

# **Final Environmental Assessment**

**Bjorn Solar Project  
Barron County, Wisconsin**



**U.S. Department of Agriculture  
Rural Utilities Service (RUS)**

Prepared by:

**OneEnergy Renewables**

Prepared for:

**Stag Moose Solar, LLC**

**BJORN SOLAR PROJECT  
FINAL ENVIRONMENTAL ASSESSMENT**

Prepared for  
**U.S. Department of Agriculture**  
**Rural Utilities Service**  
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Washington, D.C. 20250

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## **1.0 Introduction**

### **1.1 Project Description**

Stag Moose Solar, LLC (“Applicant”) plans to seek funding under Section 22001 of the Inflation Reduction Act, through the Powering Affordable Clean Energy (PACE) program administered by the USDA Rural Utilities Service (RUS) for its Bjorn Solar Project in Barron, Wisconsin.

The Bjorn Solar Project is a proposed 5-megawatt solar photovoltaic facility located on a parcel in the Southeast Quarter of Section 32, Township 34 North, Range 12 West, Town of Barron, Barron County, Wisconsin that has been previously disturbed for agriculture activities. The current site is an open field that would avoid any known floodplains, wetlands or streams, and would require minimal grading and no tree clearing. The disturbance of land would be limited to the approximately 25-acre Area of Potential Effect (APE) during construction. The site is adjacent to existing Barron Electric Cooperative (“BEC” or “the Cooperative”) distribution lines that would allow for ease of interconnection.

The funding available through PACE, administered by the Rural Utilities Service, would allow the Applicant to construct a 5-megawatt solar facility that would interconnect to Barron Electric Cooperative’s distribution system. Construction of the Project would provide critical electric infrastructure and affordable, clean, and reliable energy for the Cooperative to serve its rural customers and communities. The Project would provide a local source of generating capacity for Barron Electric Cooperative, reducing the amount of electricity that must be transmitted from other areas. Thus, the Project would enhance the energy independence and resiliency of the rural community in Barron County, Wisconsin.

Once installed, the solar facility would produce electricity which would be distributed from the Project location throughout the Cooperative’s service territory. The Project would consist of solar modules mounted on single-axis tracking racking secured to the top of steel I-beams that have been driven into the ground. The rows of racking would be connected by a series of wires, which would be collected to a central point where they would tie into a series of inverters, which transform the direct current produced by the panels to alternating current to match the Cooperative’s electrical system. Additional electrical equipment and data acquisition and communications equipment would allow for remote monitoring and maintenance. A transformer would convert the electricity produced by the solar project to the voltage of the adjacent distribution system for use by the Cooperative’s members. An access road would be installed to enable access from the nearest road to this electrical equipment. An electrical line would connect this transformer to the existing Cooperative distribution line adjacent to the Project. At the end of construction, all facilities would be less than 10 feet tall. Please see Appendix A – Site Plan and Topography Map for a topographic map of the Project area as well as a Site Plan showing Project Facilities.

### **1.2 Purpose and Need**

The Project supports the mission of the USDA Rural Development office by improving the economy and quality of life in rural Wisconsin. According to their mission statement:

“USDA, Rural Development is a mission area that includes three federal agencies – Rural Business-Cooperative Service, Rural Housing Service, and Rural Utilities Service. The agencies have in excess of 50 programs that provide financial assistance and a variety of technical and educational assistance to eligible rural and tribal populations, eligible communities, individuals, cooperatives, and other entities with a goal of improving the quality of life, sustainability, infrastructure, economic opportunity, development, and security in rural America. Financial assistance can include direct loans, guaranteed loans, and grants in order to accomplish program objectives.”

The purpose of the Project is to construct an electric generating facility to provide 5 Megawatts of power to Barron County, Wisconsin. The Project is needed to meet the energy demands of this rural community while ensuring that the energy provided is renewable, affordable, and local.

## 2.0 Alternatives Evaluated Including the Proposed Action

### 2.1 Proposed Action

The proposed action consists of constructing a 5-megawatt solar photovoltaic facility in Barron County, Wisconsin on 25 acres of previously disturbed agricultural land. The Project would interconnect to the existing Cooperative distribution system adjacent to the site, as shown on the map in Exhibit A – Site Plan and Topography Map. In this Environmental Assessment, the potential impacts of the proposed action were evaluated for each environmental resource, as defined below:

- *No impacts* are caused when there is an absence of an environmental resource within or near the Project area, or when the proposed action has been determined to have no adverse effect on the environmental resource.
- *Direct impacts* are caused by the proposed action and occur within the Project area at the time of Project activities.
- *Indirect impacts* are caused by the proposed action but may occur later in time or farther removed in distance from the Project Area and are reasonably foreseeable.
- *Negligible impacts* are not generally perceptible and would not be considered to adversely affect the environmental resource.
- *Minor impacts* are perceptible and may result in small, undesirable outcomes on the environmental resource.
- *Moderate impacts* are readily apparent and cause unfavorable or undesirable outcomes on the environmental resource.
- *Significant impacts* are those resulting in major alternations to and causing highly unfavorable or undesirable outcomes on the environmental resource.

### 2.2 Other Alternatives Evaluated

The Applicant considered several potential alternate sites (parcels of land) that may have been suitable to host a solar project. Many of these parcels were economically feasible to connect to the existing distribution system in the area of the nearby substation; however, initial desktop review of land characteristics (topography, soils, etc.), environmental constraints (land cover, wildlife habitat, wetlands, floodplains, etc.) found that of the properties owned by landowners interested in leasing their property for a project, there were no suitable alternative sites with as low of environmental impacts as the proposed location. Alternative sites that were evaluated but determined not to be viable for a solar project due to constraints on environmental characteristics, interconnection length/cost, and/or landowner interest are summarized in the table below, excluding sensitive parcel/landowner information:

Project	Location	Constraints		
		Environmental Characteristics	Inter-connection	Landowner Interest
5 MW solar	Barron County, WI Sec. 32 T34N R12W	No anticipated impact	Viable	No
5 MW solar	Barron County, WI Sec. 32 T34N R12W	No anticipated impact	Viable	No
5 MW solar	Barron County, WI Sec. 32 T34N R13W	Wetlands identified; minor impact anticipated	Not viable	No

### **2.3 No Action Alternative**

Under the “No Action” alternative the Project would not be funded by RUS, the Applicant would not continue to develop the Project, and the Project would not be constructed. This would likely result in the continued current land use of the parcel - agriculture/cultivating crops. Therefore, the Project would not provide the additional clean power to the area and would require that the Cooperative continue to import electricity produced primarily by coal and natural gas from outside of the County.

## **3.0 Land Use**

### **3.1 General Land Use**

#### **3.1.1 Affected Environment**

The Bjorn Solar Project would be located on privately owned and is under a lease agreement with the landowner which allows for the construction and operation of the Project. The current and historical land use for the Project Area is agricultural crop cultivation. The development layout of the Project anticipates using 25 acres of the 38-acre parcel, leaving the remaining acreage to continue to be farmed. The final layout for the project would be determined based on permitting conditions, environmental field diligence, and other factors prior to construction.

- (1) All land on which the Bjorn Solar Project would be located is owned by a private landowner. No formally classified lands such as parks, wilderness areas, state or national forests etc. would be impacted by the Project.
- (2) The EPA EIScreen Tool was used to generate a report of the environmental data on the Project area and is included in Appendix H – Environmental Risk Management. The report found that there are no Brownfields, Superfund sites, Toxic Release Inventory sites, hazardous waste facilities, or air emission facilities within the Project area.
- (3) The Bjorn Solar Project is located within the City of Barron, who would be the Authority Having Jurisdiction over the Project. The Applicant has confirmed that a Conditional Use Permit would be required and intends to apply for such permit in the first half of 2024. The Applicant would submit for coverage under the Wisconsin Pollutant Discharge Elimination System Stormwater Discharge General Permit Number S067831 with the Wisconsin Department of Natural Resources prior to commencement of construction.
- (4) A Phase I Environmental Site Assessment has been completed for the Bjorn Solar Project and has been submitted as a separate document along with this Environmental Assessment. The summary of the Phase I Environmental Site Assessment describes the subject property as being used for agricultural production and that “the surrounding properties are agricultural fields, woods, and wetlands”. The assessment concludes that “there are no recognized environmental conditions, historical recognized environmental conditions, nor controlled recognized environmental conditions on the subject property.”
- (5) Within a 0.25-mile buffer (see the NLCD land cover map in Appendix B – Important Farmland and Soil Survey) the land surrounding the Project area is predominantly open fields used for agricultural activities (row cropping, pasture/hay), but also includes some sparse deciduous forest land and woody wetlands.

#### **3.1.2 Environmental Consequences**

Construction of the Project would result in the conversion of farmland used for cultivated crops to a solar generation facility with native grasses and flowers. The addition of a

permanent, native vegetative ground cover to the Project area would result in increased water infiltration and reduced runoff during rain events. As all construction and operations associated with the Project would be located within the leased area, there would be no immediate or cumulative changes to the land use or other characteristics of the surrounding area. In addition, the lease agreement with the landowner commits the Applicant to remove all infrastructure (modules, racking inverters, wiring, etc.), and the site would be restored to predevelopment conditions for continued agricultural use with rested and restored soils. The Project area represents only 25 acres out of the ~570,000 acres which comprise the county, or about 0.001% of the land area. Therefore, a negligible impact on land use is anticipated due to the Project.

**3.1.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

**3.1.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no land use impacts would be anticipated under the No Action Alternative.

**3.2 Important Farmland**

**3.2.1 Affected Environment**

The Bjorn Solar Project site is located on agricultural land in rural Barron County, WI that is currently disturbed for agricultural row cropping. A Web Soil Survey from the Natural Resource Conservation Service (NRCS) was conducted to identify soil types and Farmland Classifications of the Project area and is included in Appendix B – important Farmland and Soil Survey. According to the NRCS data, the Project site is classified as 100% prime farmland.

**3.2.2 Environmental Consequences**

The Project was submitted to the National Resource Conservation Service for evaluation as of 11/20/2023 regarding its impact on important farmland. The Farmland Conversion Impact Rating form AD-1006 has been completed and is included in Appendix B – Important Farmland and Soil Survey. The analysis resulted in a total score (Relative Value and Site Assessment points) of less than 160 (105); therefore, the site is not subject to additional FPPA requirements and no alternative project sites need to be evaluated. The project would result in the direct conversion of approximately 25 acres of private farmland to a solar facility. The landowner would continue to have access to the remainder of the 38-acre parcel, therefore there are no indirect effects to farmland anticipated due to the Project. A negligible impact on prime or important farmland is anticipated due to the Project.

**3.2.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

**3.2.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to prime or important farmland would be anticipated under the No Action Alternative.

**3.3 Formally Classified Land**

#### **3.3.1 Affected Environment**

The Bjorn Solar Project site is currently privately owned agricultural land. The EPA's NEPAAssist tool was reference for known formally classified or federal lands. The NEPAAssist map and report can be found in Appendices C and J, respectively.

#### **3.3.2 Environmental Consequences**

According to the NEPAAssist tools, there are no known formally classified or federal lands within the project or adjacent to the project area. Therefore, no impact to formally classified lands is anticipated as a result of the project.

#### **3.3.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **3.3.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to formally classified land would be anticipated under the No Action Alternative.

### **4.0 Floodplains**

#### **4.1 Affected Environment**

None of the Project Activities or Facilities for the Bjorn Solar Project are expected to occur within a floodplain. The Federal Emergency Management Agency's National Flood Hazard Map was consulted relative to the Project area and included in Appendix D – Wetlands and Floodplains. Based on this data, the Project is not within a FEMA delineated floodplain.

#### **4.2 Environmental Consequences**

The avoidance of floodplains was an important initial criterion for site selection. Based on data from FEMA showing no floodplains in the APE, no impact to floodplains is anticipated as a result of the Project.

#### **4.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **4.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to floodplains would be anticipated under the No Action Alternative.

### **5.0 Wetlands**

#### **5.1 Affected Environment**

There are no wetlands present on or near the Project site. The avoidance of wetlands was an important initial criterion for site selection.

#### **5.2 Environmental Consequences**

Appendix D – Wetlands and Floodplains contains a map from the United States Fish and Wildlife Service (USFWS) national Wetland Inventory and shows the Project area relative to potential wetlands. Based on this data, the proposed Project is not located on land with a known wetland. In addition, because the site would include controls and best management practices for water discharge, there are no impacts to wetlands anticipated as a result of the Project.

#### **5.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **5.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to wetlands would be anticipated under the No Action Alternative.

### **6.0 Water Resources**

#### **6.1 Affected Environment**

There are no key water resource areas within or surrounding the proposed Project area. The nearest body of water is Quaderer Creek, which at its nearest point is about 0.17 miles west of the Project area. According to the EPA's NEPAAssist mapping tool, the Bjorn Solar Project is not located near a sole source aquifer nor is it within a well head or watershed protection area (see Appendix E).

#### **6.2 Environmental Consequences**

All necessary permits would be in place prior to construction, including the Wisconsin Pollutant Discharge Elimination System Stormwater Discharge permit. After construction, permanent cover and native grasses and flowers would be added to the Project area, in which is anticipated to increase water infiltration and reduce runoff during rain events compared to the No Action Alternative (remaining cultivated crop farmland). For these reasons, no impacts to water quantity or quality are anticipated due to the Project.

#### **6.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **6.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to water resources would be anticipated under the No Action Alternative.

### **7.0 Coastal Resources**

#### **7.1 Affected Environment**

This section is not applicable. Located in Barron County, Wisconsin, the Project is not in a Coastal Zone Management Area or a Coastal Barrier Resource Area.

#### **7.2 Environmental Consequences**

There are no coastal areas or protected aquatic habitats in Barron County, therefore no impact to coastal resources is anticipated as a result of the Project.

#### **7.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **7.4 No Action Alternative**

There are no coastal areas or protected aquatic habitats in Barron County, therefore no impact on coastal resources is anticipated as a result of the Project under the No Action Alternative.

