

2014 Native Prairie Survey

Foxtail Wind Energy Center

Dickey County, North Dakota



Prepared for:

NextEra Energy, LLC



September 2014

Revised July 2017



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EXECUTIVE SUMMARY

NextEra Energy, LLC (NextEra) is planning to develop a wind energy conversion facility at the Foxtail Wind Energy Center (Project). The Project area is located in Dickey County, North Dakota. NextEra is committed to environmental due diligence and have contracted Tetra Tech, Inc. (Tetra Tech) to conduct a survey for native prairie habitat and habitat assessment for two butterfly species, Dakota skipper (*Hesperia dacotae*) and poweshiek skipperling (*Oarisma poweshiek*), that are listed as threatened and endangered, respectively, under the Endangered Species Act (ESA). Native prairie has been identified for special consideration this region of North Dakota as vital habitat for both butterfly species.

Field surveys were conducted August 14 and 15th, 2014. Approximately 78 percent of the proposed Project Area was surveyed for native prairie (some portions of the Project area could not be surveyed due to private landownership restrictions). A total of 14,108.6 acres (70.5 percent of the Project area) were classified as native prairie, 1,521.90 acres (7.6 percent of the Project area) were classified as tame grasslands (e.g., pasturelands mostly used for cattle grazing), and 28.7 (less than 0.002 percent) acres were classified as wet complex lands which included emergent wetlands and wetland meadow habitats. The largest contiguous areas of native prairie were found in the southern region of the Project area.

The majority of the Project area is in native prairie, but of low quality for the poweshiek skipperling and Dakota skipper. The dry prairie habitat required for the poweshiek skipperling appeared to be largely absent from the Project area. The rolling topography offers hillsides that have retained some of the little bluestem grassland community required by the Dakota skipper. Of the 15,658.3 acres classified as either native prairie or tame grassland within the Project area, 23 percent were classified as either good or excellent Dakota skipper habitat and 76.9 percent (12,041.10 acres) was considered fair/poor habitat. Additionally, 0.14 percent (21.6 acres) had no habitat for the butterflies. Due to the overall quality of the habitat present within the Project area, the likelihood of occurrence for the poweshiek skipperling and Dakota skipper is low.

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1.0 Introduction

Native prairie, defined as unbroken grassland dominated by non-introduced species, serves as a vital ecological resource by improving water quality, providing erosion control, and supporting a diverse population of plants and animals. However, due to the native prairie's fertile soils and predominantly flat topography, large portions of native prairie have been converted to agricultural use. The wide spread loss of native prairie makes this an ecosystem of conservation concern and one of the most endangered ecosystems in North America (Samson et al. 2004). Additional factors that have altered the ecology of prairie ecosystems include colonization of non-native plant species, loss of native grazers (e.g., bison), altered fire regimes, and fragmentation in the form of development.

Native prairie may be used in several ways on the landscape. Most native prairie that is in private holdings is used for cattle ranching and is managed as rangelands. On rangelands, the soil has not been tilled and fire is often used to suppress the growth of woody species (Hagen et al. 2005). Other forms of management (e.g., seeding, fertilizing) are less common. Native prairie may also be placed in unmarked conservation easements such as grassland preserves (either private or public) or as wildlife refuges. Preserves and refuges can be difficult to visually distinguish from rangelands because the same types of management.

NextEra Energy is planning to develop the Foxtail Wind Energy Facility (Project) in Dickey County, North Dakota, about 15 miles west northwest of Ellendale (Figure 1). NextEra Energy is committed to environmental due diligence and therefore contracted Tetra Tech, Inc. (Tetra Tech) to conduct a native prairie survey and habitat assessment for the Dakota skipper and poweshiek skipperling, two butterfly species listed under the federal Endangered Species Act (ESA) as threatened and endangered, respectively. Native prairie has been identified for special consideration as vital habitat for both butterfly species (Federal Register 2013).

1.1 Project Description

The Project area is located in the Missouri Coteau region of the Northwestern Glaciated Plains (Bryce et al. 1998). The Northwestern Glaciated Plains ecoregion marks the western most extent of continental glaciations and is characterized by significant surface irregularity and high concentrations of wetlands. The glacially carved rolling hummocks of the Missouri Coteau enclose numerous wetland depressions or potholes. Streams and rivers are nearly absent, as are upland deciduous forests. Land use on the Missouri Coteau is a mixture of hay and spring wheat tilled agriculture in flatter areas and cattle grazing on steeper slopes. Much of the native prairie has been largely replaced by wheat, alfalfa and other commercial crops over most of the ecoregion (Bryce et al. 1998, Samson et al. 1998). Other types of grasslands found in the ecoregion include tame grasslands (i.e., pasturelands mostly used for cattle grazing), which are primarily composed of non-native species. Native prairie differs from tame grasslands in that native prairie is found on unbroken soil whereas tame grasslands occur on tilled soil and have been planted.

