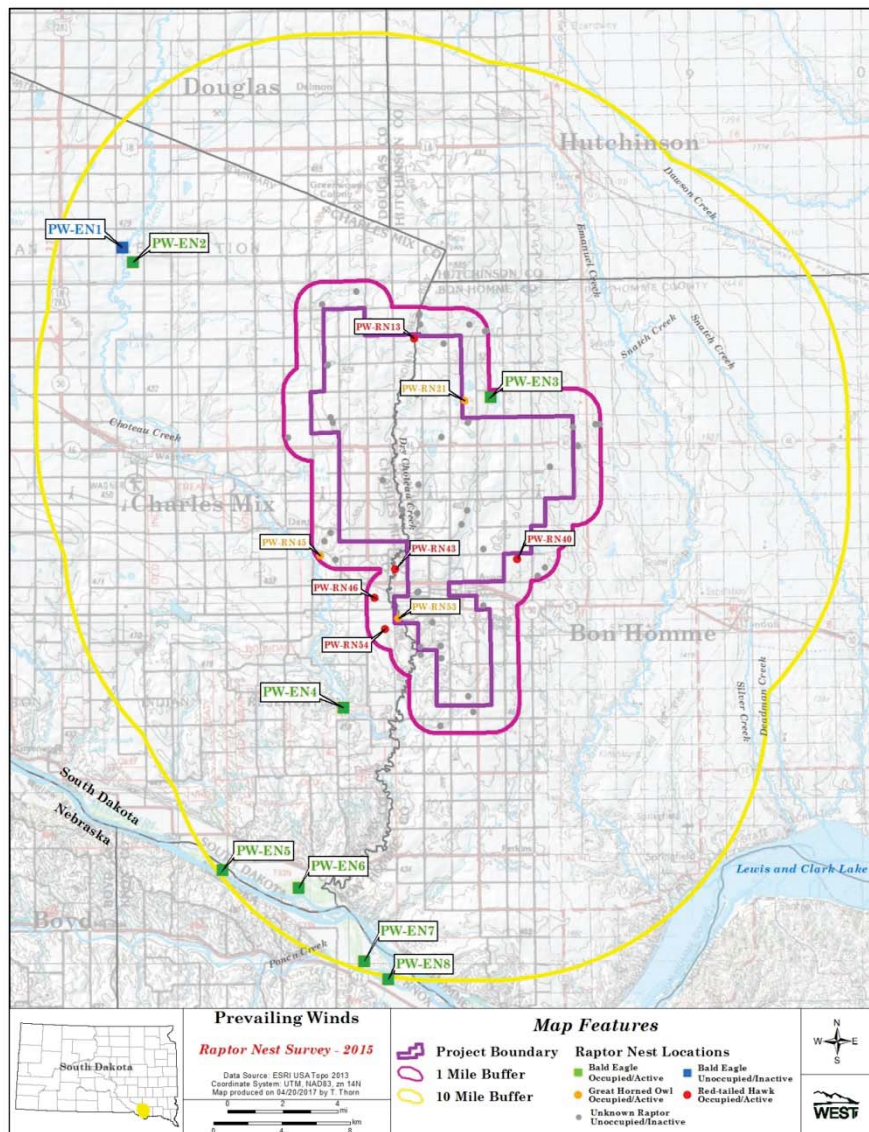
- On eastern edge of whooping crane migration corridor, potential for species to migrate through area
- Habitat within the Project is similar in nature to surrounding areas in regard to providing roosting and foraging opportunities for the species

## Tier 3 – Raptor Nest Surveys

- Aerial raptor nest surveys completed in 2015 and 2016.
- All raptor nests recorded within the Project boundary both years and within 1-mile buffer of the Project in 2015
- Eagle nest locations recorded within a 10-mile buffer in both 2015 and 2016



# Tier 3 – Raptor Nest Surveys



## 2015 Nest Survey

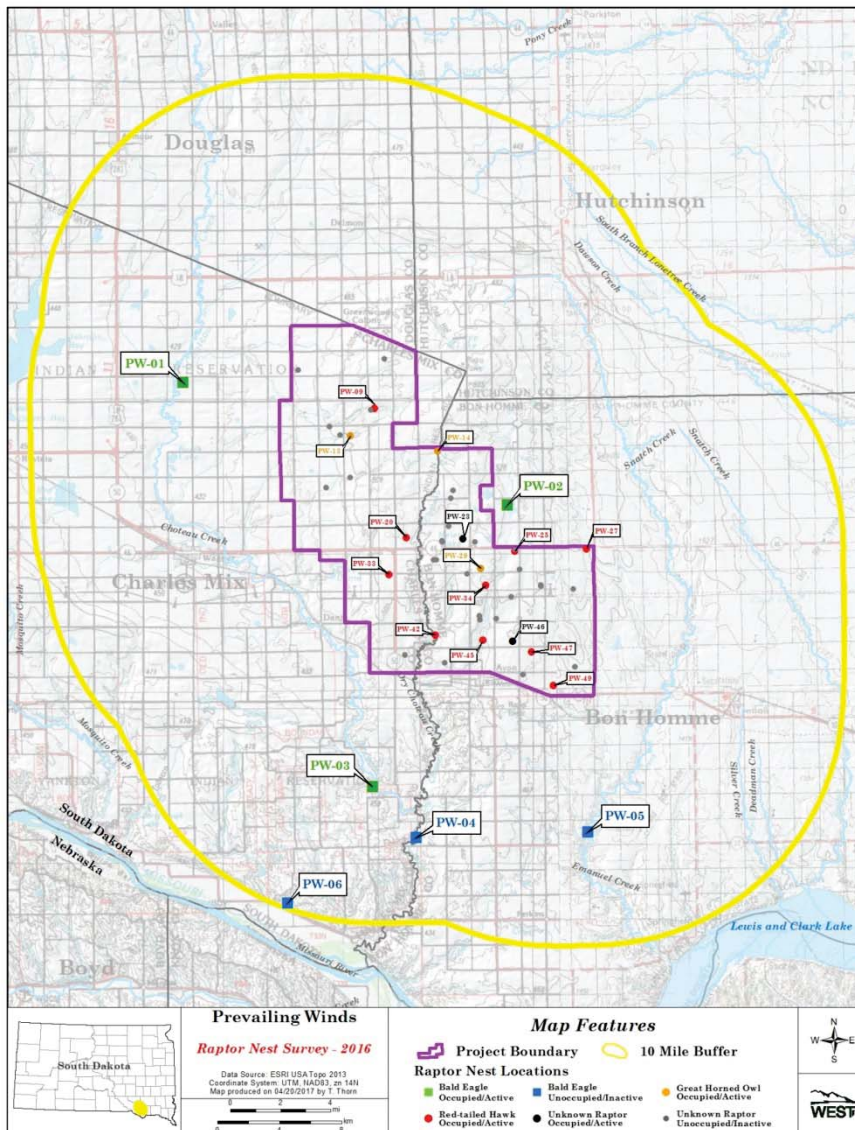
- Within the Project there was one active great horned owl and one active red-tailed hawk nest along with 28 other unoccupied raptor nests
- For bald eagles, no occupied nests located within the Project, 6 occupied nests within 10 mile buffer (approximately 792 square mile area). One nest was a known nest location within 1 mile of Project.
- Most bald eagle nests along the Missouri River to the south