### **8.0 Biological Resources**

#### **8.1 General Fish, Wildlife and Vegetation**

##### **8.1.1 Affected Environment**

The Project is located in rural Barron County, Wisconsin on land previously disturbed for agricultural activities, specifically cultivated crops. Construction of the Project would be

planned and designed to minimize the need for extensive grading or to procure fill materials offsite. Currently, the proposed site contains minimal wildlife or vegetative life.

#### **8.1.2 Environmental Consequences**

Stag Moose Solar, LLC has conducted a consultation with the US Fish and Wildlife Service Information for Planning and Conservation (IPaC) as documented below:

<b>Date</b>	January 10, 2024
<b>Project Code</b>	2024-0035054
<b>Project Name</b>	Bjorn Solar
<b>Project Type</b>	Power Gen - Solar

A copy of the list of threatened and endangered species that may occur or be affected by the proposed Project (“Species List”) has been included in Appendix G – Fish, Wildlife, and Vegetation. The USFWS IPaC analysis showed that there are no critical habitats within the project area. The Minnesota-Wisconsin Federal Endangered Species Determination Key examined the possible effects on wildlife identified by the Species List and determined that the Project would have “no effect” on any endangered or threatened species. Due to the results of the IPaC analysis and the existing ground cover (cultivated crops), there are no impacts to fish, wildlife, and vegetation anticipated due to the Project.

#### **8.1.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **8.1.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to General Fish, Wildlife and Vegetation would be anticipated under the No Action Alternative.

### **8.2 Listed Threatened and Endangered Species**

#### **8.2.1 Affected Environment**

The following species may be present in the Project Area:

Species	Critical Habitat	Federal Status	Notes	ESA Determination
Gray Wolf	Final	Endangered	No suitable habitat present – entire project is currently farmed for row crops.	No Effect
Northern Long-eared Bat	None	Endangered	No suitable habitat present – entire project is currently farmed for row crops.	No Effect
Tricolored Bat	None	Proposed Endangered	No suitable habitat present – entire project is currently farmed for row crops.	No Effect
Whooping Crane	None	Experimental Population, Non-Essential	No suitable habitat present – entire project is currently farmed for row crops.	No Effect
Karner Blue Butterfly	Proposed	Endangered	No suitable habitat present – entire project is currently farmed for row crops.	No Effect
Monarch Butterfly	None	Candidate	No suitable habitat present – entire project is currently farmed for row crops.	No Effect

### 8.2.2 Environmental Consequences

#### *Gray Wolf*

Wolves are habitat generalists that historically lived throughout the northern hemisphere and in all fifty states. They require ungulate prey and moderate human- caused mortality rates to thrive. Given that the range of gray wolves is very large, and the project area was historically used exclusively for row crop agriculture, no effects are expected from the Project.

#### *Northern Long-Eared Bat*

The NLEB is a wide-ranging, federally endangered bat species, found in 37 states and eight provinces in North America, including Wisconsin. The species typically overwinters in caves or mines and spends the remainder of the year in forested habitats.

In spring, summer and fall the species utilizes cavities and crevices in live and dead trees, using forested areas for roosting, foraging, and commuting between summer and winter habitat. This species is not expected to be present on site due to the absence of suitable habitat, which consists of forested or wooded habitats where they roost, forage, and travel. Wooded settings would not represent suitable roosting or foraging habitat for northern long-eared bats unless they included all of the following characteristics:

- A tract of wooded habitat over 10 acres in size, AND
- The wooded habitat contains traditional uneven-aged forest structure with understory and trees with loose or flaking bark that can provide roosting habitat (not a park-like setting with large trees and owed grass underneath), AND
- Wooded tract is connected by wooded corridor travel corridor to larger tract of roosting or foraging habitat.

The planned Project does not contain suitable habitat and is expected to have no effect on the species.

#### *Tricolored Bat*

The Tricolored Bat is a small bat that was common across the eastern and central US. Tricolored bats overwinter in caves and abandoned mines in the northern US. During spring, summer and fall, tricolored bats are found in forested habitats, where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees. They face

extinction primarily due to the impacts of white-nose syndrome. The planned Project does not contain suitable wooded habitat for the tricolored bat and is expected to have no effect on the species.

#### *Whooping Crane*

The whooping cranes with the possibility of being present in this area are part of the Eastern Migratory Population, an experimental population with no established critical habitat. The project is expected to have no effect on the species.

#### *Karner Blue Butterfly*

The Karner blue butterfly (KBB) is a small butterfly that lives in oak savannas and pine barrens throughout central and western Wisconsin. Wild blue lupine is the only plant KBB larvae, or caterpillars, can eat. The Project area consists entirely of row crop agriculture - therefore no suitable habitat for the KBB exists. The project is expected to have no effects on the species.

#### *Monarch Butterfly*

The North American populations of the Monarch Butterfly are migratory and have very different ranges throughout the season. Overwintering areas are limited to coastal California and the mountains of Mexico. Milkweed provides essential breeding habitat for the Monarch. The Project Area does not offer overwintering habitat and lacks the necessary breeding habitat, being entirely farmed for row crops; therefore, the proposed Project would not have an impact on the species.

#### *State Listed Species*

The Applicant conducted an Endangered Resources Preliminary Assessment through the Wisconsin Department of Natural Resources' (WDNR) Natural Heritage Inventory. Correspondence with the WDNR confirmed that the Project is covered by Table 2 of the Broad Incidental Take Permit/Authorization for no/Low Impact Activities; specifically, by Activity 2-A2; any activity performed entirely within agricultural land.

#### **8.2.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **8.2.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to Threatened and Endangered Species would be anticipated under the No Action Alternative.

### **8.3 Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act**

#### **8.3.1 Affected Environment**

Based on the US Fish and Wildlife Service Information for Planning and Conservation (IPaC) report for the Project, the following migratory birds of concern have the potential to occur within the Project Area:

- Bald Eagle
- Bobolink
- Chimney Swift

- Rusty Blackbird

#### **8.3.2 Environmental Consequences**

The proposed Project would consist of the construction of ground-mounted solar arrays, which would pose no risk to migratory birds in flight and would take place upon formerly agricultural land, which provides little suitable wildlife habitat for the listed migrating bird species and no reason to cause an impact upon existing flight patterns. Solar panels at the site would be photovoltaic, which shall absorb sunlight, and which are the only solar panel type approved for use by the Audubon Society due to their relatively low impact upon birds. No impacts to migratory birds or eagles are anticipated due to the Project.

#### **8.3.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **8.3.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to migratory birds or eagles would be anticipated under the No Action Alternative.

### **8.4 Invasive Species**

#### **8.4.1 Affected Environment**

The proposed Project site has no known invasive species. Invasive species have been minimized within the project area due to the use of agricultural herbicides over the many years of use for conventional row crop production.

#### **8.4.2 Environmental Consequences**

Applicant would minimize earthwork to the maximum extent possible during construction and seed the Project Area to pollinator habitat promptly upon cessation of construction. Professional vegetation maintenance crews would manage vegetation actively throughout the project life to ensure the desired native pollinator species thrive and invasive species are promptly eliminated and do not spread. The Project would not promote the introduction or growth or spread of invasive species and is expected to benefit the local ecosystem through the introduction of native species within a formerly strictly agricultural setting. Therefore, no impacts related to invasive species are anticipated due to the Project.

#### **8.4.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **8.4.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to invasive species would be anticipated under the No Action Alternative.

## **9.0 Cultural Resources & Historic Properties**

### **9.1 Affected Environment**

The Area of Potential Effect for the Bjorn Solar Project includes land previously disturbed for

agricultural crop cultivation. The 5-megawatt solar photovoltaic facility would feature solar modules mounted on single-axis tracking racking that would not rise above 10 feet. The Project would be located on a 25-acre portion of a 38-acre parcel in the Southeast Quarter of Section 32, Township 34 North, Range 12 West, Town of Barron, Barron County, Wisconsin. Within a 1-mile buffer the land surrounding the Project area is predominantly open fields used for agricultural activities (cultivated crops), but also includes some sparse deciduous forest land and woody wetlands. According to the Phase I Environmental Site Assessment completed by Emmons & Olivier Resources, Inc., the Project area has been used for agriculture and there have been no buildings on the property since at least 1939, and the landowner has no records or knowledge of excavation activities at the property.

Stag Moose Solar, LLC contacted the USDA Rural Utilities Service, Environmental and Historic Preservation Division on 3/29/2024 in accordance with Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800. In accordance with the Wisconsin State Historic Preservation Office (SHPO) procedure, the Applicant conducted a review of cultural resources and historic properties through the Wisconsin Historic Preservation Database (WHPD). The cultural and historic review consisted of a search of the WHPD Archaeological Site Inventory (ARI), WHPD National Register of Historic Places (NRHP), WHPD Architecture and Historic Inventory (AHI) for sites in Section 32, Township 34 North, Range 12 West of Barron County, Wisconsin.

Under recommendation from the USDA RUS, the Applicant reviewed the WHPD results for sites within a 500-foot buffer of the Project APE to establish a cultural and historic review "Study Area". The WHPD NRHP search returned one site, the Stebbins, Edward N. and Mary T., House (Ref. #06000945) that is 2.25 miles from the APE. The WHPD ARI search returned one site, an archaeological survey for a proposed transmission line (WHS Project #88-0434 and ARI #3200), that is approximately 0.6 miles from the APE at its nearest point.

The results of this review indicated that there are no known archaeological or architectural resources in the Study Area and that the Study Area has not been previously surveyed for historic properties. The Study Area (and therefore the APE) does not include any federal or tribal lands as defined pursuant to 36 CFR § 800.16(x).

## **9.2 Environmental Consequences**

The Wisconsin SHPO provided their concurrence on 4/9/2024, with a determination of "no historic properties affected" within the Study Area. Their analysis concluded that "no eligible properties would be affected as none are present" in the Study Area (Project Area of Potential Effect plus 500-foot buffer). Their comments added that "cultural materials/human remains are found during the project, please halt all work" and to immediately contact the SHPO office.

In accordance with the online Tribal Directory Assessment Tool (TDAT), the Applicant identified several Native American tribes with potential current and ancestral interests in Barron County, Wisconsin and requested their concurrence with the Applicant and Wisconsin SHPO's determination of no effect to cultural, historic, or archaeological resources within the Study Area. USDA RUS drafted a letter to Tribes submitting a finding of no historic properties affected in accordance with 36 CFR § 800.4(d)(1), along with a preliminary plan for the site and the Wisconsin Historic Preservation Database results, to seek discussion, review, and considerations of the Project and its effect(s) on Tribal resources. The Applicant sent the letter from USDA RUS to the following Federally Recognized Indian Tribes on 4/9/2024: the Bad River Band of the Lake Superior Tribe of Chippewa Indians of Wisconsin, the Fond du Lac Band of the Minnesota Chippewa Tribe, the Fort Belknap Indian Community of Montana, the Grand Portage Band of

the Minnesota Chippewa Tribe, the Keweenaw Bay Indian Community of Michigan, the Lac Courte Oreilles Band of Lake Superior Chippewa Indians of Wisconsin, the Lac du Flambeau Band of Lake Superior Chippewa Indians, the Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan, the Leech Lake Band of the Minnesota Chippewa Tribe, the Menominee Indian Tribe of Wisconsin, the Miami Tribe of Oklahoma, the Mille Lacs Band of the Minnesota Chippewa Tribe, the Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin, the Sokaogon Chippewa Community of Wisconsin, the St. Croix Chippewa Indians of Wisconsin, and the White Earth Band of Minnesota Chippewa.

All WHPD results, SHPO correspondence Tribal communications, and other Section 106 documentation has been submitted to USDA RUS separately from this Environmental Assessment document.

The result of the Section 106 review is a finding that there are no known historic properties or cultural resources affected within the referenced project's Study Area (which includes the APE plus a 500-foot buffer). The letter concurring that the proposed Project received a determination of No Historic Properties Affected from the USDA Rural Utilities Service and Wisconsin SHPO was included as a separate document in the application, as well as communications and comments received by interested Native American Tribes.

Therefore, the Applicant has determined that the proposed Project would have no effect on historic properties or cultural resources.

### **9.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

### **9.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to cultural resources or historic properties would be anticipated under the No Action Alternative.

## **10.0 Aesthetics**

### **10.1 Affected Environment**

The Project site is located southwest of the city of Barron, Wisconsin, north of 12<sup>th</sup> Ave, east of 13<sup>th</sup> St and west of 14<sup>th</sup> St, in Barron County. The parcel is rural land previously disturbed by agricultural row cropping, owned by a private landowner, and is outside of any aesthetically sensitive location such as a scenic area or park. The nearest sensitive receptor may be Calvary Baptist Church, which is approximately 1.25 miles from the Project Area and separated by agricultural fields and existing tree screening between various parcels. According to the EJScreen Community Report, the population within a 1-mile ring around the APE (3.96 square miles) is 292. The land surrounding the Project area is predominantly open fields used for agricultural activities (row cropping, pasture/hay), but also includes some sparse deciduous forest land and woody wetlands (See NLCD Land Cover map in Appendix B – Important Farmland and Soil Survey).

### **10.2 Environmental Consequences**

The Applicant plans to use an agricultural-style deer exclusion fence around the perimeter to integrate to the rural setting. Visual impacts due to construction activities would be minimized by pre-seeding a cover crop prior to construction, aiding with erosion and compaction, as well as by minimizing grading within the site. The permanent seeding of dense perennial vegetation beneath and around the solar panels would take place after construction is complete and would conform

with Wisconsin DNR recommendations for solar projects. The final landscape plan would be developed in partnership with the Wisconsin DNR and in compliance with all applicable stormwater requirements. The nearest sensitive receptor may be Calvary Baptist Church, but there would be no sight light of the Project due to the limited height of the equipment proposed for installation (no taller than 10' above ground level) and existing tree screening/forested areas. For these reasons, minor impacts upon the aesthetics of the area are anticipated.

### **10.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

### **10.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to aesthetics would be anticipated under the No Action Alternative.