1.2 Dakota Skipper

The Dakota skipper is a small species of butterfly that has been listed as threatened under the ESA (USFWS 2014). The ESA protects listed species from take – which includes harming, harassing, injuring, or killing. The ESA also protects habitat designated as critical habitat for the species’ survival and recovery. Although its historic range once consisted of vast unbroken native prairie in the north central U.S. and south central Canada, its current range is now limited to scattered remnants of high quality native prairie in Minnesota, North Dakota and South Dakota, and southern Manitoba (USFWS 2014). The Dakota skipper population has declined due to sensitivity to disturbances, such as grazing and fire, and the loss of native prairie habitat. Preferred habitat includes prairie dominated by little bluestem grass and needlegrasses with the presence of wood lily, bluebell bellflower purple coneflower, upright prairie coneflower, common gaillardia, and/or smooth camas (USFWS 2014). The USFWS proposed to designate 54 tracts, ranging in size from 31 acres to 2,887 acres in North Dakota, Minnesota, and South Dakota as critical habitat which include mostly state and federally protected lands (USFWS 2014). In 2015, 38 units were designated in these states, totaling 19,900 acres, although there is no designated critical habitat in the Project area (USFW 2015). The USFWS has also passed a special rule under section 4(d) of the ESA that would allow flexibility of landowners and land managers who have Dakota skippers on their property an incidental take as a result of routine ranching activities such as construction of fences, corrals, haying/mowing, and in some areas grazing (USFWS 2014).

1.3 Poweshiek Skipperling

The poweshiek skipperling is a small species of butterfly that has been listed as endangered under the ESA (USFWS 2014). The species was once found in eight states (including North Dakota) and Canada but now is only known to occur in a few native prairie remnants in Wisconsin, Michigan and Manitoba Canada and may be extirpated from North Dakota (USFWS 2013). The poweshiek skipperling population has declined due the loss of native prairie habitat. The habitat features that are essential for the Poweshiek skipperling include high-quality prairie fens, grassy lake and stream margins, remnant moist meadows, and wet-mesic and dry, undisturbed tallgrass prairies (USFWS 2013). These habitat features are dominated by native prairie grasses, such as little bluestem and prairie dropseed, but also contain a high diversity of native forbs, including smooth ox-eye (*Heliopsis helianthoides*), purple coneflower (*Echinacea purpurea*), black-eyed susan (*Rudbeckia hirta*) and palespike lobelia (*Lobelia spicata*). Like the Dakota skipper, the poweshiek skipperling is protected from take. The USFWS proposed to designate 63 tracts of critical habitat for the species ranging from 23 acres to 2,887 acres in Iowa, Michigan, Minnesota, South Dakota, North Dakota, and Wisconsin which include mostly state and federally protected lands (USFWS 2014). In 2015, 56 units were designated, totaling 25,900 acres. There is no designated critical habitat within the Project area.

2.0 Methods

A field biologist conducted field surveys for native prairie habitat within the Project area August 14—15, 2014. In order to systematically identify areas of native prairie, the field biologist visually assessed habitat by making roadside stops to delineate the habitat within the Project area. Roadside stops were made when needed (e.g., change in habitat or limited view). In many areas, one square-mile sections of land were bordered by county roads and were easily evaluated. Habitat that could not be identified from public roads was not surveyed due to private landownership restrictions.

When grasslands were encountered during field surveys, the field biologist determined if the grasslands were native prairie or tame grasslands. The grassland type was determined based on several visual cues including the following: dominant visible plant species, particularly the proportion of native to non-native species in core areas away from fence lines; frequency of typical native prairie species, such as forbs (herbaceous flowering plants) that are not as common in tilled and seeded pastureland compared to native prairie; topography (feasibility of being tilled); presence of piles of rocks (which indicate clearing of rock from an area in preparation for cultivation); and vegetation growing in obvious rows (indicating prior tilling and seeding). Areas of presumably unbroken soil that were comprised mostly of native prairie plants were classified as native prairie, and may have included rangelands, conservation easements, or other types of reserves. Areas of broken soil that were comprised of mostly non-native species or had few forb species were classified as tame grasslands. In North Dakota, tame grasslands are mostly planted alfalfa, sweet clover, or brome grass plantings used for hayfields.