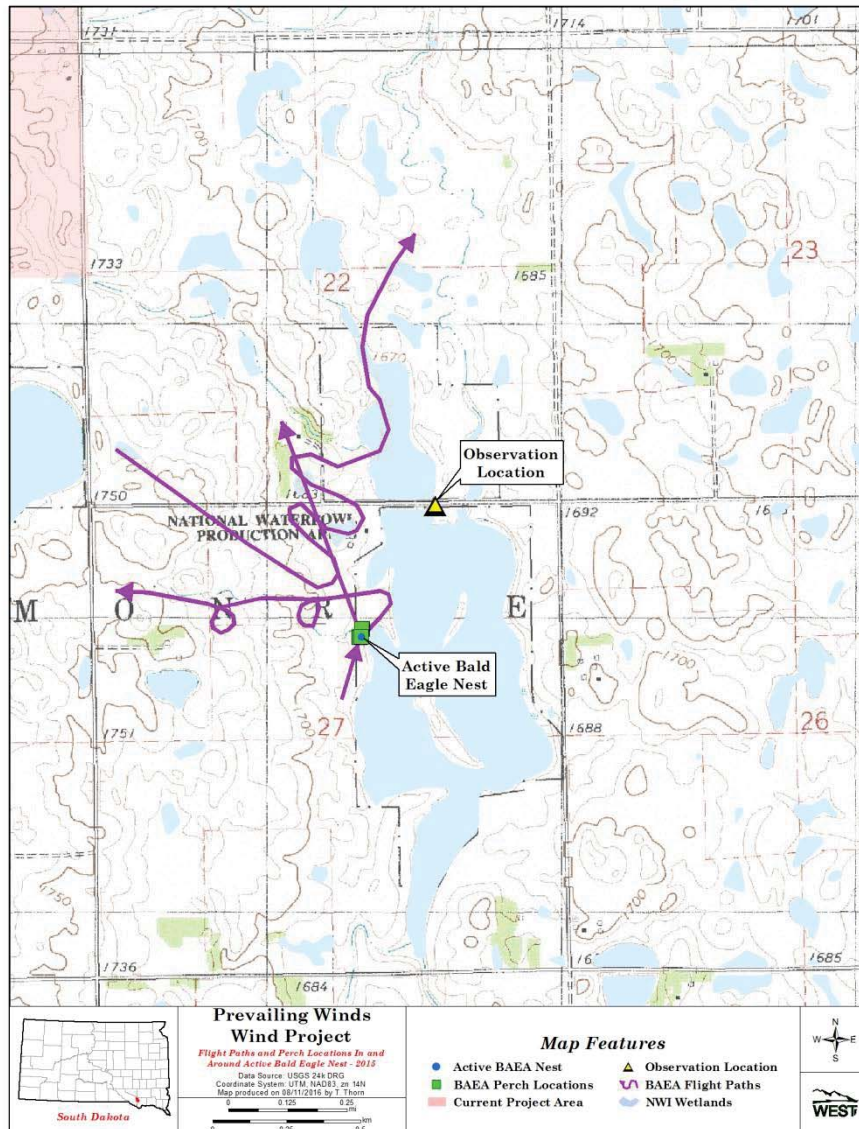
# Tier 3 – Raptor Nest Surveys

## ■ 2016 Nest Survey

- Within the Project there were 3 occupied great horned owl nests; 10 occupied red-tailed hawk nests; 2 unknown occupied, and 29 unoccupied.
- No bald eagle nests within the Project. A total of 3 occupied bald eagle nests and 3 unoccupied. Occupied nests were previously known nest locations from SDGFP and/or 2015 surveys



# Eagle Nest Monitoring



- 2015 data presented
- Observer watched eagle nest for one hour each time on site for use surveys
- Limited flight paths recorded, most observations of adults perched in trees
- Flight paths in variable directions.
- Only one eagle observed in 2016 after mid-July

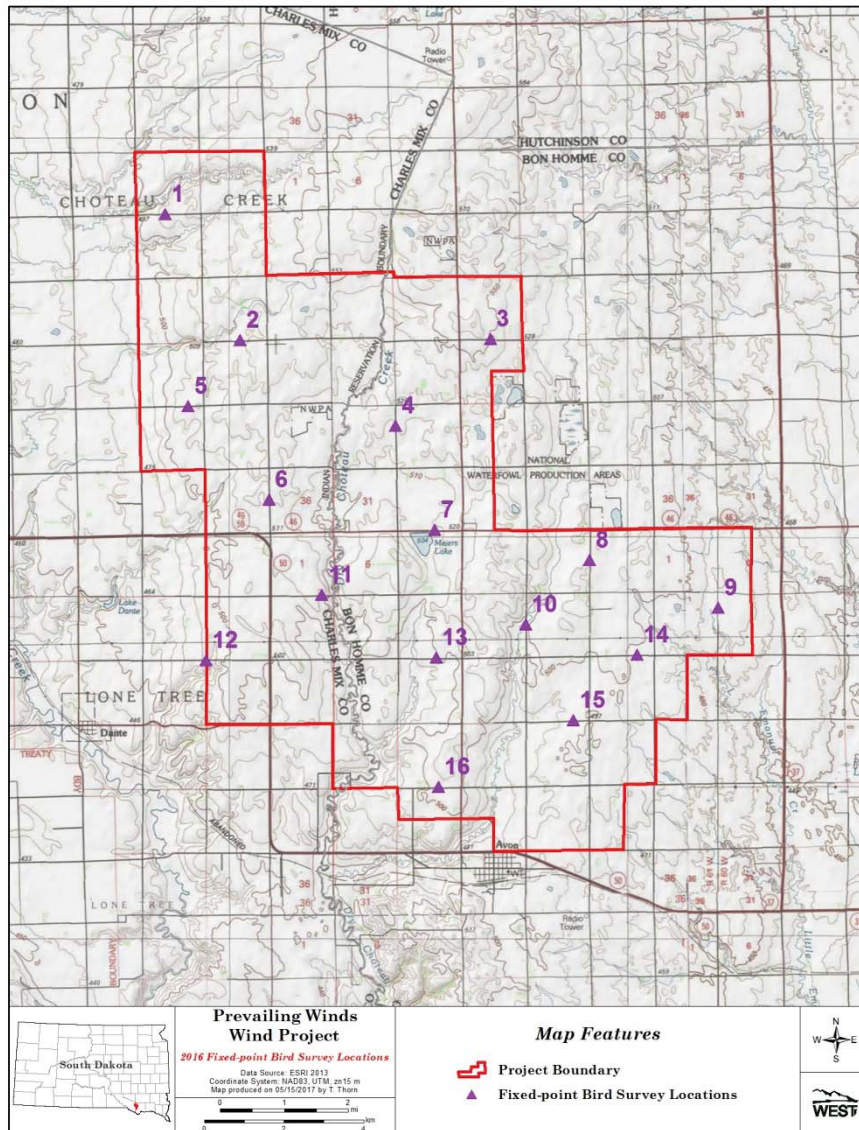
# Eagle/Avian Use Monitoring

- Year 1: Surveys conducted at 16 point count locations from March 25, 2015 to February 21, 2016
  - 60-minutes at each point twice per month in spring and fall, monthly in summer and winter
- Year 2: Surveys conducted at 16 point count locations from May 3, 2016 to April 18, 2017
  - 60-minutes at each point once per month
- All birds for first 20-minutes, eagles and listed species last 40 minutes





# Eagle/Avian Use Monitoring - 2016



- 216 hours of survey
- 95 species recorded. The most common species included Canada geese, common grackle, European starlings, greater white-fronted geese, red-winged blackbirds, snow geese, and sandhill cranes.
- 20 bald eagles and one unidentified eagle (likely bald eagle) recorded

# Eagle/Avian Use Monitoring - Summary

	2015	2016
American kestrel	X	X
bald eagle	X	X
Cooper's hawk	X	X
ferruginous hawk	X	
northern goshawk		X
northern harrier	X	X
peregrine falcon	X	
rough-legged hawk	X	X
sharp-shinned hawk	X	
Swainson's hawk		X

- 479 total hours of survey
- Similar common species and raptors observed each year
- More bald eagles observed in 2016 (20) compared to 2015 (4) or at Beethoven (1)

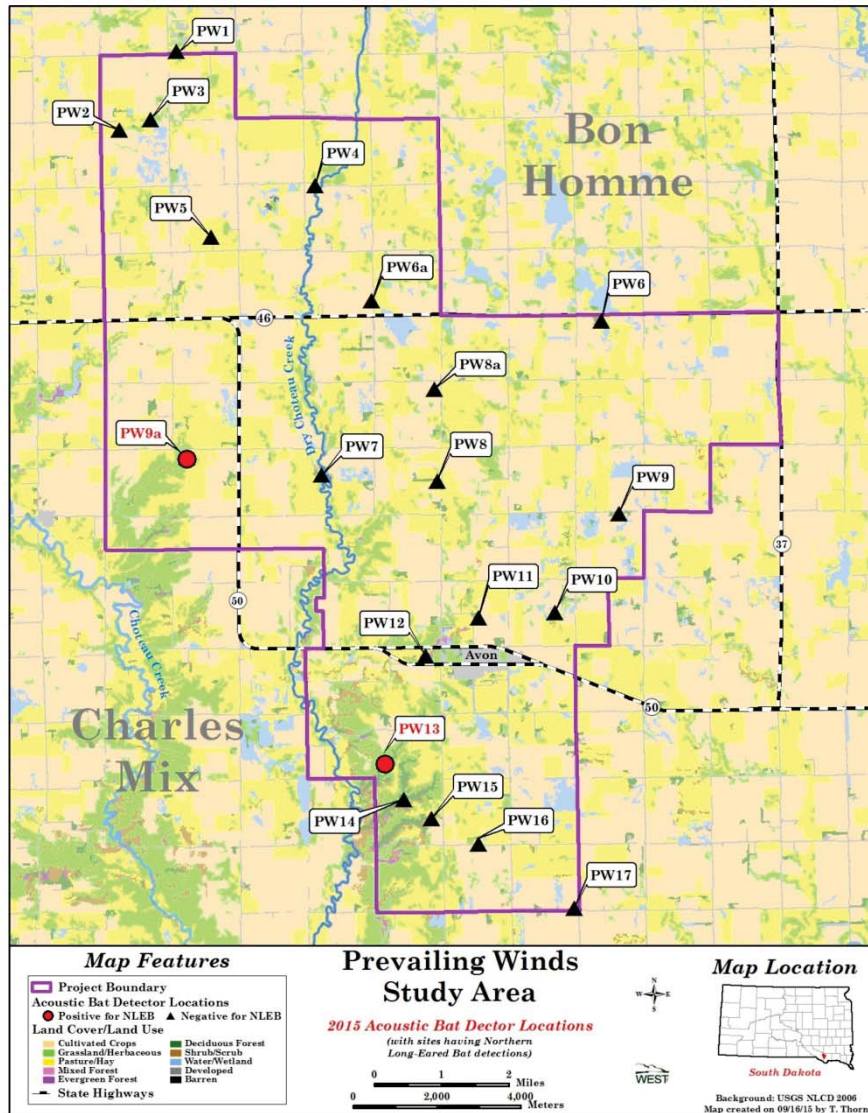


# Northern Long-eared Bat Surveys

- Purpose of the bat acoustic study was to determine presence or probable absence
- Surveys conducted in 2015 and 2016 following USFWS guidelines
  - The guidelines require one survey site for every 123 acres of suitable habitat. Two sampling locations at each survey site are surveyed for a minimum of two detector-nights each, for a total of four detector-nights for each 123 acres of suitable habitat
  - minimum weather threshold of warm temperature, low wind speed, lack of precipitation, etc.
- Project area varied between years