## **11.0 Air Quality**

### **11.1 Affected Environment**

On 12/1/2023 Applicant accessed the EJScreen tool, demonstrating that Barron County, Wisconsin is not listed as a non-attainment or maintenance area for criteria pollutants. The attached report, located in Appendix H – Socioeconomic and Environmental Justice, also shows that the proposed Project is not within EPA- designated non-attainment or maintenance areas for air quality criteria pollutants.

### **11.2 Environmental Consequences**

The Project is outside of any EPA-designated nonattainment or maintenance areas for air quality criteria pollutants. Short term increases to dust due to construction for the Project would be negligible due to the usage of BMPs, such as pre-seeding the entire site with cover crop, silt fences and site stabilization, which would be used during and after construction as needed to minimize any indirect adverse environmental effects. Short term increases to emissions from construction vehicles may also be expected during the construction phase of the project, but this incidental increase is anticipated to have negligible effects due to the short duration of construction, over less than 6 months. Additionally, long term air quality in the area should benefit given the lower emissions anticipated due to the implementation of a significant renewable energy source for the existing power grid. Barron Electric Cooperative purchases its power from Dairyland Power Cooperative, which sources about 80% of its energy from coal and natural gas. The Bjorn Solar Project would provide additional clean power to serve the Cooperative's distribution load, reducing the quantity of imported electricity produced primarily by coal and natural gas from outside of the County. According to the EPA's Greenhouse Gas Equivalencies Calculator, the Bjorn Solar project can avoid 8,042 tons of CO<sub>2</sub> emissions per year, which is equivalent to:

- Emissions from 1,736 gasoline-powered passenger vehicles driven for one year.
- Emissions from 8,039,811 pounds of coal burned.
- Carbon sequestered by 8,517 acres of U.S. forests in one year.
- Carbon sequestered by 120,626 tree seedlings grown for 10 years.

### **11.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

### **11.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to air quality would be anticipated under

the No Action Alternative.

## **12.0 Socioeconomic and Environmental Justice**

### **12.1 Affected Environment**

Applicants are required to determine if their proposal has or may have a disproportionately high and adverse human health or environmental effects on minority and low-income populations under E.O. 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and USDA Departmental Regulation DR 5600-2, Environmental Justice.

The U. S. Census Bureau data for Barron County, WI was reviewed and is provided in Appendix H – Socioeconomic and Environmental Justice. It shows a population of 92% white, with a 9.2% poverty rate. The EJSscreen Report created for the project area shows that the proposed project contains values of N/A due to its small size and sparse population. The proposed Project is within an undeveloped, agricultural area. In order to get a sense for the surrounding area, the EJSscreen Report was re-run using a 1-mile buffer, which result is included in Appendix H – Socioeconomic and Environmental Justice. There are no known environmental issues within the project area that would be expected to pose an environmental justice risk. The surrounding area, local services, and public facilities would not be affected by the Project beyond being provided the availability of a renewable, solar source of electric energy.

### **12.2 Environmental Consequences**

The proposed Project is being designed to meet the future power needs for growth and stability of all residents in the area by providing clean, renewable energy. Based upon the small size and rural location of the project, it is believed that no new jobs would be created beyond the temporary construction jobs created during the 6-month construction of the project, and that unemployment rates for the area would not be impacted by the project.

The proposed Project is not anticipated to have any change on the population or economy of the area. It is further anticipated that the proposed project would not have any impact on, or be influenced by, the civil rights, ethnic origin, sex, or social status of the people located near the project area. The Project is not considered an environmental risk or controversial and would not displace any current residents, nor would it adversely impact local public facilities or public services. The proposed project is within a rural area and within land and easements already possessed. The proposed project is being designed to meet the future power needs for growth and stability of all residents in the area. No impacts are anticipated on Socioeconomic and Environmental Justice due to the Project.

### **12.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

### **12.1 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to socioeconomic and environmental justice would be anticipated under the No Action Alternative.

## **13.0 Miscellaneous Issues**

### **13.1 Noise**

#### **13.1.1 Affected Environment**

The site is located on land previously disturbed for agriculture activities. The proposed solar

array would be located southwest of the city of Barron, Wisconsin in Barron County. Current noise levels for the site are typical of a rural, agricultural area located beside a roadway. The Project would be located off a lightly trafficked, rural town road (12<sup>th</sup> Avenue), southwest of the city of Barron. The nearest residences are located approximately 0.1 miles away.

**13.1.2 Environmental Consequences**

Any noise produced by construction of the facility would be localized and temporary for the extent of the construction activity. Manual equipment installation would be utilized whenever possible to reduce the need for mechanized equipment that would increase noise during the construction phase. The level of noise that is anticipated to be produced by the proposed solar facility would not be greater than current ambient noise levels in the area. The proposed Project is anticipated to have no effect upon the noise levels in the area.

**13.1.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

**13.1.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to noise would be anticipated under the No Action Alternative.

**13.2 Transportation: FAA and Traffic**

**13.2.1 Affected Environment**

The proposed Project is over 5 linear miles distant from the nearest airport and site developments are not expected to be 200 feet above the ground surface (FAA requires filing of notice for any construction exceeding 200 feet above ground level). In total, project construction is anticipated to last for 6 months and no major obstruction to traffic is anticipated during construction.

**13.2.2 Environmental Consequences**

No official notice must be filed with the Federal Aviation Administration and no impact on air traffic is expected because of this Project. Appendix I – Federal Aviation Administration shows the results of the FAA Notice Criteria Tool indicating that “You do not exceed Notice Criteria” for the proposed project area. Construction activities for the Project do not propose to impact traffic patterns, nor have any impact upon the existing roadway. Periodic inspection of the site and maintenance activities for the site would be required once built, amounting to less than one average weekly trip, but would have no impact on current or long-term traffic patterns. Therefore, no impacts to traffic are anticipated as a result of this Project.

**13.2.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

**13.2.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to transportation would be anticipated under the No Action Alternative.

**13.3 Human Health and Safety**

### **13.3.1 Electromagnetic Fields and Interference**

#### **13.3.1.1 Affected Environment**

The proposed Project would be located on rural, agricultural land. The proposed Project location site is approximately 0.1 miles away from the nearest occupied residence. As the Project would involve the construction of a solar panel array that would generate electricity, Electromagnetic Fields (EMFs) may be generated.

#### **13.3.1.2 Environmental Consequences**

Studies (Tell, 2015) based upon similar facilities suggest that any EMFs generated would be below permissible exposure thresholds. Current scientific literature suggests that electromagnetic fields that are generated from similar solar facilities operate below acceptable exposure levels, with the highest EMFs present at three feet of distance from the inverter units used. The solar facility is proposed to be located over 1000 feet away from any occupied residence and would be fenced off to prevent unauthorized access. As a result, no impact to human health and safety are anticipated as a result of exposure to EMFs due to this Project.

#### **13.3.1.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **13.3.1.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to human health and safety due to EMFs would be anticipated under the No Action Alternative.

### **13.3.2 Environmental Risk Management**

#### **13.3.2.1 Affected Environment**

Emmons & Olivier Resources, Inc. has completed a Phase I Environmental Site Assessment on behalf of Stag Moose Solar, LLC which has been included as a separate document in the application. The section below is an excerpt from the cover letter of the report:

“Our conclusion is that there are no recognized environmental conditions, historical recognized environmental conditions, nor controlled recognized environmental conditions on the subject property.”

#### **13.3.2.2 Environmental Consequences**

The EJSscreen tool included in Appendix H – Socioeconomic and Environmental Justice and NEPAassist tool in Appendix J – Environmental Risk Management show that the proposed Project is not within EPA-designated areas for existing hazardous waste facilities, toxic release inventories, or TSCA sites. The site is not anticipated to have any hazardous material, lead, or petroleum products within the APE. Therefore, no impacts on environmental risk management are anticipated due to the Project.

#### **13.3.2.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

#### **13.3.2.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a

private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to environmental risk management would be anticipated under the No Action Alternative.

## **14.0 Corridor Analysis**

### **14.1 Affected Environment**

Connection to the existing electrical grid would be completed by Barron Electric Cooperative to the utility lines located adjacent to the Project and within the 25- acre area of the project. There is no current corridor or impact beyond that already listed for building and connecting to the existing electrical grid at this project location.

### **14.2 Environmental Consequences**

The interconnection point would face the existing electrical lines and within the Project's area of potential effect, therefore the interconnection is anticipated to have no impact to a corridor or area outside of the identified Project Area of Potential Effect.

### **14.3 Mitigation**

Because no adverse environmental consequences are expected, no mitigation measures are proposed.

### **14.4 No Action Alternative**

Under the No Action Alternative, RUS would not provide financing for the Project and the Applicant would not construct the Project. The Project area, located on land owned by a private landowner, would likely continue to be used for agriculture/cultivating crops and the existing environmental conditions would remain unchanged. Therefore, no impacts to a corridor would be anticipated under the No Action Alternative.

## **15.0 Cumulative Effects**

Cumulative effects are the summation of incremental impacts of the proposed action when considered together with other past, present, and reasonably foreseeable future actions within the Project Area of Potential Effect. Cumulative effects for the environmental resources in which impacts resulting from the proposed action (Project construction and operations activities) have been analyzed below.

### *Land Use/Farmland*

The current and historical land use for the Project Area is agricultural crop cultivation. The development layout of the Project anticipates using 25 acres of the 38-acre parcel, leaving the remaining acreage to continue to be farmed. There are no Formally Classified Lands in the vicinity of the Project Area, thus none will be affected in the short- or long-term. The surrounding properties consist of agricultural fields (cultivated crops, pasture/hay), woods, and wetlands. These conditions are not anticipated to change significantly over the lifespan of the Project. Construction of the Project is not anticipated to cause any immediate or cumulative changes to the land use or other characteristics of the surrounding area. In addition, the lease agreement with the landowner commits the Applicant to remove all infrastructure (modules, racking inverters, wiring, etc.), and the site would be restored to predevelopment conditions for continued agricultural use with rested and restored soils. The Project area represents only 25 acres out of the ~570,000 acres which comprise the county, or about 0.001% of the land area. Future development of ground-mounted solar generation facilities is possible in Barron County and may contribute to the negligible impact on land use associated with the proposed action. Therefore, when combined with past, present, and reasonably foreseeable future actions, minor adverse cumulative impacts on land use and farmland are anticipated due to the Project.

### *Floodplains*

No floodplains have been identified in or near the Project Area, based on data from the Federal Emergency

Management Association (FEMA). Therefore, no cumulative impacts on floodplains are anticipated due to the Project.

#### *Wetlands*

No wetlands have been identified in or near the Project Area, based on data from the US Fish and Wildlife Service National Wetlands Inventory (NWI) database. Therefore, no cumulative impacts on wetlands are anticipated due to the Project.

#### *Water Resources*

There are no water resources identified in the Project Area, based on data from the Environmental Protection Agency's NEPAAssist tool and the NWI database. The nearest body of water is Quaderer Creek, which at its nearest point is located approximately 0.17 miles west of the boundary of the Project Area. According to the NEPAAssist tool, the Project Area is not located near a sole source aquifer nor is it within a well head or watershed protection area. The addition of permanent cover and native grasses and flowers to the Project area would result in increased water infiltration and reduced runoff during rain events and is not expected to have a short- or long-term change on the quality, quantity, or direction of local hydrology. Therefore, no cumulative impacts on water resources are anticipated due to the Project.

#### *Coastal Resources*

No coastal resources have been identified and the Project Area is outside of a Coastal Zone Management Area or a Coastal Barrier Resource Area. Therefore, no cumulative impacts on floodplains are anticipated due to the Project.

#### *Biological Resources – Fish, Wildlife, and Vegetation*

The following Listed Threatened and Endangered Species were identified by the US Fish and Wildlife Service Information for Planning and Conservation (IPaC) tool as “may occur within the boundary of [the] proposed project”: Gray wolf, Northern long-eared bat, Tricolored bat, Whooping crane, Karner blue butterfly, and Monarch butterfly. In addition, the following migratory birds of concern “have the potential to occur within the Project Area”: Bald Eagle, Bobolink, Chimney Swift, and Rusty Blackbird. However, there is little to no suitable habitat in the Project Area for these species due to historical land use and cover. The Project area has been used for agriculture (specifically cultivated row crops) since at least 1939, and construction of the Project will not require clearing of mature trees or other suitable habitat for fish, wildlife, birds, or vegetation. Construction of the Project is not anticipated to cause any immediate or cumulative changes to the land use or other characteristics of the surrounding area. Upon cessation of construction a native seed mix would be planted throughout. Professional vegetation maintenance crews would manage vegetation actively throughout the project life to ensure the desired native pollinator plant species thrive and invasive species are promptly eliminated. The surrounding properties consist of agricultural fields (cultivated crops, pasture/hay), woods, and wetlands. These conditions are not anticipated to change significantly over the lifespan of the Project. Therefore, no cumulative impacts on biological resources (fish, wildlife, and vegetation) are anticipated due to the Project.

#### *Cultural Resources and Historic Properties*

The review of cultural resources and historic properties of the Project Area indicated that there are no known archaeological or architectural resources in the Project Area or within a 500-foot buffer, and that the Project Area has not been previously surveyed for historic properties. According to the Phase I Environmental Site Assessment completed by Emmons & Olivier Resources, Inc., the Project area has been used for agriculture since and there have been no buildings on the property since at least 1939, and the landowner has no records or knowledge of excavation activities at the property. The land surrounding the Project area is predominantly

open fields used for agricultural activities (cultivated crops), but also includes some sparse deciduous forest land and woody wetlands. The Project does not include any federal or tribal lands. The conditions of the surrounding area are not anticipated to change significantly over the lifespan of the Project. Therefore, no cumulative impacts on cultural resources or historic properties are anticipated due to the Project.

#### *Air Quality*

There are no current or past EPA-designated nonattainment or maintenance areas for air quality criteria pollutants in or surrounding the Project area in Barron County. The current and historical land use for the Project Area, cultivating crops, likely did not present or create any air quality concerns for the area. The negligible impacts on air quality that are anticipated due to the proposed action, namely dust and emissions associated with construction vehicles, would persist only for the short length of construction (6 months) and be mitigated by pre-seeding the site with a cover crop and installing silt fences and site stabilization. The Project would provide approximately 10.5 million kilowatt-hours of clean electricity annually for Barron Electric Cooperative to serve its customers in rural Barron County, WI, equivalent to avoiding 8,042 tons of CO<sub>2</sub> emissions per year. Therefore, the proposed action is anticipated to have a minor long-term cumulative benefit on air quality when combined with past, present, and reasonably foreseeable future actions.