Grasslands were also evaluated to determine their suitability as habitat for the Dakota skipper and poweshiek skipperling. Given both species use similar plant species as hosts or nectar sources (e.g., little bluestem, dropseed, coneflower, camas, black-eyed susan) habitat suitability was based on 1) the presence of key plant species for the Dakota skipper as described by Cochrane and Delphey (2002); 2) presence of high quality prairie fens, grassy lake and stream margins or high/dry areas with sparse shrub layer for the poweshiek skipperling (Dennis Skadsen, Day County Conservation District, pers. comm); and 3) land disturbance (i.e., grazing intensity). Grasslands were broadly classified as excellent, good, or fair/poor quality butterfly habitat. Excellent habitat was defined as grasslands where only light grazing had occurred and at least 1 key plant species was present; good habitat was defined as areas with moderate grazing and where key plant species were either present or not; and fair/poor habitat was defined as grasslands where heavy grazing had occurred and key plant species were either present or not. Grazing intensity was recorded for grasslands by estimating the percentage of vegetation grazed in broad classes: <25 percent (light), 25-50 percent (moderate), and >50 percent (heavy). The habitat types were drawn onto aerial photographs of each township/range section. The locations of native prairie and habitat quality were then digitized from the aerial photographs using ArcGIS software.

3.0 Results

Approximately 78 percent of the Project area was surveyed for native prairie based on land accessibility from public roads. The Project area consists of prairie grasslands (both native prairie and tame grasslands), agricultural crops and wetlands, mostly from small depressions, and intermittent waterways such as creeks.

A total of 14,108.6 acres (70.5 percent of the Project area) were classified as native prairie, 1,521.90 acres (7.6 percent of the Project area) were classified as tame grasslands, and 28.7 acres (less than 0.14 percent of the Project area) were classified as wet complex which included emergent wetlands and wetland meadow habitats (Figure 2). The largest contiguous areas of native prairie were found in the southern region of the Project Area (Figure 2). A total of 15 species of grasses (3 non-native) and 62 species of forbs (6 non-natives) were recorded in native prairie (Table 1). Three species are listed by the state of North Dakota as being noxious weeds: absinth wormwood, Canada thistle and leafy spurge (Table 1). Tame grasslands consisted of 15 species (3 non-native) and 36 forbs (3 non-natives) species (Table 2). Three of the species found in tame grasslands are state listed noxious weeds: absinth wormwood, Canada thistle and leafy spurge (Table 2). None are species are listed as federally protected endangered, threatened or species of concern. Proposed turbine locations in relation to native prairie and tame grassland are shown in Figure 2.

3.1 Butterfly Habitat Assessment

The majority of the Project area is native prairie, but of low quality native prairie due to disturbance in the form of grazing and the resulting invasive species. Of the 15,658.3 acres classified as either native prairie or tame grassland within the Project area, 23 percent were classified as either good or excellent habitat for the Dakota skipper (Figure 2). Dakota skipper habitat consisted of 699.5 acres (4.5 percent) of excellent habitat, 2,895.90 acres (18.5 percent) of good habitat, and 12,041.10 acres (76.9 percent) of fair/poor habitat. Additionally, 21.6 acres (0.14 percent) did not contain butterfly habitat. The largest portion of continuous grassland habitat classified as excellent for the Dakota skipper is located in the southern portion of the Project area (Figure 2). Although the native prairie habitat requirements for both species of butterfly are similar, the Poweshiek skipperling prefers higher and drier areas than the Dakota skipper (Dennis Skadsen, pers. comm). The dry prairie habitat required for the poweshiek skipperling appeared to be largely absent from the Project area. However, the rolling topography offers hillsides that have retained some of the little bluestem grassland community required by the Dakota skipper.

4.0 Discussion

Impacts to a species resulting from the direct and indirect loss of habitat are important and must be considered when a wind project is being considered for development (USFWS 2012). Prairies are an ecosystem of conservation concern and many siting guidelines recommend that wind turbines not be placed in large, intact areas of native prairie (Samson et al. 2004). Native prairie comprises

approximately 70.5 percent of the Project area with 86 percent of the proposed turbines located in native prairie.