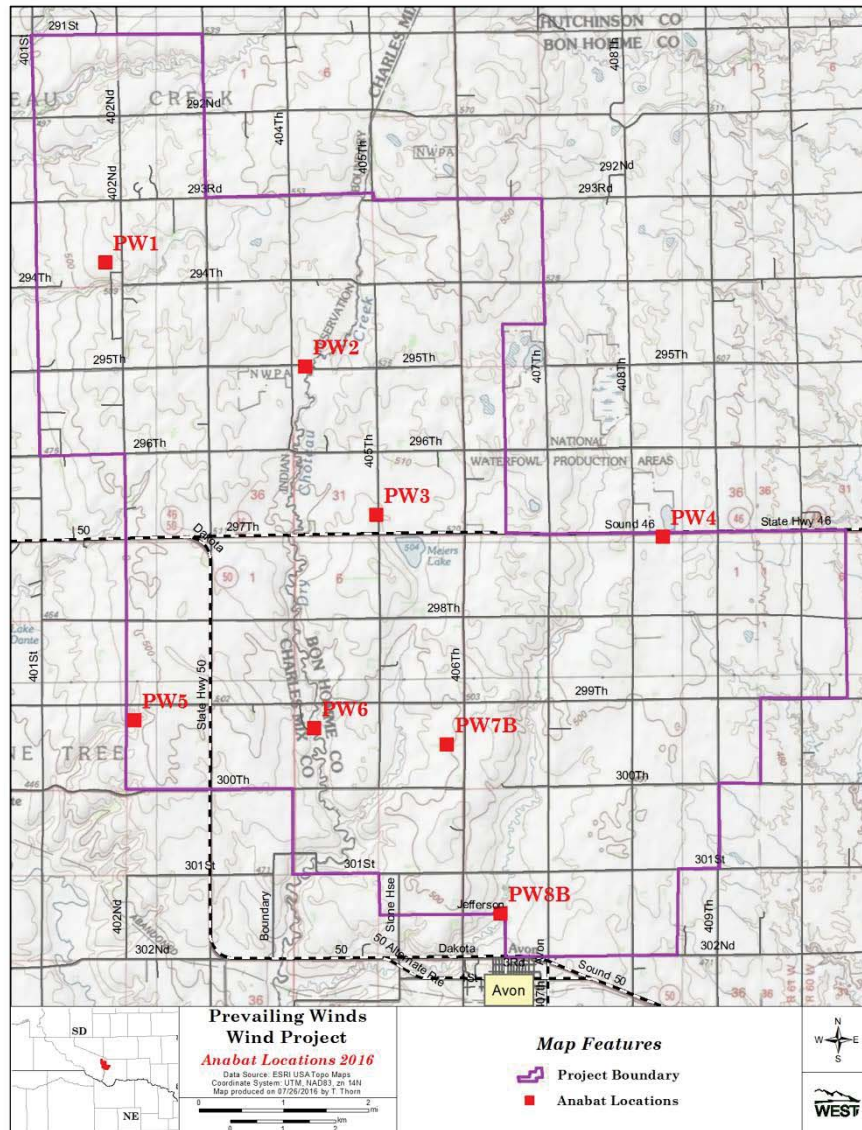


# Northern Long-eared Bat Surveys - 2015



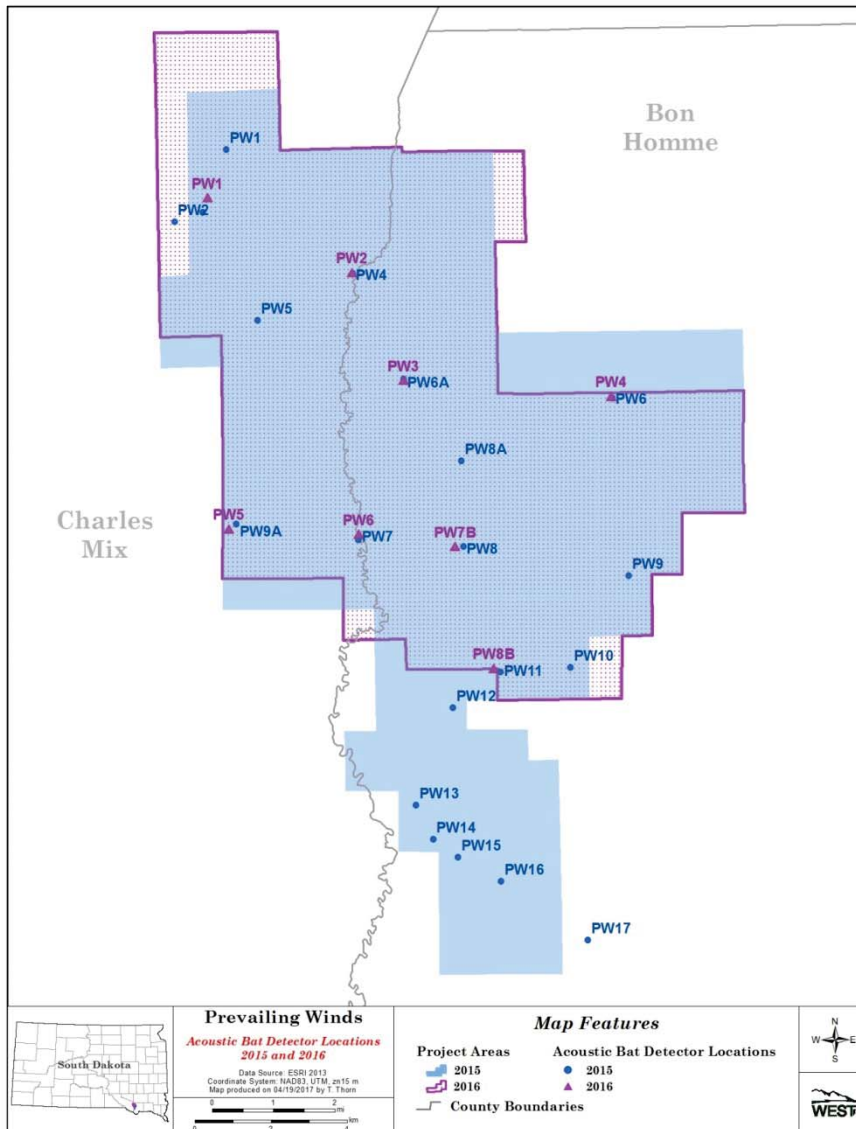
- 1,180 acres of forested habitat
- 20 locations sampled for a minimum of two nights each, total of 104 detector nights, July 21 – August 10, 2015
- Qualitative identification verified the presence of NLEB at stations PW9a (one call on a single night) and PW13 (113 calls on six nights)
- Higher potential habitat in the west/southwest portions of the 2015 Project area, given the density and distribution of forested habitat and the connectivity to larger forested and/or forested riparian habitats just outside of the Project.