#### *Aesthetics*

The land surrounding the Project area is predominantly open fields used for agricultural activities (cultivated crops, pasture/hay), but also includes some sparse deciduous forest land and woody wetlands. The current and historical land use for the Project Area is agricultural crop cultivation. The land use of the surrounding area, and therefore the aesthetics and location of possible sensitive receptors, is not anticipated to change significantly over the lifespan of the Project and would likely continue to be primarily agricultural. Therefore, there are no anticipated cumulative effects on aesthetics anticipated as a result of the Project when combined with past, present, and reasonably foreseeable future actions.

#### *Socioeconomic and Environmental Justice*

According to the EJSscreen Report, there are no known environmental risks within the Project area that would be expected to create an impact on environmental justice. The Project is located on privately owned land and is under a lease agreement with the landowner. Construction of the Project is not anticipated to cause any immediate or cumulative changes to characteristics of the surrounding area. Therefore, no cumulative impacts on socioeconomic or environmental justice are anticipated due to the Project.

#### *Noise*

The site is located on land previously disturbed for agriculture activities. Current noise levels for the site are typical of a rural, agricultural area located beside a roadway. The nearest residence is located approximately 0.1 miles away and owned by the landowner. Any noise produced by construction of the facility would be localized and temporary for the extent of the construction activity. The level of noise that is anticipated to be produced during the lifetime of the proposed solar facility would not be greater than current ambient noise levels in the area. Therefore, no cumulative impacts on noise are anticipated due to the Project.

#### *Transportation, Airspace, and Traffic*

The Project would be located off a lightly trafficked, rural town road (12<sup>th</sup> Avenue), southwest of the city of Barron. In total, construction is anticipated to last for 6 months and no major obstruction to traffic is anticipated. Periodic inspection of the site and maintenance activities for the site would be required once built, amounting to less than one average weekly trip, but would have no impact on current or long-term traffic patterns. The Project passed the preliminary Notice Criteria with the Federal Aviation Administration and no future action regarding airspace would be required. Construction of the Project is not anticipated to

cause any immediate or cumulative changes to characteristics of the surrounding area; therefore, no cumulative impacts on transportation or traffic are anticipated due to the Project.

#### *Human Health and Safety*

There are no impacts to human health and safety anticipated due to construction or operation of the Project. The EIScreen Community Report, the population within a 1-mile ring around the APE (3.96 square miles) is 292. There are no currently or historically recognized environmental conditions in the Project area, and no hazardous substance will be used in construction or operation of the Project. The solar facility is proposed to be located over 1000 feet away from any occupied residence and would be fenced off to prevent unauthorized access. These conditions are not anticipated to change significantly over the lifespan of the Project. Construction of the Project is not anticipated to cause any immediate or cumulative changes to the environmental conditions of the surrounding area. Therefore, no cumulative impacts on human health and safety are anticipated due to the Project.

### **16.0 Summary of Mitigation**

Stag Moose Solar LLC is not proposing environmental mitigation action related to the Bjorn Solar Project as no adverse environmental impacts are anticipated. The Project has been sited on private property leased by the Applicant to avoid floodplains, wetlands, streams, as well as to minimize the need for clearing and grading. The Applicant considered potential alternative sites that were able to connect to the existing distribution system in the area of the nearby substation, but there were no suitable alternative sites with as low of environmental impacts as the proposed location. Further, construction of the Project site would minimize earth disturbance to the extent possible, and promptly upon cessation of construction a native seed mix would be planted throughout. Professional vegetation maintenance crews would manage vegetation actively throughout the project life to ensure the desired native pollinator plant species thrive and invasive species are promptly eliminated and do not spread. The addition of permanent cover and native grasses and flowers to the Project area would result in increased water infiltration and reduced runoff during rain events and is expected to benefit the local ecosystem through the introduction of native species within a formerly strictly agricultural setting.

### **17.0 Coordination, Consultation and Correspondence**

Stag Moose Solar LLC has consulted with several agencies and consultants to reach the conclusions of this Environmental Assessment:

- USDA Rural Development, Rural Utilities Service (RUS)
- USDA Environmental and Historic Preservation Division
- USDA National Resource Conservation Service (NRCS)
- U.S. Fish and Wildlife Service (FWS)
  - Information for Planning and Consultation (IPaC)
- Environmental Protection Agency (EPA)
  - NEPAassist
  - EIScreen
- Federal Emergency Management Agency (FEMA)
  - National Flood Hazard Map
- Federal Aviation Administration (FAA)
- U.S. Census Bureau
- Wisconsin Department of Natural Resources

- Wisconsin State Historical Preservation Office
- Emmons & Olivier Resources, Inc.

A local newspaper advertisement announcing the availability of the EA and participation under Section 106 of the National Historic Preservation Act was published on September 18 and 25, 2024 in the Barron News Shield (Barron, WI). A copy of the EA was available for public review at <https://www.rd.usda.gov/resources/environmentalstudies/assessment/bjorn-solar>. The 14-day comment period ended on October 2, 2024. RUS received no comments.

## 18.0 References

All supporting documentation and agency correspondence is provided in the appendices. Resources used to prepare the narrative and appendices of this EA follow:

Emmons & Olivier Resources, Inc. "Bjorn Solar Phase I Environmental Site Assessment Report". December 1, 2023.

EPA EJScreen, last accessed November 27, 2023. <https://ejscreen.epa.gov/mapper/>.

EPA Greenhouse Gas Equivalencies Calculator, last accessed June 28, 2024.

EPA NEPAAssist tool, last accessed January 11, 2024. <https://nepassisttool.epa.gov/nepassist/nepamap.aspx>.

FEMA Flood Plain Map, last accessed May 2, 2023. <https://msc.fema.gov/portal/home>.

NRCS Web Soil Survey Tool, last accessed January 17, 2024.  
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.

Tell, Richard A., et al. "Electromagnetic Fields Associated with Commercial Solar Photovoltaic Electric Power Generating Facilities." November 2015. *Journal of Occupational and Environmental Hygiene*. 12(11):795-803. <https://doi.org/10.1080/15459624.2015.1047021>.

U.S. Census Data, last accessed November 27, 2023.  
<https://www.census.gov/quickfacts/barroncountywisconsin>.

USDA, Rural Development – Rural Utilities Service (RUS), <https://www.rd.usda.gov/about-rd/agencies/rural-utilities-service>.

U.S. Fish and Wildlife Services – Information for Planning and Consultation (IPaC), last accessed January 10, 2024. <https://ipac.ecosphere.fws.gov/>.

U.S. Fish and Wildlife Services – National Wetlands Inventory, last accessed November 18, 2023  
<http://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.

USGS National Map, last accessed January 16, 2024. <https://apps.nationalmap.gov/viewer/>.

## 19.0 List of Preparers

This Environmental Assessment (EA) was prepared by:

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## **20.0 Appendices**

Appendix A – Site Plan and Topography Map

Appendix B – Important Farmland and Soil Survey

Appendix C – Formally Classified Lands

Appendix D – Wetlands and Floodplains

Appendix E – Water Resources

Appendix F – Coastal Resources

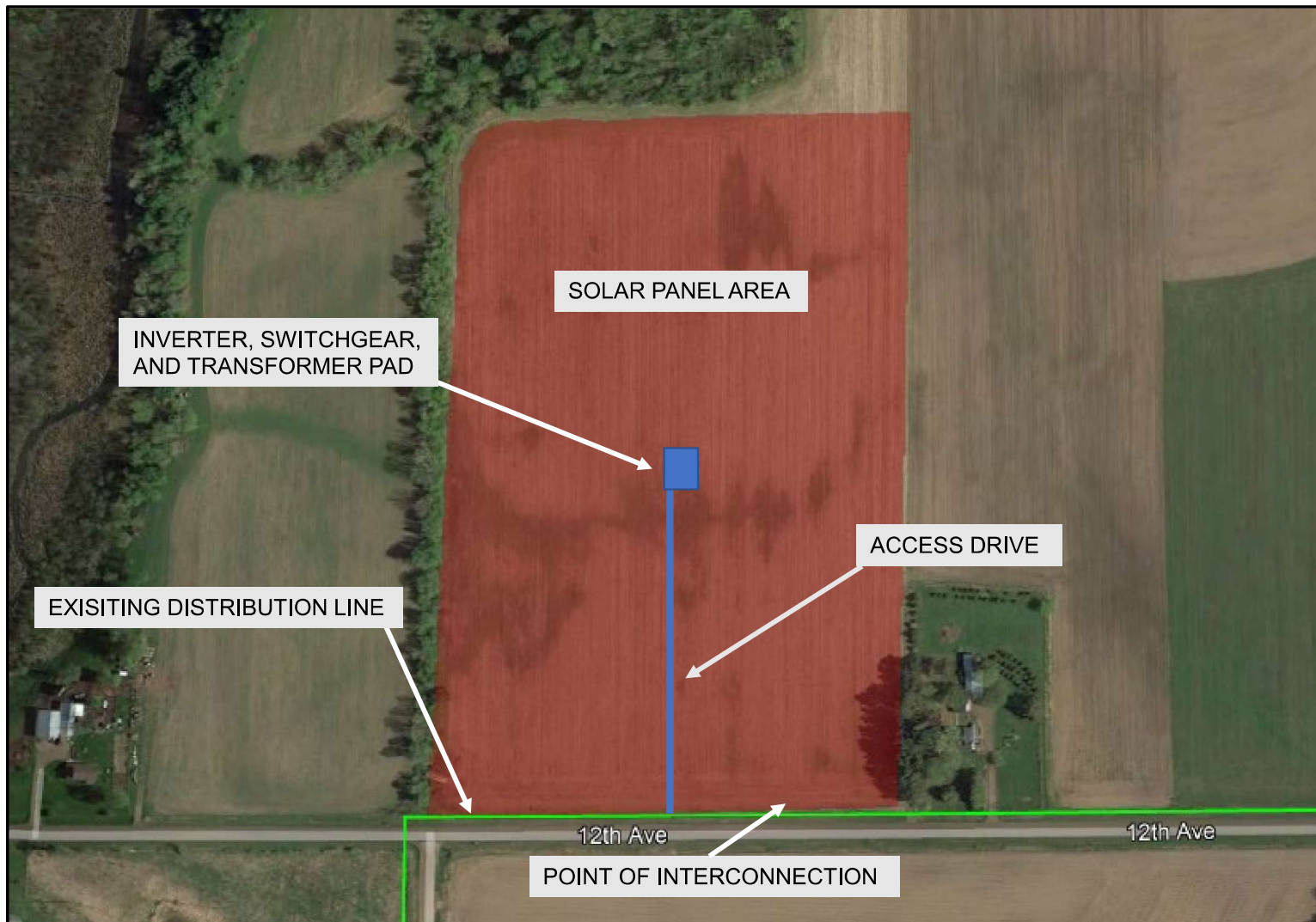
Appendix G – Fish, Wildlife, and Vegetation

Appendix H – Socioeconomic and Environmental Justice

Appendix I – Federal Aviation Administration

Appendix J – Environmental Risk Management

## **Appendix A – Site Plan and Topography Map**



## BJORN SOLAR PROJECT

### BJORN SOLAR

BARRON COUNTY, WISCONSIN

45.38108 ° -91.877428°

SOLAR PV PROJECT

5.0 MEGAWATTS

### PROJECT DETAILS

#### SITE DETAILS

PARCEL ID: 006-3200-22-000

PARCEL ACREAGE: 37.86

ESTIMATED PROJECT ACREAGE: 25.00

#### DESIGN DETAILS

MODULE POWER: 575 W

ARRAY DC VOLTAGE: 1500 V

INVERTER SIZE: 250 kW / 250 kVa

#### CUSTOMER & INSTALLER

Stag Moose Solar, LLC

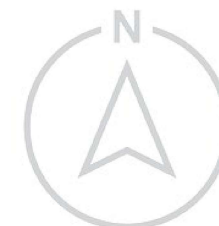
10 N Livingston St. Ste 201

Madison, WI 53703

#### CONTACT

Beth Esser – 608.239.1353

[beth@oneenergyrenewables.com](mailto:beth@oneenergyrenewables.com)