The dry prairie habitat required for the poweshiek skipperling appeared to be largely absent from the Project area. Although several host plants and nectar plant species for this butterfly species have ranges that include the Project area, the type of dry prairie as a whole described for the poweshiek skipperling was not present within the Project area. There is some lowland, wet-complex habitat present that meet the habitat requirements for this species, (e.g., high-quality prairie fens, grassy lake and stream margins) within the Project area, however, turbine siting likely won't impact these habitat types. The overall likelihood of presence for this species is low.

The western side of the Project area is the eastern edge of a Coteau escarpment. Based on the vegetative community in this portion of the Project area, it's highly likely that the Dakota skipper had a historical presence within the Project area. The majority of the Project area is in native prairie, but of low quality due to grazing and the invasive species that have resulted from this land use. Regardless of land use, though, the rolling topography offers hillsides that have retained the little bluestem grassland community required by the Dakota skipper. Therefore, the habitat suggests the possibility that Dakota skippers could inhabit the Project area; however, because of years of continuous grazing, the overall likelihood of presence is low.

If turbines, roads, or other project facilities are to be constructed in native prairie in the Project area, measures should be taken to ensure that the spread of non-native or invasive species and state listed noxious weeds are not facilitated. Noxious weed species are defined as those that can cause environmental or economic harm (NDSU 2014). Noxious weeds and other invasive species can crowd out native species and often colonize disturbed areas such as roadways (Reinking 2006). Three noxious weeds (absinthe wormwood, Canada thistle and leafy spurge) were detected in the Project area. Others could be transported into the Project area by construction equipment; therefore, coordination with local agencies is recommended to discuss any state or county requirements related to preventing the introduction or spread of invasive species t.

5.0 Recommendations

This report recommends potential measures that may be implemented to lessen the any impact of habitat degradation and fragmentation to native prairie due to development. Conversion of native prairie to other land uses, fragmentation, and overgrazing by cattle has resulted in continent wide losses of native prairie habitat. Loss of native prairie may affect ecosystem function and wildlife species are dependent on the native plants for food, cover, and breeding habitat. In order to decrease the loss of native prairie habitat the following is recommended:

- To the greatest extent possible, minimize impacts to native prairie by siting turbines in cultivated areas or altered landscapes.
- If turbines are to be placed in native prairie, avoid large contiguous tracts, if possible. Placement of turbines in native prairie that is less suitable for wildlife such as those with a

history of fire suppression and grazing regimes or areas encroached by non-native species are preferred for development.

- Consult with the United States Department of Agriculture regarding the locations of any lands enrolled in the Conservation Reserve Program (CRP).
- If native vegetation is disturbed or removed during construction of roads or turbines or during on-going maintenance activities, these areas should be reseeded or planted with native material, pending landowner preference.
- Monitoring for state and county listed noxious weeds should be conducted and control measures implemented of any North Dakota listed noxious weeds or invasive species found within the Project area.