# Northern Long-eared Bat Surveys - 2016



- 440 acres of forested habitat
- 8 locations sampled for a minimum of two nights each, July 12 until August 4
- Qualitative identification verified the probable absence at all sample locations, including PW5 which was in same woodlot as PW9a in 2015

# Northern Long-eared Bat Surveys



- Comparison of 2015 and 2016 Study areas for NLEB surveys



# Northern Long-eared Bat Surveys - Summary

- The NLEB has been listed as threatened under the ESA (80 FR 17974) with a 4(d) rule for the species published January 14, 2016 (81 FR 1900). The 4(d) rule exempts from Section 9 take prohibitions the incidental take of NLEB resulting from most otherwise lawful activities, including incidental take of NLEB due to the operation of wind turbines.
- Two sites with confirmed presence in 2015. One site resampled in 2016 with no NLEB calls (one call at site in 2015)
- Most wooded area west and southwest of Project, associated with Choteau and Dry Choteau Creek



## Prevailing Winds EA Kick-Off Meeting - 5/17/2017 - Pierre

### 1. Project History

- a. Prevailing Winds, LLC was started by a group of progressive people from the local communities that started the first wind farm, B&H Wind, LLC.
- b. Project Ownership
  - i. Wholly owned by 160 SD residents and companies (the Members).
  - ii. Members invested over \$3 million to fund development.
  - iii. At some point in the future the project will be sold to an Equity Partner.
  - iv. Equity Partner will assume all permits and build the project.
- c. Project Board of Governors
  - i. The Board contains eight local persons and a developer's representative.
  - ii. The Board manages all business and affairs of the Company.
  - iii. The Board has a fiduciary responsibility to the Members (Investors)
- d. Developer/Project Manager
  - i. Mnioka Construction, LLC from Chokio, MN (We build Wind Farms)
  - ii. Retained to assist Prevailing Winds, NOT AN OWNER OR INVESTOR
  - iii. Assisted B&H Wind, LLC with developing first project
- e. What has been done and Team members.
  - i. Interconnection (B&McD)
  - ii. Wind Resource Campaign (4 MET towers) (Simon Wind)
  - iii. 2 years of Avian Point count surveys (WEST)
  - iv. 2 years of Bat surveys (WEST)
  - v. 2 years of Raptor Nest surveys (WEST)
  - vi. Wetlands review, desktop and site visit (HDR)
  - vii. Archeological and Cultural Research (HDR)
  - viii. Civil Engineering/Surveying (McLaury)
  - ix. Electrical Engineering (CEG)
  - x. Land Leasing (19,000 acres leased) (PW)
  - xi. Community & Landowner Meetings (PW)
  - xii. County Staff and Elected Officials Meetings (PW)
  - xiii. State permit application (B&McD)
  - xiv. WAPA EA (B&McD)

### 2. Project Description

- a. Project Location (the box)
  - i. Site considerations (#1)
    - 1. Interconnection driven

- 2. Site's characteristics
    - 3. Wind Resource
    - 4. Project Size (200MW)
  - ii. Potential Project Area (#2 & #3 & #4)
    - 1. Elevations
    - 2. Wind Resource
    - 3. Public lands
    - 4. Regional Environmental Concerns
  - iii. Working Project Area (#5 & #6)
    - 1. Beethoven Wind (B&H Wind)
    - 2. Site Specific Environmental Concerns
    - 3. Residents
    - 4. State and Local Zoning
    - 5. Beam Paths
    - 6. Turbine Model (straw-man layouts)
3. Wildlife
- a. WEST Presentation
4. Layout Development
- a. Facilities Siting
    - i. Project is located by site considerations above
    - ii. All Facilities are located by landowner participation
      - 1. Turbine locations have NOT been determined
      - 2. Turbine model has NOT been determined (constantly changing)
      - 3. Straw-man turbine layouts
      - 4. Turbine layouts will change up to just before construction
      - 5. All sites will be cleared or re-cleared before construction
  - b. Project is driven by economics
    - i. The Project does not increase revenues as project costs decrease
    - ii. PPA Rates decrease as project costs decrease
    - iii. PPA Rates are driven by project competition across the region
    - iv. Because of project competition. All projects need to maintain flexibility until PPA is executed and project financials are set.
    - v. The PPA is the control for project design and the PPA has not been executed.





# YANKTON SIOUX TRIBE

## TRIBAL HISTORIC PRESERVATION OFFICE

800 S. Main ■ PO BOX 1153 ■ Wagner, South Dakota 57380 ■ 605.384.3641

9/28/17

David Kluth  
Department of Energy  
South Dakota Maintenance Office  
200 4<sup>th</sup> Street SW  
Huron, SD 57350

**RE: Prevailing Winds, LLC Wind Farm – Presence of Properties of Traditional Religious and Cultural Importance, Bon Homme, Charles Mix, and Hutchinson Counties, South Dakota**

Dear Sir or Madam,

We have reviewed the documentation for the referenced project(s). The Yankton Sioux Tribe has adopted the Ihanktonwan Consultation Wo'ope (Protocols for Consultation with the Yankton Sioux Tribe). Based on the information provided, there are sites of cultural significance or historic properties to the Yankton Sioux Tribe Tribal Historic Preservation Office that will be affected by the proposed project. While this correspondence is not considered consultation under the Ihanktonwan Consultation Wo'ope, we have an objection to the undertaking and we therefore invite you to engage in the process set forth in the Ihanktonwan Consultation Wo'ope. Through the process outlined in the Ihanktonwan Consultation Wo'ope, we would like to have the area surveyed and monitored before and during construction of the project. Please let us know if you will engage in consultation pursuant to the Ihanktonwan Consultation Wo'ope.

Please retain this letter in your files as compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. If there are any questions or concerns, please do not hesitate to contact our office at 605-384-3641 ext. 1032/1033 or by email at [yst.thpo@gmail.com](mailto:yst.thpo@gmail.com).

Sincerely,

Kip Spotted Eagle, THPO Director  
Tribal Historic Preservation Office  
Yankton Sioux Tribe of South Dakota



# **Ihanktonwan Consultation Wo'ope**

## **Protocols for Consultation with the Yankton Sioux Tribe**

### **I. Purpose**

The purpose of these protocols is to provide federal agencies with standards with which they must comply when engaging in consultation with the Yankton Sioux Tribe (“Tribe”) in order to ensure that consultation is meaningful and will fulfill the purpose and intent of Executive Order 13175 as well as applicable federal statutes, regulations, and agency policies, manuals, and Secretarial Orders. Consultation shall create understanding, commitment, and trust between the parties, and should be used to identify opportunities and solve problems.

### **II. Scope**

The scope of these consultation protocols includes any and all consultation for both federal undertakings, as defined by 36 C.F.R. § 800.16(Y), and other “policies that have tribal implications,” as that phrase is defined in Executive Order 13175.

These consultation protocols apply to any effort by a federal agency to consult with the Yankton Sioux Tribe pursuant to federal law(s), including but not limited to the National Environmental Policy Act implementing regulations (40 C.F.R. Part 1500), the National Historic Preservation Act (16 U.S.C. § 470 et seq.) and implementing regulations (36 C.F.R. Part 800), the Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001 et seq.) and implementing regulations (43 C.F.R. Part 10), the American Indian Religious Freedom Act (42 U.S.C. §§ 1996 & 1996a), the Archeological Resources Protection Act of 1979 (16 U.S.C. §§ 470aa-mm), Executive Order 13175, and Executive Order 12989. For purposes of these protocols, “agency” means any authority of the United States that is an “agency” under 44 U.S.C. § 3502(1).

### **III. Protocols**

#### **A. Cultural Protocols**

1. Relationship-building should be at the center of any consultation, as this is a primary cultural protocol for the Ihanktonwan (“Yankton”). Relationship building cannot occur through just one meeting, or by telephone or email. It requires time, trust, and respect for the relationship.
2. Agencies must recognize that water is viewed as the first medicine, and it must be honored and protected. Water is vital to the spiritual practices, culture, and health of the Ihanktonwan.



3. Agencies shall respect the fact that Yankton Sioux Tribal members have experience and knowledge that makes them uniquely qualified to identify Ihanktonwan cultural resources, and shall weigh their views accordingly.
4. Agencies must recognize that certain members of the Tribe possess inherent abilities and historical knowledge passed down through generations that make those tribal members uniquely equipped and able to identify sites of spiritual, cultural, and historical interest. These skills and knowledge should be utilized through tribal surveys of areas that may be impacted by a proposed action.
5. Agencies must recognize and respect the cultural practice of speaking in a “circular” manner, which may mean that it takes time for a speaker to arrive at the ultimate point but which conveys relevant information necessary to a proper understanding of that point.
6. Elders must be respected.
7. Agencies must recognize that the Ihanktonwan practice reciprocity, which means that if remains are unearthed, something must be given back in return to restore balance. There are consequences dictated by the universe for disturbing graves and remains, and this must be avoided.
8. Agencies must respect the practice of making offerings.
9. Sharing a meal at the conclusion of a meeting is customary and expected.

#### **B. Behavioral Protocols**

1. Parties shall respect each participant and respect each other’s diversity.
2. Parties shall speak with respect, courtesy, dignity, care, and moderation to maintain an amicable atmosphere.
3. Parties shall avoid the use of language of dominance and/or oppression.
4. Parties shall refrain from disruptive gestures or actions.
5. Parties shall avoid tactics to induce intimidation. This includes manner of dress. Parties should dress in civilian clothing or dress uniform. Fatigues must not be worn.
6. Parties shall treat everyone involved in a consultation meeting, particularly elders, with respect.
7. When an individual is speaking, all parties must refrain from interrupting that individual.