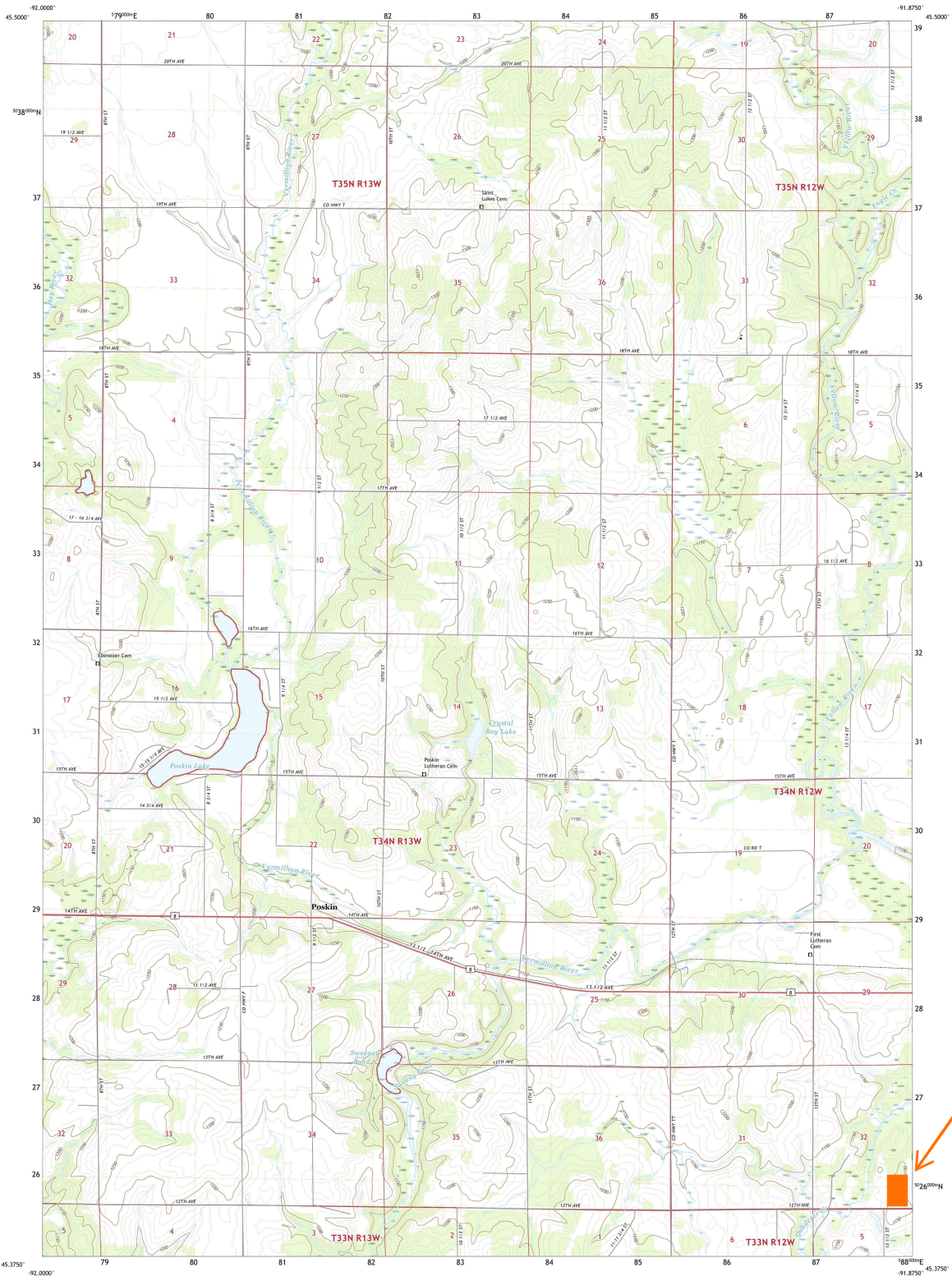
# BJORN SOLAR PROJECT



U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY



POSKIN QUADRANGLE  
WISCONSIN - BARRON COUNTY  
7.5-MINUTE SERIES

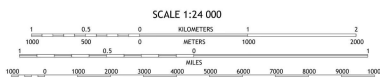


Bjorn Solar

## Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection and  
1 000-meter grid/contour. Transverse Mercator, Zone 17T  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
reservations may not be shown. Obtain permission before  
entering private lands.

Imagery: NADP, September 2018 - September 2018  
Roads: U.S. Census Bureau, 2015 - 2015  
Names: National Hydrography Dataset, 2006 - 1980  
Contours: National Elevation Dataset, 2011  
Boundaries: Multiple sources, see metadata file, 2018 - 2023  
Public Land Survey: BLM, 2017 - 2020  
Wetlands: NPS National Wetlands Inventory, 2004



CONTOUR INTERVAL 10 FEET  
NORTH AMERICAN VERTICAL DATUM OF 1988  
This map was produced to conform with the  
National Geospatial Program US Topo Product Standard.



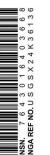
1	2	3
4	5	6
7	8	9

ADJOINING QUADRANGLES

- 1 Cumberland
- 2 Lower Hamilton Lake
- 3 Hogen
- 4 Adair
- 5 Barron
- 6 Adair
- 7 Darity Creek
- 8 Duluth

ROAD CLASSIFICATION	
Expressway	Local Connector
Secondary Hwy	Local Road
Range	4WD
Interstate Route	US Route
	State Route

POSKIN, WI  
2022



## **Appendix B –Important Farmland and Soil Survey**

**FARMLAND CONVERSION IMPACT RATING**

<b>PART I</b> (To be completed by Federal Agency)		Date Of Land Evaluation Request <b>2/1/2024</b>			
Name of Project <b>Bjorn Solar</b>		Federal Agency Involved <b>RUS</b>			
Proposed Land Use <b>Solar Farm</b>		County and State <b>Barron County, Wisconsin</b>			
<b>PART II</b> (To be completed by NRCS)		Date Request Received By NRCS <b>1/18/2024</b>		Person Completing Form: <b>Tim Miland</b>	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated <b>15343</b>	Average Farm Size <b>255</b>
Major Crop(s) <b>Corn, Soybeans</b>	Farmable Land In Govt. Jurisdiction Acres: <b>400673</b> % <b>70.39</b>	Amount of Farmland As Defined in FPPA Acres: <b>399283</b> % <b>70.15</b>			
Name of Land Evaluation System Used <b>Crop Productivity Index</b>	Name of State or Local Site Assessment System <b>N/A</b>	Date Land Evaluation Returned by NRCS <b>2/1/2024</b>			
<b>PART III</b> (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		<b>25</b>			
B. Total Acres To Be Converted Indirectly		<b>0</b>			
C. Total Acres In Site		<b>25</b>			
<b>PART IV</b> (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland		<b>25</b>			
B. Total Acres Statewide Important or Local Important Farmland		<b>0</b>			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		<b>0.00623</b>			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		<b>61.2474</b>			
<b>PART V</b> (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		<b>50</b>			
<b>PART VI</b> (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use	(15)	<b>10</b>			
2. Perimeter In Non-urban Use	(10)	<b>10</b>			
3. Percent Of Site Being Farmed	(20)	<b>20</b>			
4. Protection Provided By State and Local Government	(20)	<b>0</b>			
5. Distance From Urban Built-up Area	(15)	<b>10</b>			
6. Distance To Urban Support Services	(15)	<b>5</b>			
7. Size Of Present Farm Unit Compared To Average	(10)	<b>0</b>			
8. Creation Of Non-farmable Farmland	(10)	<b>0</b>			
9. Availability Of Farm Support Services	(5)	<b>0</b>			
10. On-Farm Investments	(20)	<b>0</b>			
11. Effects Of Conversion On Farm Support Services	(10)	<b>0</b>			
12. Compatibility With Existing Agricultural Use	(10)	<b>0</b>			
TOTAL SITE ASSESSMENT POINTS		<b>160</b>	<b>55</b>		
<b>PART VII</b> (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		<b>100</b>	<b>50</b>		
Total Site Assessment (From Part VI above or local site assessment)		<b>160</b>	<b>55</b>		
<b>TOTAL POINTS (Total of above 2 lines)</b>		<b>260</b>	<b>105</b>		
Site Selected: <b>Site A</b>		Date Of Selection <b>2/2/2024</b>		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Reason For Selection: <b>Available interconnection to existing distribution system in close proximity to electrical substation. Compatibility with adjacent agricultural uses.</b>					
Name of Federal agency representative completing this form:					Date:

## **STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM**

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at [http://offices.usda.gov/scripts/ndISAPI.dll/oip\\_public/USA\\_map](http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map), or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

## **INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM** (For Federal Agency)

**Part I:** When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

**Part III:** When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

**Part VI:** Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

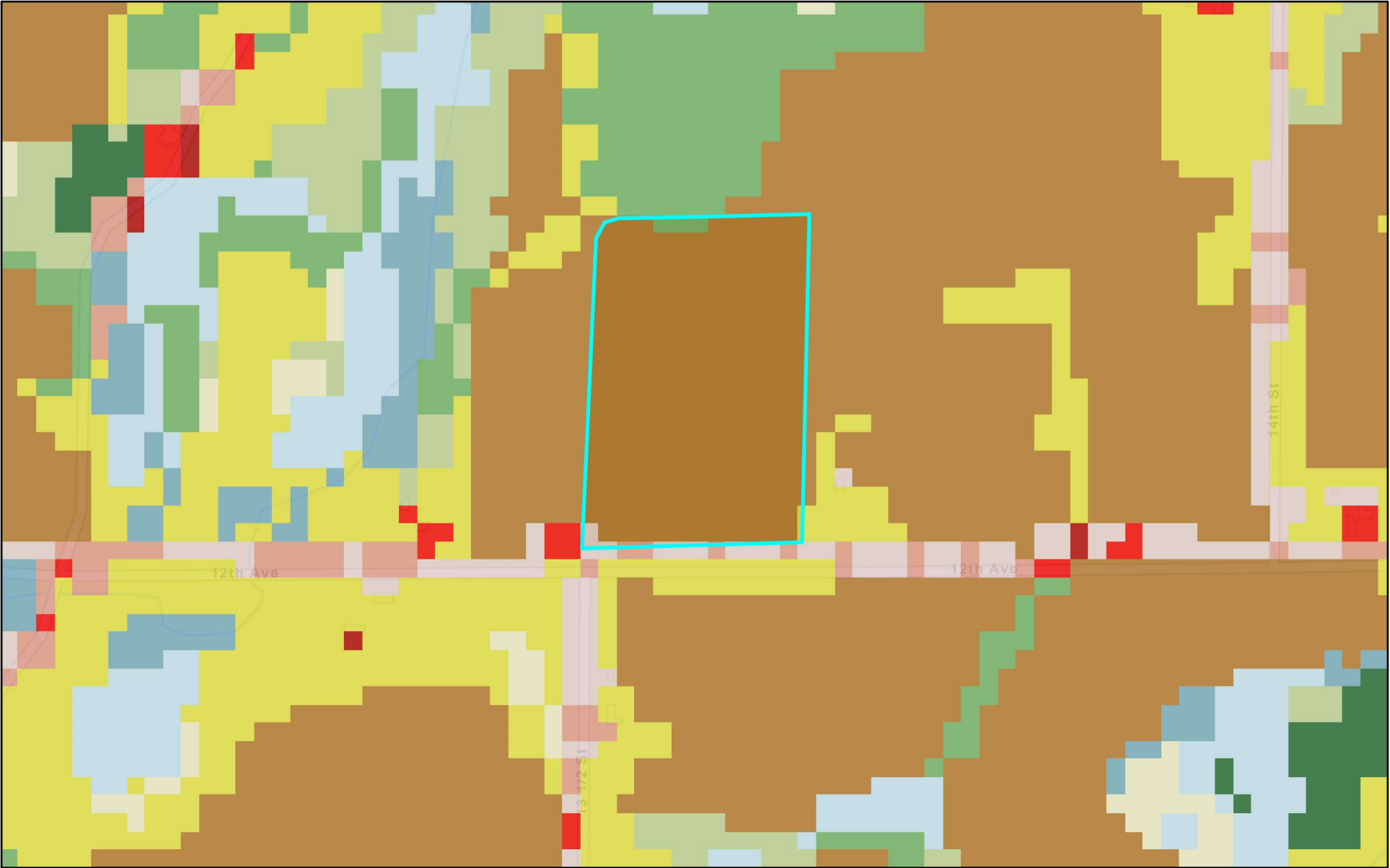
**Part VII:** In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.  
Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$
---

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.























NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

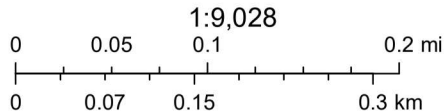
# Bjorn Solar - Land Cover



January 31, 2024

 Bjorn Solar  
 bjorn\_aoi

- NLCD Land Cover
- |   |   |
|---|---|
|  0                                 |  Mixed Forest (43)                 |
|  Open Water (11)                   |  Dwarf Scrub(AK only) (51)         |
|  Perennial Ice/Snow/ (12)          |  Shrub/Scrub (52)                  |
|  Developed, Open Space (21)        |  Grasslands/Herbaceous (71)        |
|  Developed, Low Intensity (22)     |  Sedge/Herbaceous(AK only) (72)    |
|  Developed, Medium Intensity (23)  |  Lichens (Ak only) (73)            |
|  Developed, High Intensity (24)    |  Moss (AK only) (74)               |
|  Barren Land (Rock/Sand/Clay) (31) |  Pasture/Hay (81)                  |
|  Unconsolidated Shore (32)         |  Cultivated Crops (82)             |
|  Deciduous Forest (41)             |  Woody Wetlands (90)               |
|  Evergreen Forest (42)             |  Emergent Herbaceous Wetlands (95) |



Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

## Nolan Stumpf

---

**Subject:** FW: Bjorn Solar Project FPPA  
**Attachments:** 005\_Bjorn\_Solar\_Project\_FPPA.pdf; 005\_Bjorn\_solar\_FPPA.pdf

---

**From:** Miland, Tim - FPAC-NRCS, WI <[tim.miland@usda.gov](mailto:tim.miland@usda.gov)>  
**Sent:** Thursday, February 1, 2024 11:56:05 AM  
**To:** Eric Udelhofen <[eric@oneenergyrenewables.com](mailto:eric@oneenergyrenewables.com)>  
**Cc:** Richter, Patrick - FPAC-NRCS, WI <[patrick.richter@usda.gov](mailto:patrick.richter@usda.gov)>  
**Subject:** Bjorn Solar Project FPPA

Caution! This message was sent from outside your organization. [Allow sender](#) | [Block sender](#)

Hi Eric,

Please see the attached response for FPPA and the AD-1006 form. The site scored less than 160 so no additional sites need to be evaluated.

If you have FPPA reviews in the future feel forward to send them to me.