6.0 References

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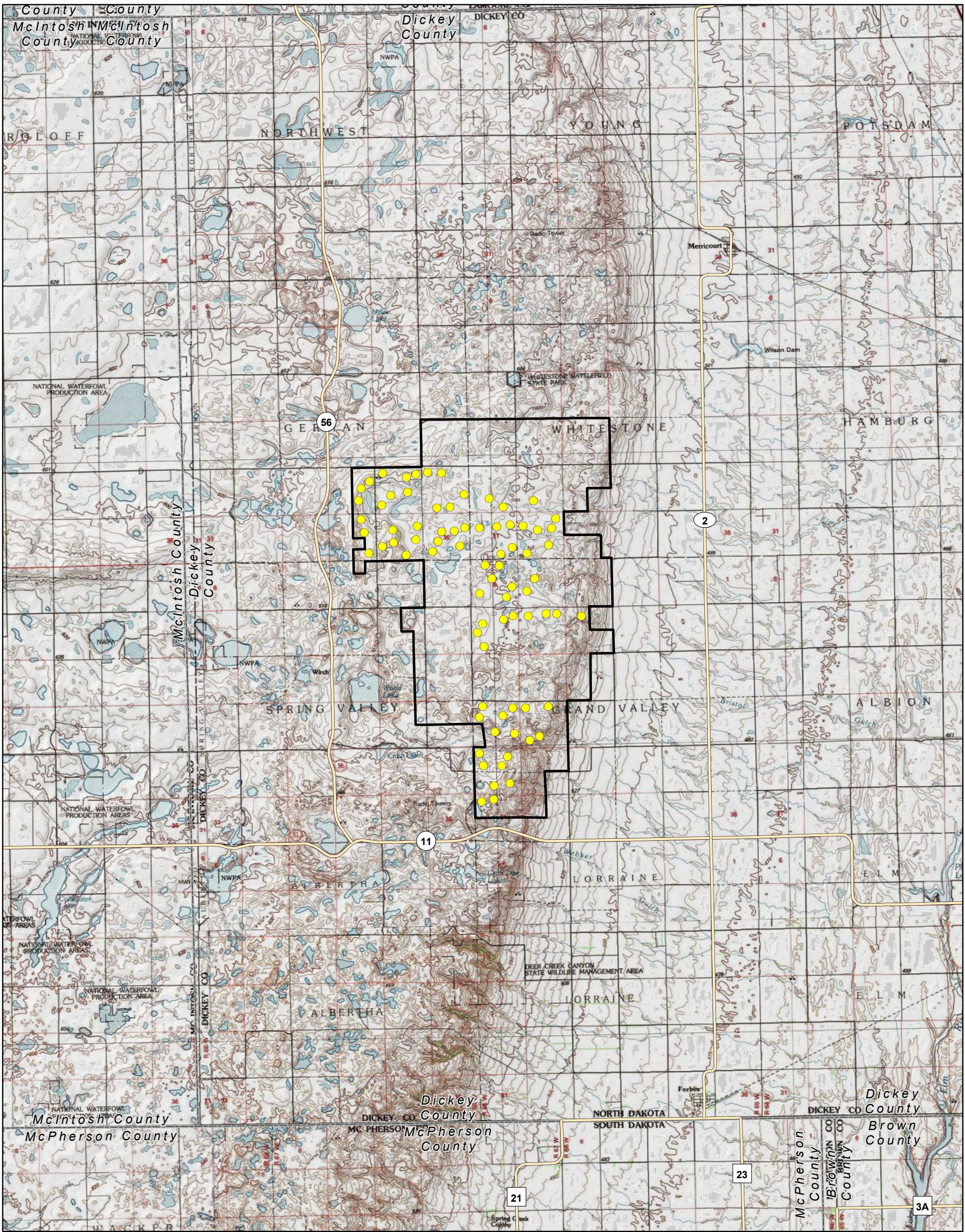
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1:125,000 NAD 1983 StatePlane North Dakota South FIPS 3302 Feet