8. Parties shall not be dismissive of any statement made, but rather, shall acknowledge and value all contributions and bring them into consideration in any decision.
9. Parties shall refrain from reaching any decision until consultation has concluded and sufficient information has been exchanged.
10. Parties shall contribute and express opinions with complete freedom.
11. Parties shall carefully examine the views of others and accept valid points when made by others.
12. Parties shall focus on the subject of the consultation and avoid extraneous conversation.

### **C. Procedural Protocols**

1. Consultation shall only include government-to-government, in-person meetings with the Tribe's General Council. Consultation shall not be conducted via telephone or written correspondence unless expressly agreed to by the Chairman of the Tribe in writing.
2. A meeting shall not be considered consultation unless the relevant federal agency is represented at the meeting by an individual with decision-making authority over the proposed federal action at issue.
3. If more than one agency is involved in the federal activity at issue, each agency shall be responsible for fulfilling consultation requirements for any activity under its respective authority. Agencies may appoint a lead agency to coordinate and lead tribal consultation; however, all involved agencies shall participate directly in consultation.
4. Multi-tribal or public meetings shall not be considered consultation unless expressly agreed to by the Chairman of the Tribe in writing unless the meeting is comprised exclusively of the federal agency and the Oceti Sakowin.
5. The consultation process shall commence as early as possible. Initial notification by a federal agency to the Tribe of a proposed action shall occur within two weeks of the federal agency becoming aware of the proposed action.
6. A federal agency shall contact the Chairman of the Tribe and the Ihanktonwan Treaty Steering Committee for the Tribe to notify the Tribe of a proposed federal action and initiate the consultation process. If the proposed federal action is expected to impact tribal cultural, spiritual, or historical resources, the federal agency shall also contact the Tribal Historic Preservation Officer. Notification pursuant to this protocol does not constitute consultation, but merely initiates the consultation process.



7. The consultation process shall include a pre-consultation meeting with the Tribe's Business and Claims Committee at which preliminary information shall be exchanged and an overview of the proposed federal action shall be provided.
8. During or prior to the pre-consultation meeting, the relevant federal agency shall inform the Tribe of the potential impacts on the Tribe of the proposed federal action.
9. During or prior to the pre-consultation meeting, the relevant federal agency shall inform the Tribe of which federal officials will make the final decision with respect to the proposed federal action.
10. Pre-consultation meetings shall be held at the Tribe's Fort Randall Casino on the first Wednesday of each month. Consultation meetings shall be held at the Tribe's Fort Randall Casino on the third Wednesday of each month. Meeting times shall be scheduled on a first-come, first-served basis. An agency shall contact the Tribe's THPO and Secretary's office to determine the next available meeting time and to schedule pre-consultation and consultation meetings.
11. Consultation meetings shall be scheduled at least thirty-five (35) days in advance to allow for adequate notice to the General Council, which is comprised of tribal members age 18 years and older and which is the governing body of the Tribe.
12. All meetings shall be opened with a prayer.
13. All meetings shall be closed with a prayer.
14. All meetings shall be followed by a meal or include a meal as part of the necessary relationship-building.
15. Consultation meetings shall not designate an end time, but shall continue until all have had an opportunity to speak.
16. The federal agency shall provide the services of a court reporter to record each consultation meeting. A transcription of each meeting shall be provided to the Tribe within ten (10) days following said consultation meeting.
17. No party shall unreasonably withhold consent to terminate consultation, but consultation shall continue until meaningful consultation has been achieved.
18. While there is no set number of meetings required for consultation to be deemed sufficient, consultation shall not be considered complete until the parties are satisfied that all necessary information has been adequately exchanged.





19. Consultation shall be completed before any federal funds are expended for the proposed federal action, before the issuance of any license or permit for the proposed federal action, and prior to the agency making any decision or taking any action regarding policies that have tribal implications.

#### **Summary of Consultation Steps:**

1. Federal agency learns of proposed federal action that may affect the Yankton Sioux Tribe.
2. Federal agency promptly (within two weeks) notifies the Chairman of the Tribe and the Ihanktonwan Treaty Steering Committee (and the Tribal Historic Preservation Officer for the Tribe if the proposed action is expected to impact tribal cultural, spiritual, or historic resources) of the proposed action. The consultation process is thus initiated.
3. The Chairman and/or his staff schedules a pre-consultation meeting.
4. A pre-consultation meeting is held.
  - a. Opening Prayer
  - b. Meeting
  - c. Closing Prayer
  - d. Meal (may also occur during the midpoint of the meeting)
5. The Chairman or his staff schedules a consultation meeting.
6. A consultation meeting is held.
  - a. Opening Prayer
  - b. Meeting
  - c. Closing Prayer
  - d. Meal (may also occur during the midpoint of the meeting)
7. Federal agency provides the Chairman of the Tribe with a transcript of the consultation meeting within 10 days.
8. Repeat steps 5-7 until meaningful consultation has been fully achieved.

#### **D. Governmental Protocols**

1. Federal agencies shall respect the unique legal and political relationship between the United States and the Tribe.
2. Consultation shall be meaningful and shall include collaboration with tribal officials.





3. The Tribe's views shall be incorporated into a federal agency's decision-making process.
4. Consultation shall be conducted and resulting agency decisions shall be made in such a way that the government-to-government relationship between the Tribe and the United States is strengthened. The Tribe shall be considered as a collaborative partner with the federal agency.
5. Federal agencies shall recognize the Tribe's right to self-government and its inherent sovereign powers. Federal agencies shall be respectful of the Tribe's sovereignty.
6. Federal agencies shall acknowledge and abide by the treaties between the United States and the Tribe.
7. Federal agency actions during and after consultation shall reflect the trust responsibility of the United States to the Tribe.

#### **IV. Compliance**

All parties shall comply with the protocols contained herein when engaging in the consultation process. Should a party fail to comply with one or more protocols, the other party shall notify the non-compliant party of the violation and the parties shall mutually agree upon a time and location for a meeting between the parties to resolve the matter. The goal of this meeting shall be to restore balance and reduce or eliminate discord by talking through the violation and reaching a mutual understanding to move forward in compliance with the protocols.

**From:** Bell, Jennifer  
**To:** [Bridget Canty](#)  
**Subject:** FW: Prevailing Winds Tribal Meeting  
**Date:** Monday, March 26, 2018 10:02:20 AM

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**Jennifer Bell \ Burns & McDonnell**

Senior Environmental Scientist

O 303-474-2229 \ F 303-721-0563

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9785 Maroon Circle \ Suite 400 \ Centennial, CO 80112

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**From:** Kluth, David <Kluth@WAPA.GOV>  
**Sent:** Monday, March 19, 2018 3:06 PM  
**To:** Bell, Jennifer <jbell@burnsmcd.com>  
**Cc:** Gomer, Christina <Gomer@WAPA.GOV>; Marsh, Matthew <MMarsh@WAPA.GOV>  
**Subject:** Prevailing Winds Tribal Meeting

Hi Jennifer,

I was just on a call with Kip Spotted Eagle of the Yankton Sioux Tribe regarding Prevailing Winds. He indicated that the Yankton have tribal sites and oral histories in this part of SD and he has asked to conduct a tribal cultural survey of the project area. WAPA would support that request, especially since part of the project area is within the historic reservation boundary. He also indicated that WAPA's request to meet with the Yankton Claims and Business Committee has been given a meeting date of **April 30<sup>th</sup>**.

Since a tribal survey was requested, I gave him your name and number to discuss that issue. While WAPA is willing to provide review and recommendations for a tribal scope of work, we are not allowed to get involved in any kind of contract negotiations. If you would like to discuss this further you could give Matt, Christina or I a call.

I also heard back from the Omaha Tribe THPO who responded to my second call for tribal information. He indicated that he would like to be put on a list for any tribal meetings that we may have. Since it appears as if a general tribal meeting to discuss the project is not going to be necessary, I offered to have WAPA (and a project rep.) meet with him at his office. I also gave him the option of just reviewing and commenting on project information and reports as they become available.

Those are all the tribal updates that I have at the moment.

Dave

April 4, 2018

Paige Hoskinson  
Review & Compliance Coordinator  
South Dakota State Historical Society  
900 Governors Dr.  
Pierre, South Dakota 57501-2217

**Re: Interconnection Request for the Prevailing Winds LLC, Wind Farm, Bon Homme, Charles Mix, and Hutchinson Counties, South Dakota.**

Dear Ms. Hoskinson:

Western Area Power Administration (WAPA), Upper Great Plains Region, a power-marketing agency with the Department of Energy, received an interconnection request from Prevailing Winds, LLC, for their proposed Prevailing Winds wind farm (Project) located between one and fourteen miles north of the town of Avon, in Bon Homme County, South Dakota (Attachment 1). The proposed Project would interconnect with WAPA's Utica Junction Substation.