Thanks and have a great day,

Tim

Tim Miland  
Area Resource Soil Scientist  
USDA Natural Resources Conservation Service  
1304 N. Hillcrest Parkway, Suite A  
Altoona, WI 54720  
(715) 461-6020 Office  
(715) 820-3321 Work Cell

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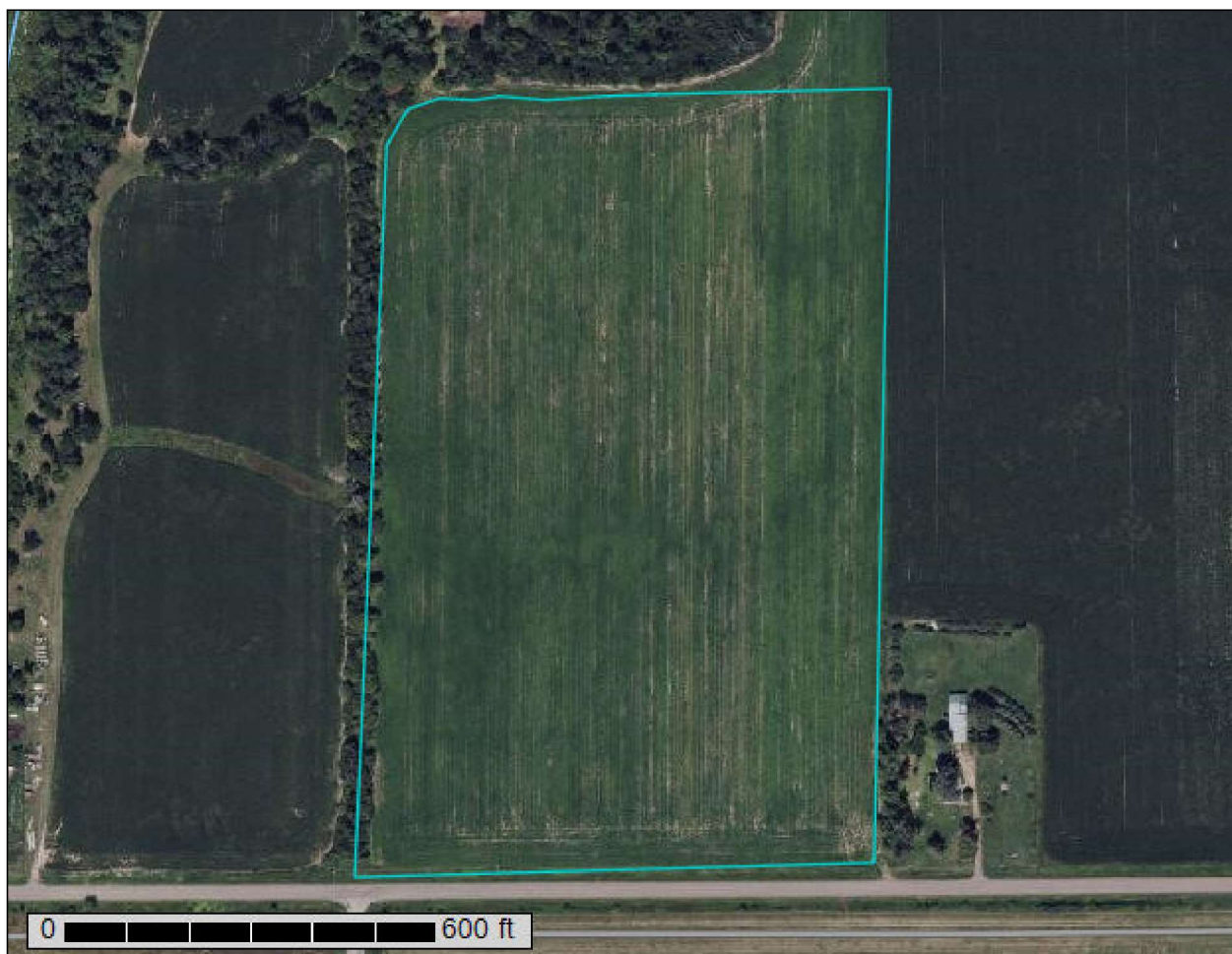
**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Barron County, Wisconsin**

**Bjorn Solar**



January 17, 2024

# Preface

---

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

---

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Barron County, Wisconsin

Survey Area Data: Version 23, Sep 7, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 30, 2022—Sep 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AnB	Anigon silt loam, 2 to 6 percent slopes	23.7	100.0%
<b>Totals for Area of Interest</b>		<b>23.7</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

## Custom Soil Resource Report

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Barron County, Wisconsin

### AnB—Anigon silt loam, 2 to 6 percent slopes

#### Map Unit Setting

*National map unit symbol:* ggry  
*Elevation:* 800 to 1,950 feet  
*Mean annual precipitation:* 28 to 36 inches  
*Mean annual air temperature:* 39 to 48 degrees F  
*Frost-free period:* 120 to 170 days  
*Farmland classification:* All areas are prime farmland

#### Map Unit Composition

*Anigon and similar soils:* 100 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Anigon

##### Setting

*Landform:* Outwash plains  
*Landform position (two-dimensional):* Summit  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Silty alluvium and/or loess over loamy alluvium over sandy and gravelly outwash

##### Typical profile

*Ap - 0 to 5 inches:* silt loam  
*E, E/B - 5 to 12 inches:* silt loam  
*B/E, Bt1 - 12 to 33 inches:* silt loam  
*2Bt2 - 33 to 37 inches:* sandy loam  
*2C - 37 to 60 inches:* very gravelly coarse sand

##### Properties and qualities

*Slope:* 2 to 6 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* High  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Moderate (about 7.8 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 2e  
*Hydrologic Soil Group:* B  
*Ecological site:* F090BY016WI - Loamy Upland  
*Forage suitability group:* High AWC, adequately drained (G090AY008WI)  
*Other vegetative classification:* High AWC, adequately drained (G090AY008WI),  
Acer saccharum/Athyrium (AAAt), Acer saccharum/Caulophyllum-Circaea (ACaCi)  
*Hydric soil rating:* No



# **Soil Information for All Uses**

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## **Suitabilities and Limitations for Use**

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

## **Land Classifications**

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

## **Farmland Classification (Bjorn Solar)**

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.


Custom Soil Resource Report  
Map—Farmland Classification (Bjorn Solar)



# Custom Soil Resource Report









## MAP LEGEND








### Area of Interest (AOI)






 Area of Interest (AOI)








### Soils



#### Soil Rating Polygons

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season









-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of statewide importance, if drained
-  Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated

-  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated and drained
-  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
-  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

-  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough
-  Farmland of statewide importance, if thawed
-  Farmland of local importance
-  Farmland of local importance, if irrigated

-  Farmland of unique importance
-  Not rated or not available

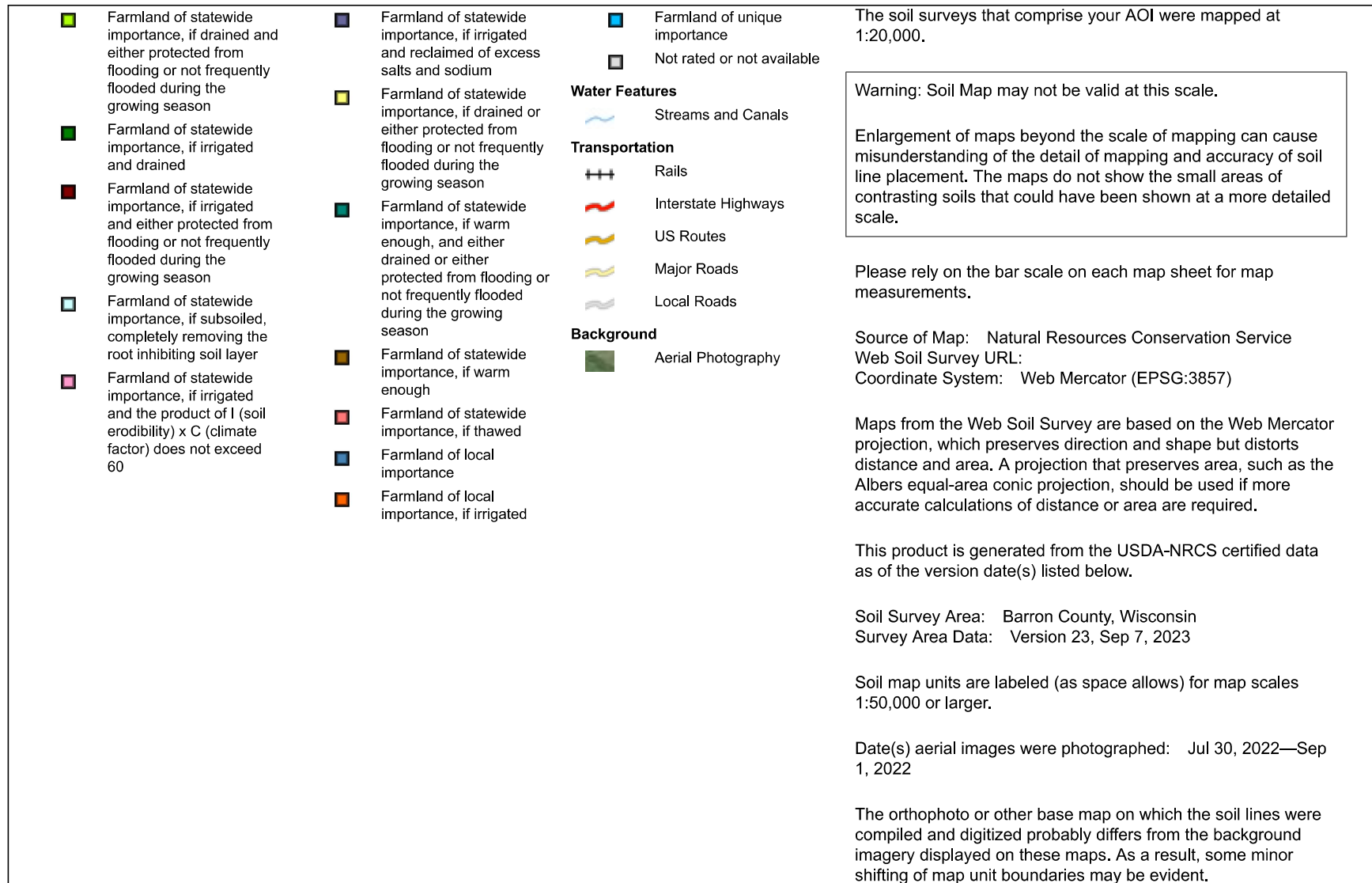
### Soil Rating Lines

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

## Custom Soil Resource Report

	Prime farmland if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium		Farmland of unique importance		Prime farmland if subsoiled, completely removing the root inhibiting soil layer
	Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if irrigated and drained		Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season	<b>Soil Rating Points</b>			Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
	Prime farmland if irrigated and reclaimed of excess salts and sodium		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		Not prime farmland		Prime farmland if irrigated and reclaimed of excess salts and sodium
	Farmland of statewide importance		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if warm enough		Prime farmland if drained		Farmland of statewide importance
	Farmland of statewide importance, if drained		Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if thawed		Prime farmland if protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if drained
	Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season				Farmland of local importance		Prime farmland if irrigated		Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
	Farmland of statewide importance, if irrigated				Farmland of local importance, if irrigated		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated
							Prime farmland if irrigated and drained		
							Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season		

## Custom Soil Resource Report



**Table—Farmland Classification (Bjorn Solar)**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnB	Anigon silt loam, 2 to 6 percent slopes	All areas are prime farmland	23.7	100.0%
<b>Totals for Area of Interest</b>			<b>23.7</b>	<b>100.0%</b>

**Rating Options—Farmland Classification (Bjorn Solar)**

*Aggregation Method:* No Aggregation Necessary

*Tie-break Rule:* Lower

# References

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- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

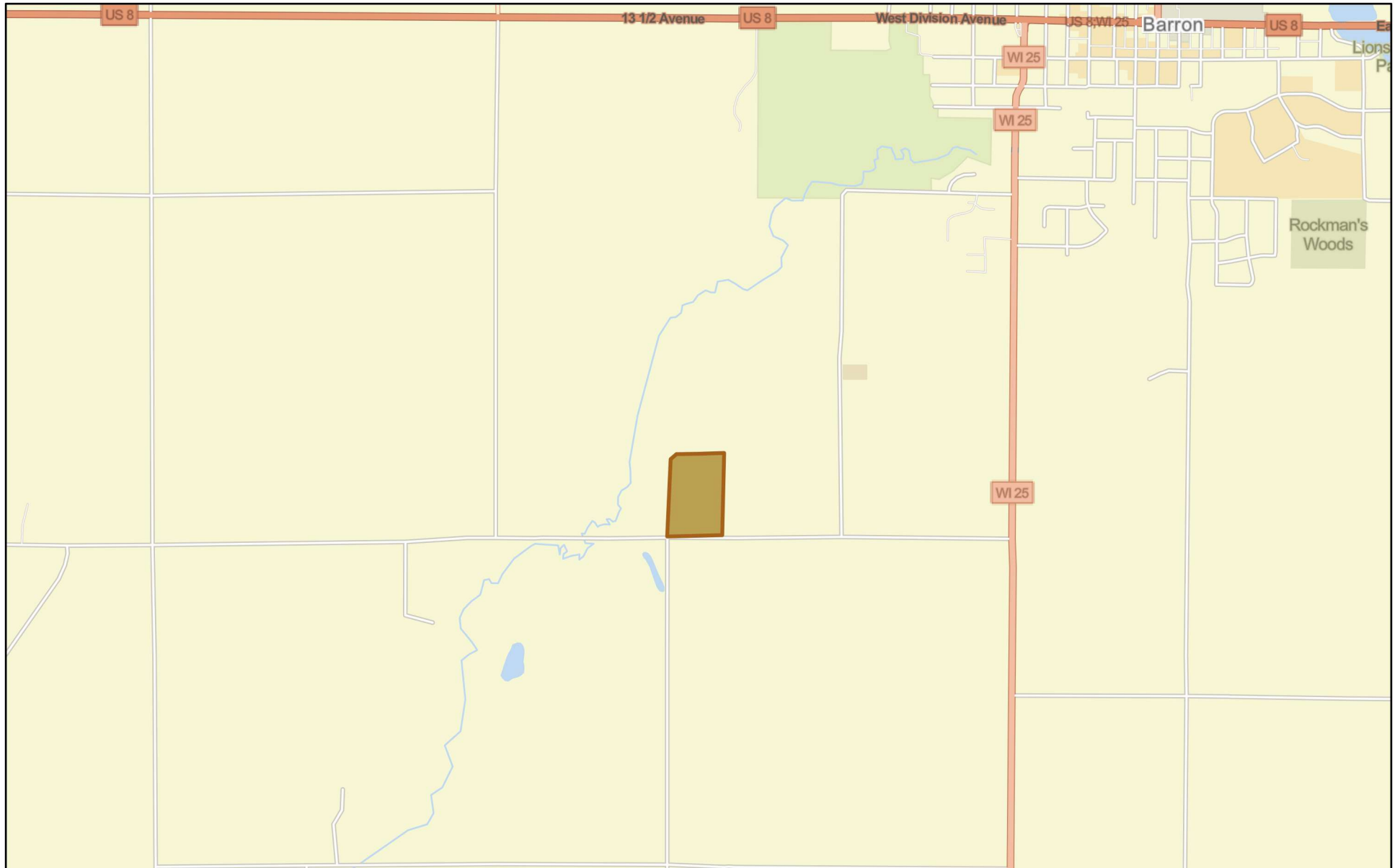
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