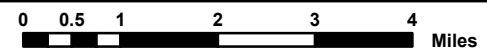






Figure 1
Foxtail Wind Energy Center

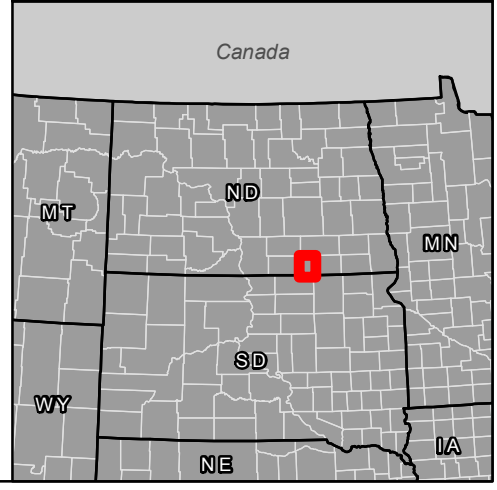


Vicinity Map
Updated August 2017

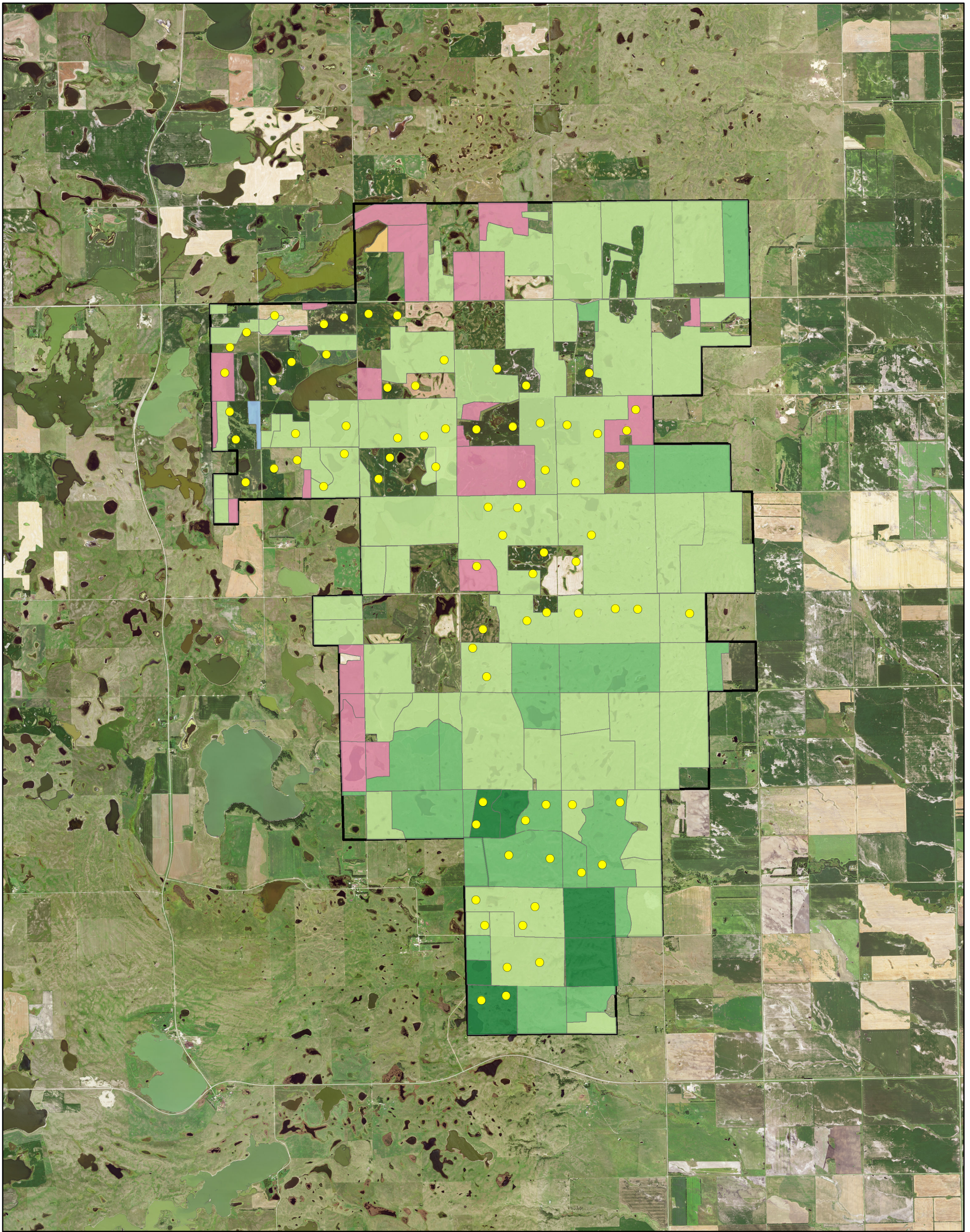
DICKEY COUNTY, ND

-  Proposed Project Boundary (01-03-2017)
-  Proposed Turbines (07-14-2017)
-  Secondary Road
-  County Boundary

Reference Map



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1:60,000 NAD 1983 StatePlane North Dakota South FIPS 3302 Feet 0 0.5 1 1.5 2 Miles

**Figure 2
Foxtail Wind Energy
Center**



**Native Prairie Survey
Results
Updated August 2017**

DICKEY COUNTY, ND

Proposed Project Boundary
(01-03-2017)

Proposed Turbines
(07-14-2017)



Prairie Type 2014, Butterfly Habitat 2014

Native, Excellent/Likely

Native, Good/Possible

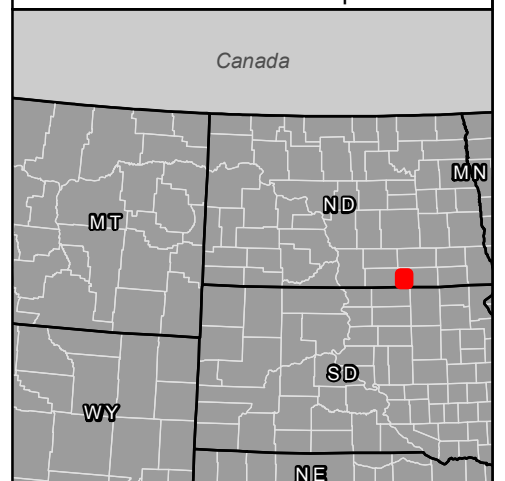
Native, Poor/Unlikely

Native, No Habitat

Tame, Poor/Unlikely

Wet Complex, Poor/Unlikely

Reference Map



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Table 1. Species List of Plants Observed in Native Prairie Habitat for the Foxtail Wind Energy Center