**Proposed Project Description and Undertaking**

Currently, WAPA is the lead Federal agency for complying with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA). WAPA is preparing an Environmental Assessment (EA) that will evaluate the environmental effects of the wind farm.

Pursuant to Section 106 of the NHPA and its implementing regulation (36 CFR Part 800), WAPA has determined that the interconnection is a Federal undertaking with the potential to affect historic properties. WAPA's Federal action is limited to the existing interconnection point and does not entail any construction or modification of the wind generation facility. Furthermore, WAPA has no authority over the planning or development of the proposed Project.

The proposed 47,000 acre wind facility involves the construction of a 200-megawatt (MW) wind generating facility that includes between 58 and 80 wind turbine generators (turbine model[s] have not yet been determined). The turbine towers are constructed of tubular steel and will likely have a maximum rotor height between 138 and 152 meters (450 and 500 feet). Towers are manufactured in several sections that are transported to the site on specially designed tractor-trailers. Towers are erected on site with the base mounted to the specially designed concrete foundations using high strength steel bolts. Also included are an underground power collection system, substation, new or upgraded roads, and an operation and maintenance center. Approximately 26 miles of new transmission line would interconnect the project to WAPA's Utica Junction Substation (attachment 2).

**Area of Potential Effects (APE) and Proposed Historic Property Identification**

The proposed Project would be sited entirely on private land and does not include any federal or tribal land or easements. The land is primarily used for agricultural practices with some small, scattered grasslands parcels included. All grasslands will be avoided by the Project.

WAPA defines the direct APE as those lands within the generating facility footprint of 47,000 acres that will be physically impacted, or have the potential to be impacted, by the proposed Project. Table 1 contains information on the legal description of the APE. WAPA proposes a cultural resource survey of all areas of ground disturbance, or potential disturbance, within the direct APE to identify historic properties. Table 2 contains information on the areas proposed for inventory and the minimum survey requirements. Given the linear nature and small survey blocks anticipated for survey, transect intervals will be no more than 15 meters apart. File searches, survey of areas of temporary and permanent impacts and documentation will meet both Federal and state guidelines and standards. In addition,

In 2014, the B & H Wind Project was constructed in the same area as the current Project. WAPA recommends that the same indirect (visual) APE distance (e.g. 2 miles) used for that project is acceptable for this Project and proposes an architectural history survey for this area. Currently, two properties are listed on the National Register of Historic Places, the Dr. John C. Greenfield house (BO00000032) and the Ferdinand & Ann Wagner Homestead (CH00000024), both within one mile of the proposed Project.

**Table 1. Legal Description**

County	Township	Range	Sections
Charles Mix	95 N	62 W	7, 18
	95 N	62 W	1, 2, 11-14
	96 N	61 W	18, 19, 30
	96 N	62 W	1-3, 10-12, 13-15, 22-27, 35, 36
	97 N	62 W	25-27, 34-36

County	Township	Range	Sections
Bon Homme	95 N	61 W	1-12, 14-18, 20-23
	96 N	61 W	1-3, 9-12, 13-21, 28-36
	97 N	61 W	22-27, 34-36

County	Township	Range	Sections
Hutchinson	97 N	61 W	22-27, 34-36



**Table 2. Proposed Cultural Resource Inventory within the APE**

Disturbance Activity	Proposed Cultural Resource Survey (Minimum)
Turbine pads (including alternates)	250 foot radius from center point (4.5 acres)
Access roads	100 feet
Crane paths	100 feet
Collector lines	100 feet
Substation	Actual size* plus 200 feet
Switchyard	Actual size* plus 200 feet
Laydown Yards/Staging Areas	Actual size*
New transmission line	125 feet
O&M center	Actual size* plus 200 feet

\*To be determined

In addition to the required file search and proposed cultural resources surveys, WAPA has reached out to Native American tribes through its NEPA scoping process and has initiated government-to-government consultation pursuant to Section 106 of the NHPA. Tribes may attach religious and cultural significance to historic properties within the proposed Project area, and as part of WAPA's historic property identification efforts we are seeking the Tribes' views or concerns about the proposed Project.

Pursuant to 36 CFR 800.4, WAPA requests your comments or concurrence on the defined APE and approach to historic property identification. If you have any questions, please feel free to contact me at (605) 353-2519 or at [kluth@wapa.gov](mailto:kluth@wapa.gov).

As always, I look forward to working with you as this process moves forward.

Sincerely,



David W. Kluth  
Regional Preservation Officer

Attachments (2).

bcc:

Kluth (B0411.HU) – [kluth@wapa.gov](mailto:kluth@wapa.gov)

Marsh (B0400.BL)



**From:** Kluth, David  
**To:** [Bridget Canty](#)  
**Subject:** RE: [EXTERNAL] Prevailing Wind - meeting request  
**Date:** Wednesday, April 25, 2018 8:18:06 AM  
**Attachments:** [WAPA - Prevailing Winds SHPO APE Letter.pdf](#)  
[SHPO - Prevailing Winds SHPO APE Letter response.pdf](#)

---

Bridget,

Turns out the SHPO sent the letter earlier, just found it further down my e-mail list.

I have attached WAPA's original letter and SHPO's concurrence, so you should be able to begin your survey when ready.

Let me know if you have any questions.

Dave

---

**From:** Bridget Canty [mailto:[bcanty@spower.com](mailto:bcanty@spower.com)]  
**Sent:** Wednesday, April 25, 2018 9:29 AM  
**To:** Kluth, David <[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)>  
**Subject:** RE: [EXTERNAL] Prevailing Wind - meeting request

Hi Dave,

Welcome back! That sounds good, though I'm a little concerned about a delay to the survey schedule. I'd like to get the cultural team out as soon as things thaw and I know they need some time to plan. Is there anything we can do to facilitate this?

Thanks,  
Bridget

---

**From:** Kluth, David <[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)>  
**Sent:** Wednesday, April 25, 2018 7:26 AM  
**To:** Bridget Canty <[bcanty@spower.com](mailto:bcanty@spower.com)>  
**Subject:** RE: [EXTERNAL] Prevailing Wind - meeting request

Hi Bridget,

I have been out of the office all April and I am just getting back up to speed on all my projects, e-mails, etc., so my apologies for not getting back to you sooner.

Monday, April 30<sup>th</sup>, I am meeting with the Yankton Sioux Business and Claims Committee regarding this project, and I should have a response back from SHPO by then on the project letter I sent them, so how about May 1 – May 4. Any day and time is fine as my schedule is open at that time.

Dave

---

**From:** Bridget Canty [<mailto:bcanty@spower.com>]  
**Sent:** Tuesday, April 24, 2018 12:37 PM  
**To:** Kluth, David <[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)>  
**Subject:** [EXTERNAL] Prevailing Wind - meeting request

Hi Dave,

I'd like to set up a conference call with our cultural resources consultant to discuss the status of the desktop review. Could you let me know of some times when you might have availability this week for a call?

Regards,

**Bridget Canty | Permitting Project Manager**

M: 831.430.6326

201 Mission Street, Suite 540  
San Francisco, CA 94105



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**From:** Kluth, David  
**To:** [Bridget Canty](#)  
**Subject:** RE: [EXTERNAL] FW: Prevailing Wind - follow up  
**Date:** Wednesday, April 25, 2018 9:39:08 AM  
**Attachments:** [4743\\_001.pdf](#)

---

Bridget,

I think the attached information was what I was referring to....

Dave

---

**From:** Bridget Canty [mailto:[bcanty@spower.com](mailto:bcanty@spower.com)]  
**Sent:** Thursday, April 19, 2018 2:18 PM  
**To:** Kluth, David <[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)>  
**Subject:** [EXTERNAL] FW: Prevailing Wind - follow up

Hi Dave,

Checking in with you about this protocol and also wondering if we are ready to have that call/meeting with SHPO. Attached is the cultural resources desktop study and records review reports.

Thank you,  
Bridget

---

**From:** Bridget Canty  
**Sent:** Wednesday, March 7, 2018 2:55 PM  
**To:** 'Kluth@WAPA.GOV' <[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)>  
**Subject:** Prevailing Wind - follow up

Hi Dave,

I just reviewed my notes from our call a couple of weeks ago and saw that you had agreed to send over the WAPA survey protocol document that would be used for the project. Also, do you have any updates on communications with the tribes and SHPO.

Regards,

**Bridget Canty | Permitting Project Manager**  
M: 831.430.6326

201 Mission Street, Suite 540  
San Francisco, CA 94105



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**From:** Kluth, David  
**To:** [Eigenberger, Erika](#)  
**Cc:** [Bridget Canty](#); [Rust, Jill](#); [Gomer, Christina](#)  
**Subject:** RE: [EXTERNAL] Prevailing Wind Park Project - Visual APE Clarification  
**Date:** Wednesday, May 23, 2018 7:34:46 AM

---

Hi Erika,

Yes, artifact collection is not required and all analysis (measurements, photos) should be completed in the field.