## **Appendix C – Formally Classified Lands**

# Bjorn Solar - Federal Lands Review



January 11, 2024

 Bjorn Solar  
 bjorn\_aoi

1:36,112  
0 0.2 0.4 0.8 mi  
0 0.33 0.65 1.3 km

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri, EPA OEI

## **Appendix D – Wetlands and Floodplains**

# National Flood Hazard Layer FIRMMette

91°52'57"W 45°23'5"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

91°52'20"W 45°22'39"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		8 Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/21/2023 at 11:45 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

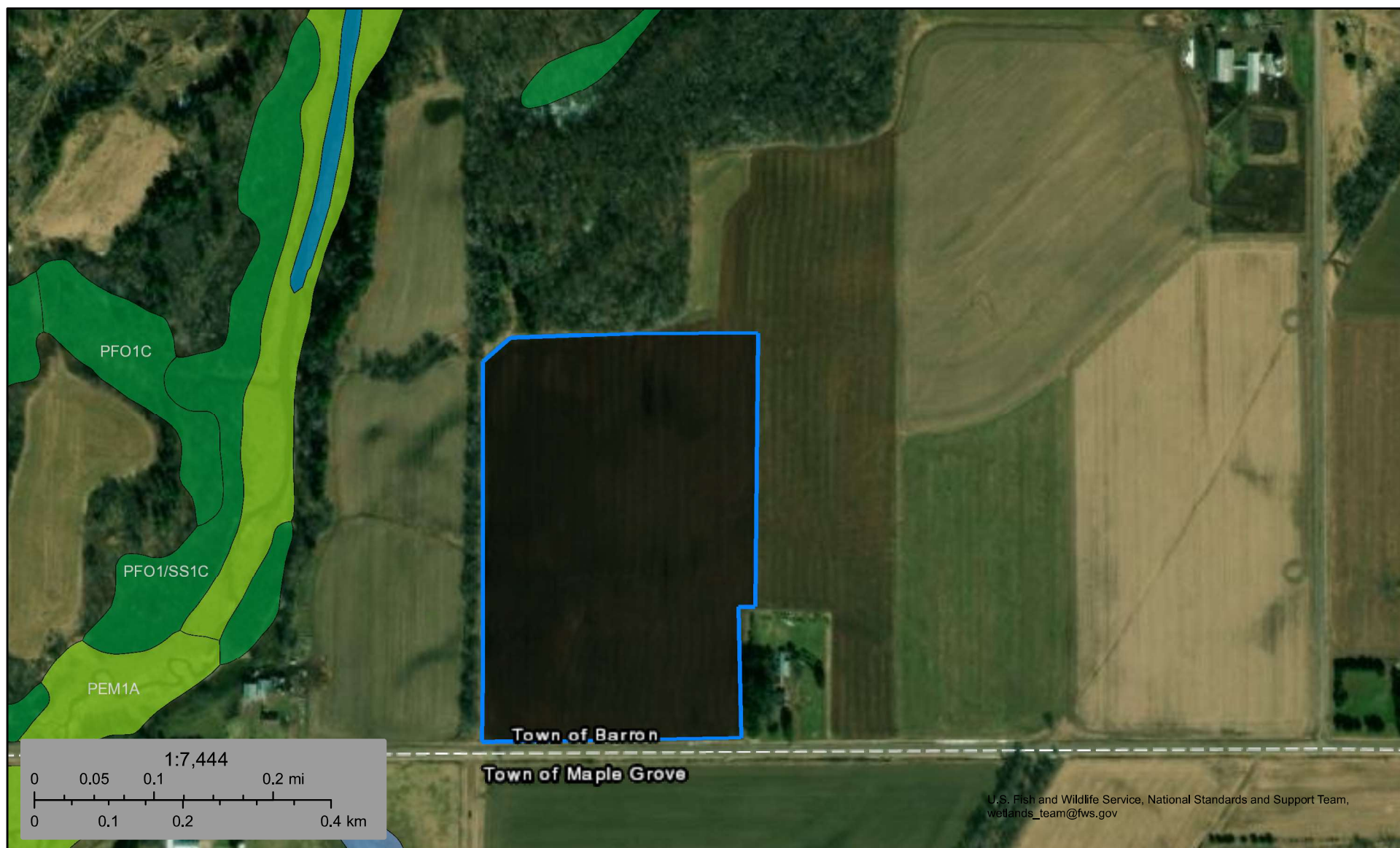
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



U.S. Fish and Wildlife Service

# National Wetlands Inventory

## Bjorn Solar Project



U.S. Fish and Wildlife Service, National Standards and Support Team,  
wetlands\_team@fws.gov

November 18, 2023

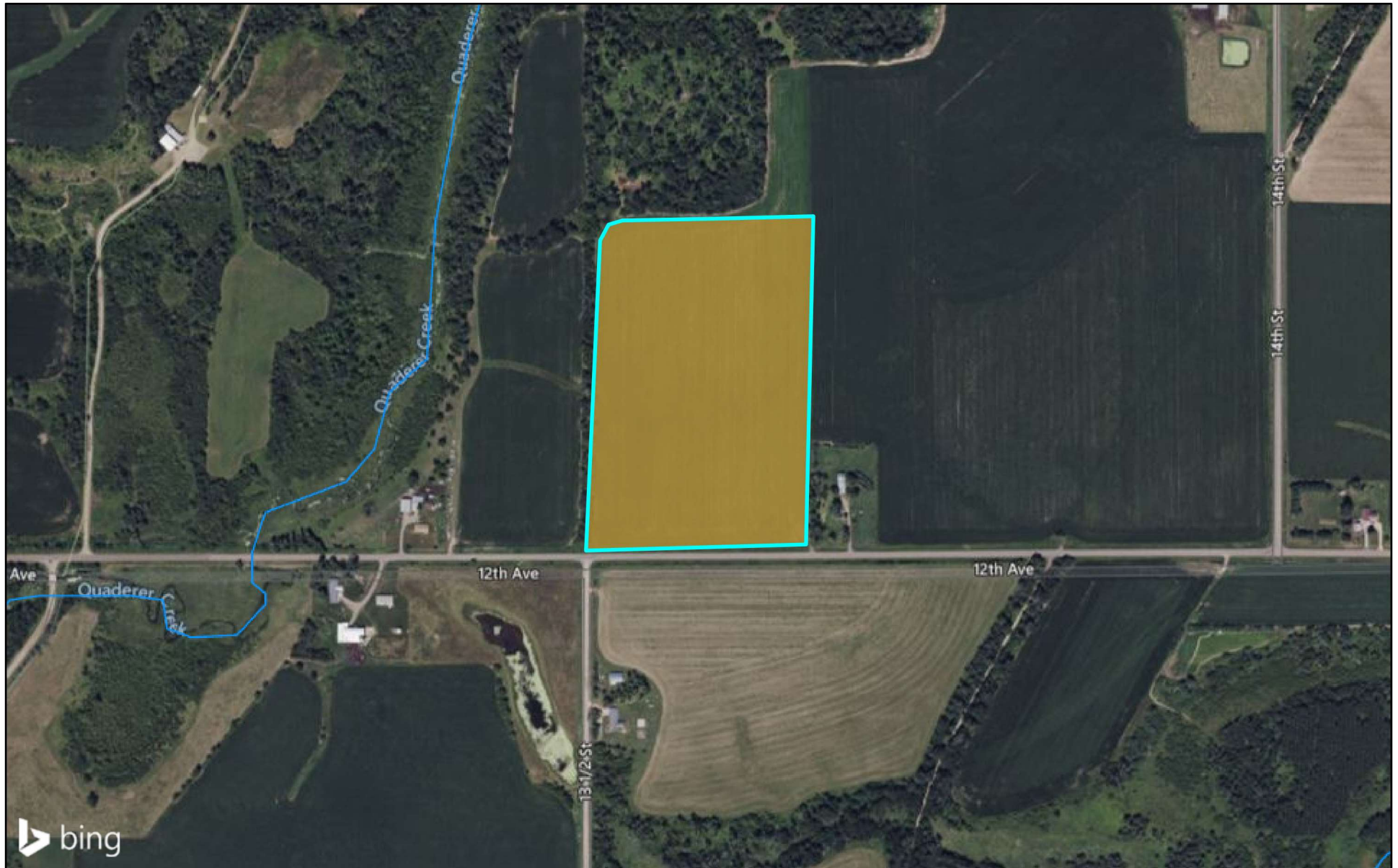
### Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
			Freshwater Pond		Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

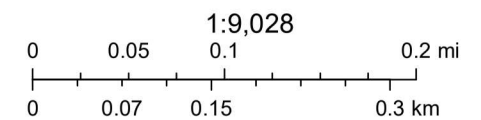
## **Appendix E – Water Resources**

# Bjorn Solar - Proximity to Water Resources



January 31, 2024

 Bjorn Solar  bjorn\_aoi  Streams



© 2024 Microsoft Corporation © 2023 Maxar ©CNES (2023) Distribution  
Airbus DS © 2023 TomTom

## **Appendix F – Coastal Resources**

## **Appendix G – Fish, Wildlife, and Vegetation**



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Minnesota-Wisconsin Ecological Services Field Office  
3815 American Blvd East  
Bloomington, MN 55425-1659  
Phone: (952) 858-0793 Fax: (952) 646-2873



In Reply Refer To:  
Project code: 2024-0035054  
Project Name: Bjorn Solar

January 10, 2024

Federal Nexus: yes  
Federal Action Agency (if applicable): Rural Utilities Service

**Subject:** Record of project representative's no effect determination for 'Bjorn Solar'

Dear Nolan Stumpf:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on January 10, 2024, for 'Bjorn Solar' (here forward, Project). This project has been assigned Project Code 2024-0035054 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

## Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

## Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project has reached the determination of "No Effect" on the northern long-eared bat. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A

consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

### **Other Species and Critical Habitat that May be Present in the Action Area**

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Gray Wolf *Canis lupus* Endangered
- Karner Blue Butterfly *Lycaeides melissa samuelis* Endangered
- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

### **Next Steps**

Based upon your IPaC submission, your project has reached the determination of “No Effect” on the northern long-eared bat. If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the Minnesota-Wisconsin Ecological Services Field Office and reference Project Code 2024-0035054 associated with this Project.

**Action Description**

You provided to IPaC the following name and description for the subject Action.

**1. Name**

Bjorn Solar

**2. Description**

The following description was provided for the project 'Bjorn Solar':

Bjorn Solar will include approximately 25 acres of ag. land in the Town of Barron, WI. Some light grading and clearing may take place but there will be little change to the quantity of impervious surface. It is expected that the project will generate 5 MW of power.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@45.3822595,-91.87655187620314,14z>



## DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the Endangered northern long-eared bat (*Myotis septentrionalis*). Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

## QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

**Note:** Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. The action area does not overlap with an area for which U.S. Fish and Wildlife Service currently has data to support the presumption that the northern long-eared bat is present. Are you aware of other data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed NLEB acoustic detections. Data on captures, roost tree use, and acoustic detections should post-date the year when white-nose syndrome was detected in the relevant state. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

3. Does any component of the action involve construction or operation of wind turbines?

**Note:** For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

5. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

6. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

**Note:** This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

No

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

8. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

9. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the [effects of any activities](#) that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

**Note:** Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of [Effects of the Action](#) can be found here: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

Yes

## PROJECT QUESTIONNAIRE

Will all project activities be completed by April 1, 2024?

*No*

**IPAC USER CONTACT INFORMATION**

Agency: Private Entity  
Name: Nolan Stumpf  
Address: 10 N Livingston St  
Address Line 2: Suite 201  
City: Madison  
State: WI  
Zip: 53703  
Email: nolan.stumpf@oneenergyrenewables.com  
Phone: 2623057290

**LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Rural Utilities Service



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Minnesota-Wisconsin Ecological Services Field Office  
3815 American Blvd East  
Bloomington, MN 55425-1659  
Phone: (952) 858-0793

In Reply Refer To:  
Project Code: 2024-0035054  
Project Name: Bjorn Solar

04/10/2024 15:28:09 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

## To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

### Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

### Consultation Technical Assistance

Please refer to our [Section 7 website](#) for guidance and technical assistance, including [step-by-step instructions](#) for making effects determinations for each species that might be present and for specific guidance on the following types of projects: projects in developed areas, HUD, CDBG, EDA, USDA Rural Development projects, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

We recommend running the project (if it qualifies) through our **Minnesota-Wisconsin Federal Endangered Species Determination Key (Minnesota-Wisconsin ("D-key"))**. A [demonstration video](#) showing how-to access and use the determination key is available. Please note that the Minnesota-Wisconsin D-key is the third option of 3 available d-keys. D-keys are tools to help Federal agencies and other project proponents determine if their proposed action has the potential to adversely affect federally listed species and designated critical habitat. The Minnesota-Wisconsin D-key includes a structured set of questions that assists a project proponent in determining whether a proposed project qualifies for a certain predetermined consultation outcome for all federally listed species found in Minnesota and Wisconsin (except for the northern long-eared bat- see below), which includes determinations of "no effect" or "may affect, not likely to adversely affect." In each case, the Service has compiled and analyzed the best available information on the species' biology and the impacts of certain activities to support these determinations.

If your completed d-key output letter shows a "No Effect" (NE) determination for all listed species, print your IPaC output letter for your files to document your compliance with the Endangered Species Act.