Species*	Common Name
Grasses	
<i>Agropyron smithii</i> Rydb.	western wheatgrass
<i>Andropogon scoparius</i> Michx.	little bluestem
<i>Andropogon gerardii</i> Vitman	big bluestem
<i>Bouteloua curtipendula</i> (Michx.) Torr.	sideoats grama
<i>Bouteloua gracilis</i> (H.B.K.) Lag. ex. Griffiths	blue grama
<i>Bromus inermis</i> Leyss.	smooth brome
<i>Agropyron repens</i> (L.) Beauv.	quackgrass
<i>Koeleria pyramidata</i> (Lam.) Beauv.	Junegrass
<i>Poa pratensis</i> L.	Kentucky bluegrass
<i>Sorghastrum nutans</i> (L.) Nash	Indian grass
<i>Spartina pectinata</i> Link	prairie cordgrass
<i>Sporobolus heterolepis</i> (A. Gray) A. Gray	prairie dropseed
<i>Stipa comata</i> Trin. & Rupr.	needle-and-thread
<i>Stipa spartea</i> Trin.	porcupine grass
<i>Stipa viridula</i> Trin.	green needlegrass
Sedge	
<i>Carex filifolia</i> Nutt.	thread-leaf sedge
Shrub	
<i>Crataegus rotundifolia</i> Moench	northern hawthorn
<i>Symphoricarpos occidentalis</i> L.	western snowberry
Forbs	
<i>Achillea millefolium</i> L.	yarrow
<i>Allium stellatum</i> Ker.	pink wild onion
<i>Ambrosia artemisiifolia</i> L.	common ragweed
<i>Ambrosia psilostachya</i> DC.	western ragweed
<i>Amorpha canescens</i> Pursh	leadplant
<i>Anemone cylindrica</i> A. Gray	candle anemone
<i>Anemone patens</i> L.	pasque flower
<i>Artemisia absinthium</i> L.	absinthe wormwood
<i>Artemisia campestris</i> L. subsp. <i>caudata</i> (Michx.) Hall & Clem.	western sagewort
<i>Artemisia dracunculus</i> L.	silky wormwood
<i>Artemisia frigida</i> Willd.	fringed sagewort
<i>Artemisia ludoviciana</i> Nutt.	white sagewort
<i>Asclepias viridiflora</i> Raf.	green milkweed
<i>Aster ericoides</i> L.	heath aster
<i>Astragalus flexuosus</i> (Hook.) G. Don.	pliant milk-vetch
<i>Aster oblongifolius</i> Nutt.	aromatic aster
<i>Calylophus serrulatus</i> (Nutt.) Raven	plains yellow primrose
<i>Chrysopsis villosa</i> (Pursh) Nutt.	hairy gold aster
<i>Cirsium arvense</i> (L.) Scop.	Canada thistle
<i>Cirsium flodmanii</i> (Rydb.) Arthur	Flodman's thistle
<i>Comandra umbellata</i> (L.) Nutt.	bastard toadflax
<i>Dalea purpurea</i> Vent.	purple prairie clover
<i>Echinacea angustifolia</i> DC.	purple coneflower