Thanks for checking....

Dave

---

**From:** Eigenberger, Erika [mailto:[Erika.Eigenberger@hdrinc.com](mailto:Erika.Eigenberger@hdrinc.com)]  
**Sent:** Tuesday, May 22, 2018 4:55 PM  
**To:** Kluth, David <[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)>  
**Cc:** Bridget Canty <[bcanty@spower.com](mailto:bcanty@spower.com)>; Rust, Jill <[Jill.Rust@hdrinc.com](mailto:Jill.Rust@hdrinc.com)>; Gomer, Christina <[Gomer@WAPA.GOV](mailto:Gomer@WAPA.GOV)>  
**Subject:** RE: [EXTERNAL] Prevailing Wind Park Project - Visual APE Clarification

Hi Dave,

Thank you for the clarification. We will proceed using a 2-mile visual APE for the architectural survey.

Regarding the archaeological survey, could you please confirm that artifact collection is not required and that all analysis can be completed in the field? I don't believe we covered this topic during our past Project calls, but based on my review of the Western Cultural Resources Protection Manual, it appears as though artifacts are only collected if required under a permit stipulation.

Thank you for your assistance.

[Erika Eigenberger](#), M.A.  
D 763.591.5427 M 612.208.4525

[hdrinc.com/follow-us](http://hdrinc.com/follow-us)

---

**From:** Kluth, David [mailto:[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)]  
**Sent:** Tuesday, May 22, 2018 9:43 AM  
**To:** Eigenberger, Erika <[Erika.Eigenberger@hdrinc.com](mailto:Erika.Eigenberger@hdrinc.com)>  
**Cc:** Bridget Canty <[bcanty@spower.com](mailto:bcanty@spower.com)>; Rust, Jill <[Jill.Rust@hdrinc.com](mailto:Jill.Rust@hdrinc.com)>; Gomer, Christina <[Gomer@WAPA.GOV](mailto:Gomer@WAPA.GOV)>  
**Subject:** RE: [EXTERNAL] Prevailing Wind Park Project - Visual APE Clarification

Hi Erika,

While SHPO has asked for at least one mile as a minimum visual APE, the number of possible turbines would dictate that a larger visual APE is required. Actually, WAPA assumed that the adjacent wind farm had at least a two mile visual APE. Even though that project did not undergo Section 106 review, WAPA still feels that a 2 mile visual APE for an architectural survey is needed.

If you have any questions, feel free to give me a call.

Thanks –

Dave

---

**From:** Eigenberger, Erika [<mailto:Erika.Eigenberger@hdrinc.com>]  
**Sent:** Thursday, May 10, 2018 9:51 AM  
**To:** Kluth, David <[Kluth@WAPA.GOV](mailto:Kluth@WAPA.GOV)>  
**Cc:** Bridget Canty <[bcanty@spower.com](mailto:bcanty@spower.com)>; Rust, Jill <[Jill.Rust@hdrinc.com](mailto:Jill.Rust@hdrinc.com)>  
**Subject:** [EXTERNAL] Prevailing Wind Park Project - Visual APE Clarification

Dave,

I am writing in regards to the visual APE that will be used for the Prevailing Wind Park Project.

During our last conference call between WAPA, sPower, and HDR (5/4/2018) we discussed applying the same visual APE that was used for the adjacent B&H Wind Project, which was assumed to be 1-mile. After reviewing the B&H Wind report, that project did not go through Section 106 and did not have a full architectural survey or visual APE assigned.

As such, I am seeking clarification regarding the appropriate visual APE for the Prevailing Wind Park Project. Does WAPA consider a 1-mile visual APE appropriate for the Project or should a larger visual APE be considered? The SD SHPO response to the WAPA Section 106 Project Consultation letter notes a 1-mile minimum around the proposed generating facility and transmission line.

Thank you,

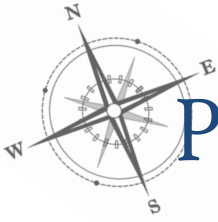
**Erika Eigenberger**, M.A.  
*Archaeology Project Director*

HDR  
701 Xenia Ave South, Suite 600  
Minneapolis, Minnesota 55416  
D 763.591.5427 M 612.208.4525  
[erika.eigenberger@hdrinc.com](mailto:erika.eigenberger@hdrinc.com)

[hdrinc.com/follow-us](http://hdrinc.com/follow-us)



**SHPO**



# PREVAILING WINDS, LLC

## **Meeting: SD SHPO Staff Meeting**

**Date: May 18, 2017 – 10:30 to 11:30 AM**

**At: SHPO Office, 900 Governors Drive, Pierre, SD**

**Conference Call Number: 952-236-1190 Conference ID# 32742**

**SD SHPO Meeting lead: Paige Olson**

### **Agenda:**

1. Introductions
2. Project introduction
  - a. Project Footprint (Turbine area)
  - b. Transmission Line Route
  - c. History and Ownership
3. Voluntary wind and transmission easements
4. Transmission Route along SD HWY 46 & 37
  - a. Transmission line within ROW – with overhang/maintenance easements
  - b. Transmission line within ROW – no adjoining easements
  - c. Transmission line outside ROW – 75' easement
5. Transmission Route along HWY 213 & Township Roads
  - a. Transmission line outside ROW – 75' easement
  - b. Transmission line with no ROW – 100' easement
6. Section 106 work with WAPA
7. Other questions/comments



April 20, 2018

Mr. David W. Kluth  
Department of Energy  
Western Area Power Administration  
200 4<sup>th</sup> Street SW  
Huron, SD 57350-2474

#### **SECTION 106 PROJECT CONSULTATION**

Project: 171127002F – Interconnection Request for the Prevailing Winds LLC, Wind Farm in Bon Homme, Charles Mix and Hutchinson Counties, South Dakota  
Location: Multiple Counties  
(WAPA)

Dear Mr. Kluth:

Thank you for the opportunity to comment on the above referenced project pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). The South Dakota Office of the State Historic Preservation Officer (SHPO) would like to provide the following comments.

On April 10, 2018, we received your letter and the attached maps concerning the interconnection request from Prevailing Winds, LLC, for the proposed Prevailing Winds wind farm project. Your letter requests our comments or concurrence on the defined area of potential effects (APE) and identification efforts.

Based on the information provided in your letter, we concur with the APE as defined by your agency, such that, the APE for direct effects will include all lands within the generating facility footprint of 47,000 acres to be physically impacted or have the potential to be impacted by ground disturbing activities. The APE for direct effects should also include the transmission line from the Prevailing Winds Project Substation to the Utica Junction Substation. The APE for indirect effects should, at the very least, include a one mile buffer around the proposed generating facility and transmission line.

We agree with the proposed strategy for the identification of historic properties, such that, a file search of the APE is conducted to identify previously identified cultural and historic properties and an intensive level survey is conducted on all areas of ground disturbance or potential ground disturbance within the above defined APE. Properties identified within the APE should be evaluated for listing in the National Register of Historic Places.

Please note that my office does not have the expertise to recommend an APE or assess the effects of the proposed project to places of religious and cultural significance to American Indian tribes. We encourage your agency to provide opportunities for other consulting parties, pursuant to 36 CFR § 800.2(c), to provide meaningful input into the effects of the proposed project to historic properties.

Should you require any additional information, please do not hesitate to contact Paige Olson at [Paige.Olson@state.sd.us](mailto:Paige.Olson@state.sd.us) or (605) 773-6004.

Sincerely,

Jay D. Vogt  
State Historic Preservation Officer

A handwritten signature in dark ink, appearing to read "P. Olson", written in a cursive style.

Paige Olson  
Review and Compliance Coordinator

**FAA**



Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

Aeronautical Study No.  
2018-WTE-3741-OE

Issued Date: 05/17/2018

Peter Pawlowski  
S Power  
2180 South 1300 East  
Salt Lake City, UT 84106

**\*\* PUBLIC NOTICE \*\***

The Federal Aviation Administration is conducting an aeronautical study concerning the following:

Structure:	Wind Turbine T2
Location:	Avon, SD
Latitude:	43-07-58.76N NAD 83
Longitude:	98-03-27.25W
Heights:	1802 feet site elevation (SE) 590 feet above ground level (AGL) 2392 feet above mean sea level (AMSL)

The structure above exceeds obstruction standards. To determine its effect upon the safe and efficient use of navigable airspace by aircraft and on the operation of air navigation facilities, the FAA is conducting an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77.

**\*\* SEE REVERSE SIDE FOR ADDITIONAL INFORMATION \*\***

In the study, consideration will be given to all facts relevant to the effect of the structure on existing and planned airspace use, air navigation facilities, airports, aircraft operations, procedures and minimum flight altitudes, and the air traffic control system.

Interested persons are invited to participate in the aeronautical study by submitting comments to the above FAA address or through the electronic notification system. To be eligible for consideration, comments must be relevant to the effect the structure would have on aviation, must provide sufficient detail to permit a clear understanding, must contain the aeronautical study number printed in the upper right hand corner of this notice, and must be received on or before 06/23/2018.