Species*	Common Name
<i>Erigeron strigosus</i> Muhl. Ex Willd.	daisy fleabane
<i>Erysimum asperum</i> (Nutt.) DC.	western wallflower
<i>Euphorbia esula</i> L.	leafy spurge
<i>Gaura coccinea</i> Pursh	scarlet gaura
<i>Glycyrrhiza lepidota</i> Pursh.	wild licorice
<i>Grindelia squarrosa</i> (Pursh) Dun.	curly-top gumweed
<i>Helianthus maximiliani</i> Schrad.	Maximilian sunflower
<i>Helianthus rigidus</i> (Cass.) Desf.	stiff sunflower
<i>Heuchera richardsonii</i> R. Br.	alumroot
<i>Lactuca oblongifolia</i> Nutt.	blue lettuce
<i>Liatris aspera</i> Michx.	rough blazing star
<i>Liatris punctata</i> Hook.	dotted blazing star
<i>Linum sulcatum</i> Riddell.	grooved flax
<i>Lithospermum incisum</i> Lehm.	narrow-leaf gromwell
<i>Lygodesmia juncea</i> (Pursh) Hook.	skeleton weed
<i>Medicago lupulina</i> L.	black medic
<i>Melilotus alba</i> and <i>M. officinalis</i>	white and yellow sweet clover
<i>Monarda fistulosa</i> L.	wild bergamot
<i>Muhlenbergia cuspidata</i> (Torr.) Rydb.	plains muhly
<i>Onosmodium molle</i> Michx.	false gromwell
<i>Orthocarpus luteus</i> Nutt.	owl clover
<i>Pediomelum argophyllum</i> (Pursh) J. Grimes	silver-leaf scurf pea
<i>Pediomelum esculentum</i> (Pursh) Rydb.	breadroot scurf pea
<i>Penstemon</i> sp.	beardtongue species
<i>Potentilla arguta</i> Pursh	tall cinquefoil
<i>Potentilla pensylvanica</i> L.	Pennsylvania cinquefoil
<i>Ratibida columnifera</i> (Nutt.) Woot. & Standl.	prairie coneflower
<i>Rosa arkansana</i> Porter	prairie wild rose
<i>Rudbeckia hirta</i> L.	black-eyed susan
<i>Senecio plattensis</i> Nutt.	prairie ragwort
<i>Solidago canadensis</i> L.	Canada goldenrod
<i>Solidago missouriensis</i> Nutt.	prairie goldenrod
<i>Solidago mollis</i> Bartl.	soft goldenrod
<i>Solidago nemoralis</i> Ait.	gray goldenrod
<i>Solidago ptarmicoides</i> (Nees) Boivin	sneezewort aster
<i>Solidago rigida</i> L.	rigid goldenrod
<i>Sonchus arvensis</i> L.	field sow thistle
<i>Taraxacum officinale</i> Weber	common dandelion
<i>Viola pedatifida</i> G. Don	prairie violet

* Nomenclature follows Barkley 1986.

Bold – exotic and/or noxious weed species

Table 2. Species List of Plants Observed in Tame Grassland Habitat for the Foxtail Wind Energy Center

Species*	Common Name
Grasses	
<i>Agropyron caninum</i> (L.) Beauv. subsp. <i>majus</i> (Vasey)C.L.Hitchc.	slender wheatgrass
<i>Agropyron intermedium</i> (Host) Beauv.	intermediate wheatgrass
<i>Agropyron repens</i> (L.) Beauv.	quackgrass
<i>Andropogon gerardii</i> Vitman	big bluestem
<i>Bouteloua curtipendula</i> (Michx.) Torr.	sideoats grama
<i>Bromus inermis</i> Leyss.	smooth brome
<i>Panicum virgatum</i> L.	switchgrass
<i>Poa pratensis</i> L.	Kentucky bluegrass
<i>Setaria</i> sp.	pigeon grass
<i>Elymus canadensis</i> L.	Canada wild rye
Shrub	
<i>Symphoricarpos occidentalis</i> L.	western snowberry
Forbs	
<i>Ambrosia artemisiifolia</i> L.	common ragweed
<i>Artemisia absinthium</i> L.	absinthe wormwood
<i>Aster ericoides</i> L.	heath aster
<i>Cirsium arvense</i> (L.) Scop.	Canada thistle
<i>Cirsium flodmanii</i> (Rydb.) Arthur	Flodman's thistle
<i>Convolvulus arvensis</i> L.	field bindweed
<i>Dalea purpurea</i> Vent.	purple prairie clover
<i>Euphorbia esula</i> L.	leafy spurge
<i>Helianthus maximiliani</i> Schrad.	Maximilian sunflower
<i>Lactuca oblongifolia</i> Nutt.	blue lettuce
<i>Linaria vulgaris</i> Mill.	butter and eggs
<i>Medicago lupulina</i> L.	black medic
<i>Medicago sativa</i> L.	alfalfa
<i>Melilotus alba</i> and <i>M. officinalis</i>	white and yellow sweet clover
<i>Onosmodium molle</i> Michx.	false gromwell
<i>Ratibida columnifera</i> (Nutt.) Woot. & Standl.	prairie coneflower
<i>Rosa arkansana</i> Porter	prairie wildrose
<i>Solidago canadensis</i> L.	Canada goldenrod
<i>Solidago rigida</i> L.	rigid goldenrod
<i>Sonchus arvensis</i> L.	field sow thistle
<i>Taraxacum officinale</i> Weber	common dandelion
<i>Tragopogon dubius</i> Scop.	goat's beard

* Nomenclature follows Barkley 1986.

Bold – exotic and/or noxious weed species

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