This notice may be reproduced and circulated by any interested person. Airport managers are encouraged to post this notice.

If we can be of further assistance, please contact our office at (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-3741-OE.



**Signature Control No: 362188459-365503532**

( CIR -WT )

Steve Phillips

Specialist

Attachment(s)

Part 77

Additional Information

Map(s)

**Proposal:** To construct and/or operate a(n) Wind Turbine to a height of 590 feet above ground level, 2392 feet above mean sea level.

**Location:** The structure will be located 11.28 nautical miles east of AGZ Airport reference point.

**Part 77 Obstruction Standard(s) Exceeded:**

**Preliminary FAA study indicates that the above mentioned structure would:**

have no effect on any existing or proposed arrival, departure, or en route instrument flight rules (IFR) operations or procedures.

not exceed traffic pattern airspace

have no physical or electromagnetic effect on the operation of air navigation and communications facilities.

have no effect on any airspace and routes used by the military.

Abbreviations:

AGL, Above Ground Level

AMSL, Above Mean Sea Level

ASN, Aeronautical Study Number

CFR, Code of Federal Regulations

NM, Nautical Mile

The proposed structures (Wind Turbines) would be located approximately 6.89 - 14.77 NM northeast - east of the Airport Reference Point for the Wagner Municipal Airport (AGZ), Wagner, SD. A total of 64 turbines are currently included in this project. In order to facilitate the public comment process, all 64 are being circularized under ASN 2018-WTE-3741-OE. All comments received from this circularization will be considered in completing the separate determinations for each study. The ASNs with coordinates, AGL heights, and AMSL heights are as follows:

ASN	/	Latitude	/	Longitude	/	AGL / AMSL
2018-WTE-3741-OE	/	43-07-58.76N	/	98-03-27.25W	/	590 / 2392
2018-WTE-3742-OE	/	43-07-48.87N	/	98-04-31.54W	/	590 / 2400
2018-WTE-3743-OE	/	43-08-11.75N	/	98-02-45.89W	/	590 / 2342
2018-WTE-3744-OE	/	43-07-06.92N	/	98-04-26.73W	/	590 / 2371
2018-WTE-3745-OE	/	43-08-04.96N	/	98-03-09.02W	/	590 / 2360
2018-WTE-3747-OE	/	43-07-50.33N	/	98-07-08.17W	/	590 / 2379
2018-WTE-3748-OE	/	43-07-21.11N	/	98-06-45.67W	/	590 / 2356
2018-WTE-3749-OE	/	43-04-42.51N	/	98-03-18.11W	/	590 / 2330
2018-WTE-3750-OE	/	43-04-12.67N	/	98-03-15.38W	/	590 / 2332
2018-WTE-3751-OE	/	43-07-17.66N	/	98-05-46.46W	/	590 / 2330
2018-WTE-3752-OE	/	43-08-32.31N	/	98-01-30.53W	/	590 / 2323
2018-WTE-3753-OE	/	43-03-20.39N	/	98-03-24.67W	/	590 / 2290
2018-WTE-3754-OE	/	43-07-06.59N	/	98-07-28.38W	/	590 / 2348
2018-WTE-3755-OE	/	43-07-26.64N	/	98-07-53.76W	/	590 / 2354
2018-WTE-3756-OE	/	43-06-32.78N	/	98-05-05.84W	/	590 / 2309
2018-WTE-3757-OE	/	43-09-23.74N	/	98-01-22.94W	/	590 / 2304
2018-WTE-3758-OE	/	43-04-50.04N	/	98-04-17.52W	/	590 / 2291
2018-WTE-3759-OE	/	43-09-39.37N	/	98-01-11.93W	/	590 / 2302
2018-WTE-3760-OE	/	43-07-55.31N	/	98-01-00.99W	/	590 / 2284
2018-WTE-3761-OE	/	43-06-53.89N	/	98-07-51.54W	/	590 / 2327
2018-WTE-3762-OE	/	43-06-33.86N	/	98-08-07.93W	/	590 / 2324
2018-WTE-3763-OE	/	43-05-05.92N	/	98-05-33.47W	/	590 / 2277
2018-WTE-3764-OE	/	43-10-13.48N	/	98-00-49.28W	/	590 / 2288
2018-WTE-3766-OE	/	43-03-36.94N	/	98-01-08.21W	/	590 / 2261
2018-WTE-3767-OE	/	43-04-38.45N	/	98-04-31.14W	/	590 / 2283
2018-WTE-3768-OE	/	43-06-30.21N	/	98-05-42.07W	/	590 / 2310
2018-WTE-3769-OE	/	43-10-50.68N	/	98-00-48.69W	/	590 / 2283
2018-WTE-3770-OE	/	43-03-48.74N	/	98-02-23.73W	/	590 / 2278

2018-WTE-3771-OE / 43-08-00.76N / 98-09-02.57W / 590 / 2293  
 2018-WTE-3772-OE / 43-07-38.67N / 98-00-23.59W / 590 / 2254  
  
 2018-WTE-3773-OE / 43-03-38.63N / 98-02-44.03W / 590 / 2265  
 2018-WTE-3774-OE / 43-04-19.90N / 98-00-24.46W / 590 / 2254  
 2018-WTE-3775-OE / 43-08-52.87N / 98-00-46.64W / 590 / 2285  
 2018-WTE-3777-OE / 43-02-03.79N / 98-02-32.41W / 590 / 2216  
 2018-WTE-3778-OE / 43-05-41.48N / 98-07-29.56W / 590 / 2310  
 2018-WTE-3781-OE / 43-02-54.66N / 98-01-14.67W / 590 / 2237  
 2018-WTE-3782-OE / 43-02-28.90N / 98-01-57.86W / 590 / 2216  
 2018-WTE-3783-OE / 43-02-42.79N / 98-01-36.97W / 590 / 2232  
 2018-WTE-3784-OE / 43-04-20.54N / 98-06-52.86W / 590 / 2280  
 2018-WTE-3785-OE / 43-09-22.15N / 98-00-03.58W / 590 / 2242  
  
 2018-WTE-3786-OE / 43-09-41.91N / 97-59-41.21W / 590 / 2222  
 2018-WTE-3787-OE / 43-06-47.24N / 98-09-16.57W / 590 / 2264  
 2018-WTE-3788-OE / 43-05-12.57N / 98-08-02.41W / 590 / 2278  
 2018-WTE-3789-OE / 43-08-56.90N / 98-00-24.45W / 590 / 2252  
 2018-WTE-3790-OE / 43-10-19.52N / 98-00-15.14W / 590 / 2251  
 2018-WTE-3791-OE / 43-03-43.44N / 98-00-10.00W / 590 / 2212  
 2018-WTE-3792-OE / 43-03-54.46N / 97-59-47.05W / 590 / 2215  
 2018-WTE-3793-OE / 43-07-59.08N / 98-00-16.05W / 590 / 2243  
 2018-WTE-3794-OE / 43-11-20.13N / 98-00-23.54W / 590 / 2235  
 2018-WTE-3795-OE / 43-11-05.17N / 98-00-29.23W / 590 / 2246  
  
 2018-WTE-3796-OE / 43-06-57.58N / 98-09-03.58W / 590 / 2270  
 2018-WTE-3797-OE / 43-05-28.29N / 98-07-49.97W / 590 / 2291  
 2018-WTE-3799-OE / 43-03-46.00N / 98-07-20.42W / 590 / 2254  
 2018-WTE-3800-OE / 43-02-53.74N / 98-06-57.27W / 590 / 2233  
 2018-WTE-3801-OE / 43-02-40.65N / 98-08-25.79W / 590 / 2248  
 2018-WTE-3802-OE / 43-02-59.63N / 98-08-19.47W / 590 / 2253  
 2018-WTE-3803-OE / 43-02-40.83N / 98-07-15.47W / 590 / 2211  
 2018-WTE-3877-OE / 43-07-43.00N / 98-03-53.42W / 590 / 2460  
 2018-WTE-3878-OE / 43-07-08.43N / 98-05-07.44W / 590 / 2354  
 2018-WTE-3879-OE / 43-08-44.66N / 98-09-04.10W / 590 / 2284  
  
 2018-WTE-3880-OE / 43-05-42.15N / 98-06-38.22W / 590 / 2252  
 2018-WTE-3881-OE / 43-07-53.82N / 98-09-19.62W / 590 / 2274  
 2018-WTE-3882-OE / 43-04-45.96N / 98-07-00.47W / 590 / 2280  
 2018-WTE-3883-OE / 43-03-20.32N / 98-08-08.02W / 590 / 2251

These would exceed the obstruction standards of 14 CFR Part 77 as follows:

All 64 turbines filed for this project would exceed Section 77.17(a)(1): by 91 feet; A height that exceeds 499 feet AGL.