For Federal projects with a "Not Likely to Adversely Affect" (NLAA) determination, our concurrence becomes valid if you do not hear otherwise from us after a 30-day review period, as indicated in your letter.

If your d-key output letter indicates additional coordination with the Minnesota-Wisconsin Ecological Services Field Office is necessary (i.e., you get a "May Affect" determination), you will be provided additional guidance on contacting the Service to continue ESA coordination outside of the key; ESA compliance cannot be concluded using the key for "May Affect" determinations unless otherwise indicated in your output letter.

**Note: Once you obtain your official species list, you are not required to continue in IPaC with d-keys, although in most cases these tools should expedite your review.** If you choose to make an effects determination on your own, you may do so. If the project is a Federal Action, you may want to review our section 7 step-by-step instructions before making your determinations.

### **Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species**

1. If IPaC returns a result of "There are no listed species found within the vicinity of the project," then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **no effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see below) – then project proponents must determine if proposed activities will have **no effect** on or **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain [Life History Information for Listed and Candidate Species](#) on our office website. If no impacts will occur to a species on the IPaC species list (e.g., there is no habitat present in the project area), the appropriate determination is **no effect**. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

3. Should you determine that project activities **may affect** any federally listed, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

### **Northern Long-Eared Bats**

Northern long-eared bats occur throughout Minnesota and Wisconsin and the information below may help in determining if your project may affect these species.

This species hibernates in caves or mines only during the winter. In Minnesota and Wisconsin, the hibernation season is considered to be November 1 to March 31. During the active season (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags  $\geq 3$  inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas,
- Trees found in highly developed urban areas (e.g., street trees, downtown areas),
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees, and
- A monoculture stand of shrubby vegetation with no potential roost trees.

If IPaC returns a result that northern long-eared bats are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** this species **IF** one or more of the following activities are proposed:

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
- Any activity in or near the entrance to a cave or mine,
- Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
- Construction of one or more wind turbines, or
- Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

*If none of the above activities are proposed*, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No**

**Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

*If any of the above activities are proposed*, and the northern long-eared bat appears on the user's species list, the federal project user will be directed to either the range-wide northern long-eared bat D-key or the Federal Highways Administration, Federal Railways Administration, and Federal Transit Administration Indiana bat/Northern long-eared bat D-key, depending on the type of project and federal agency involvement. Similar to the Minnesota-Wisconsin D-key, these d-keys help to determine if prohibited take might occur and, if not, will generate an automated verification letter.

*Please note:* On November 30, 2022, the Service published a proposal final rule to reclassify the northern long-eared bat as endangered under the Endangered Species Act. On January 26, 2023, the Service published a 60-day extension for the final reclassification rule in the Federal Register, moving the effective listing date from January 30, 2023, to March 31, 2023. This extension will provide stakeholders and the public time to preview interim guidance and consultation tools before the rule becomes effective. When available, the tools will be available on the Service's northern long-eared bat website (<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>). Once the final rule goes into effect on March 31, 2023, the 4(d) D-key will no longer be available (4(d) rules are not available for federally endangered species) and will be replaced with a new Range-wide NLEB D-key (range-wide d-key). For projects not completed by March 31, 2023, that were previously reviewed under the 4(d) d-key, there may be a need for reinitiation of consultation. For these ongoing projects previously reviewed under the 4(d) d-key that may result in incidental take of the northern long-eared bat, we recommend you review your project using the new range-wide d-key once available. If your project does not comply with the range-wide d-key, it may be eligible for use of the Interim (formal) Consultation framework (framework). The framework is intended to facilitate the transition from the 4(d) rule to typical Section 7 consultation procedures for federally endangered species and will be available only until spring 2024. Again, when available, these tools (new range-wide d-key and framework) will be available on the Service's [northern long-eared bat website](#).

### **Whooping Crane**

Whooping crane is designated as a non-essential experimental population in Wisconsin and consultation under Section 7(a)(2) of the Endangered Species Act is only required if project activities will occur within a National Wildlife Refuge or National Park. If project activities are proposed on lands outside of a National Wildlife Refuge or National Park, then you are not required to consult. For additional information on this designation and consultation requirements, please review "[Establishment of a Nonessential Experimental Population of Whooping Cranes in the Eastern United States](#)."

### **Other Trust Resources and Activities**

*Bald and Golden Eagles* - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

*Migratory Birds* - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the

mortality of migratory birds whenever possible and we encourage implementation of [recommendations that minimize potential impacts to migratory birds](#). Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

*Communication Towers* - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed [voluntary guidelines for minimizing impacts](#).

*Transmission Lines* - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to [guidelines](#) developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

*Wind Energy* - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's [Wind Energy Guidelines](#). In addition, please refer to the Service's [Eagle Conservation Plan Guidance](#), which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

#### **State Department of Natural Resources Coordination**

While it is not required for your Federal section 7 consultation, please note that additional state endangered or threatened species may also have the potential to be impacted. Please contact the Minnesota or Wisconsin Department of Natural Resources for information on state listed species that may be present in your proposed project area.

##### *Minnesota*

[Minnesota Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: [Review.NHIS@state.mn.us](mailto:Review.NHIS@state.mn.us)

##### *Wisconsin*

[Wisconsin Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: [DNRERReview@wi.gov](mailto:DNRERReview@wi.gov)

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

#### **Attachment(s):**

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Minnesota-Wisconsin Ecological Services Field Office**

3815 American Blvd East

Bloomington, MN 55425-1659

(952) 858-0793

## PROJECT SUMMARY

Project Code: 2024-0035054

Project Name: Bjorn Solar

Project Type: Power Gen - Solar

Project Description: Bjorn Solar will include approximately 25 acres of ag. land in the Town of Barron, WI. Some light grading and clearing may take place but there will be little change to the quantity of impervious surface. It is expected that the project will generate 5 MW of power.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@45.3816934,-91.8765619827312,14z>



Counties: Barron County, Wisconsin

## ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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

## MAMMALS

NAME	STATUS
<p>Gray Wolf <i>Canis lupus</i></p> <p>Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.</p> <p>There is <b>final</b> critical habitat for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/4488">https://ecos.fws.gov/ecp/species/4488</a></p>	Endangered
<p>Northern Long-eared Bat <i>Myotis septentrionalis</i></p> <p>No critical habitat has been designated for this species.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> <li>▪ This species only needs to be considered if the project includes wind turbine operations.</li> </ul> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a></p>	Endangered
<p>Tricolored Bat <i>Perimyotis subflavus</i></p> <p>No critical habitat has been designated for this species.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> <li>▪ This species only needs to be considered if the project includes wind turbine operations.</li> </ul> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a></p>	Proposed Endangered

## BIRDS

NAME	STATUS
<p>Whooping Crane <i>Grus americana</i></p> <p>Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY)</p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a></p>	Experimental Population, Non- Essential

## INSECTS

NAME	STATUS
<p>Karner Blue Butterfly <i>Lycaeides melissa samuelis</i></p> <p>There is <b>proposed</b> critical habitat for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/6656">https://ecos.fws.gov/ecp/species/6656</a></p>	Endangered
<p>Monarch Butterfly <i>Danaus plexippus</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a></p>	Candidate

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

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

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

## BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act<sup>1</sup> and the Migratory Bird Treaty Act<sup>2</sup>.

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

- 
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
  2. The [Migratory Birds Treaty Act](#) of 1918.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Dec 1 to Aug 31

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read ["Supplemental Information on Migratory Birds and Eagles"](#), specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

### Breeding Season (■)

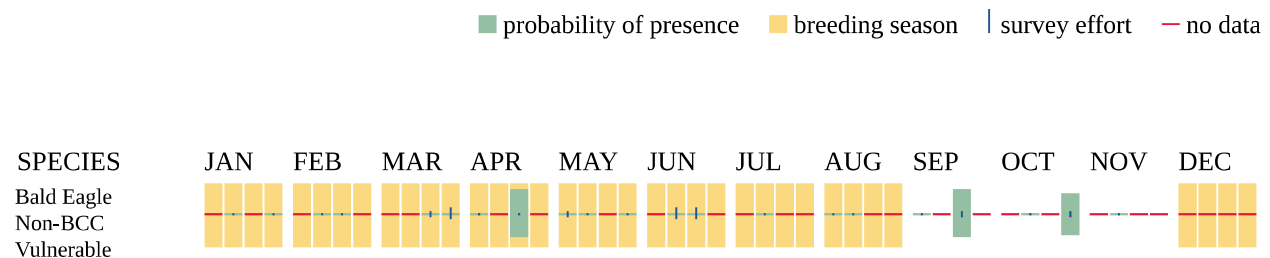
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

### Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

### No Data (—)

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



Additional information can be found using the following links:

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

## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Dec 1 to Aug 31
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9454">https://ecos.fws.gov/ecp/species/9454</a>	Breeds May 20 to Jul 31
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9406">https://ecos.fws.gov/ecp/species/9406</a>	Breeds Mar 15 to Aug 25
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9478">https://ecos.fws.gov/ecp/species/9478</a>	Breeds elsewhere

## PROBABILITY OF PRESENCE SUMMARY

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

### Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

### Breeding Season (■)

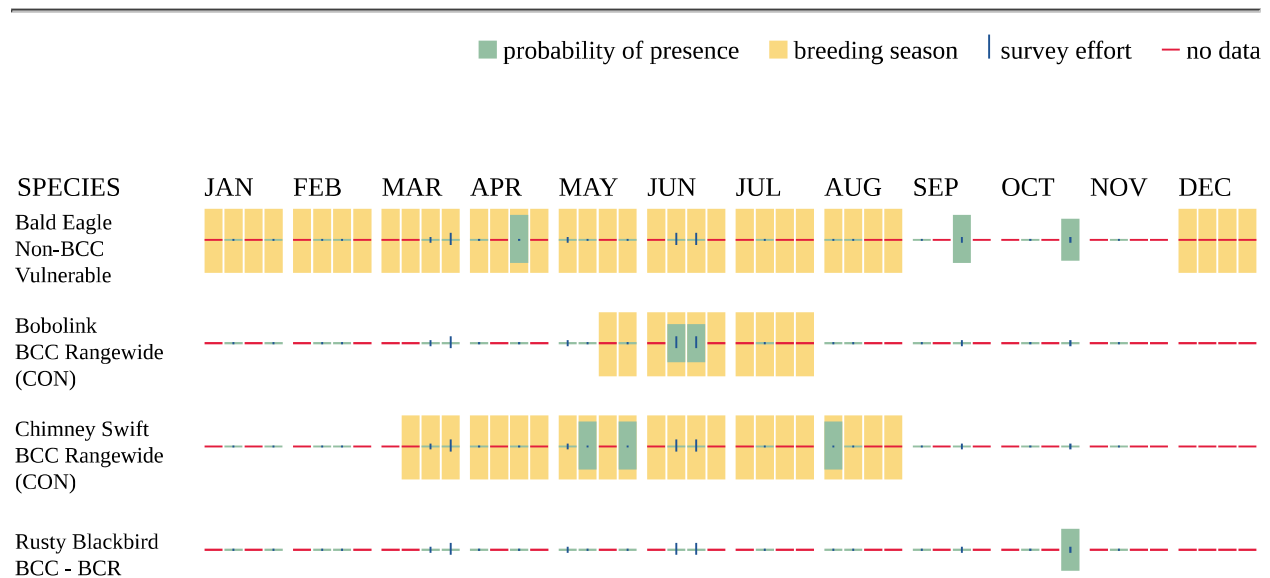
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

### Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

### No Data (—)

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



Additional information can be found using the following links:

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

## WETLANDS

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

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

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

## IPAC USER CONTACT INFORMATION

Agency: Private Entity  
Name: Nolan Stumpf  
Address: 10 N Livingston St  
Address Line 2: Suite 201  
City: Madison  
State: WI  
Zip: 53703  
Email: nolan.stumpf@oneenergyrenewables.com  
Phone: 2623057290

## LEAD AGENCY CONTACT INFORMATION

Lead Agency: Rural Utilities Service

You have indicated that your project falls under or receives funding through the following special project authorities:

- INFLATION REDUCTION ACT (IRA) (OTHER)

## **Appendix H – Socioeconomic and Environmental Justice**

# QuickFacts

## Barron County, Wisconsin; Monroe County, Wisconsin; United States

QuickFacts provides statistics for all states and counties. Also for cities and towns with a *population of 5,000 or more*.

All Topics	Barron County, Wisconsin	Monroe County, Wisconsin	United States
Population estimates, July 1, 2023, (V2023)	NA	NA	334,914,895
PEOPLE			
Population			
Population estimates, July 1, 2023, (V2023)	NA	NA	334,914,895
Population Estimates, July 1, 2022, (V2022)	46,843	46,109	333,271,411
Population estimates base, April 1, 2020, (V2023)	NA	NA	331,464,948
Population estimates base, April 1, 2020, (V2022)	46,709	46,270	331,464,948
Population, percent change - April 1, 2020 (estimates base) to July 1, 2023, (V2023)	NA	NA	1.0%
Population, percent change - April 1, 2020 (estimates base) to July 1, 2022, (V2022)	0.3%	-0.3%	0.5%
Population, Census, April 1, 2020	46,711	46,274	331,449,281
Population, Census, April 1, 2010	45,870	44,673	308,745,538
Age and Sex			
Persons under 5 years, percent	5.2%	6.1%	5.6%
Persons under 18 years, percent	20.9%	24.8%	21.7%
Persons 65 years and over, percent	23.7%	18.4%	17.3%
Female persons, percent	49.6%	49.0%	50.4%
Race and Hispanic Origin			
White alone, percent	94.6%	93.8%	75.5%
Black or African American alone, percent (a)	1.8%	1.7%	13.6%
American Indian and Alaska Native alone, percent (a)	1.2%	1.5%	1.3%
Asian alone, percent (a)	0.7%	1.0%	6.3%
Native Hawaiian and Other Pacific Islander alone, percent (a)	Z	0.1%	0.3%
Two or More Races, percent	1.6%	1.8%	3.0%
Hispanic or Latino, percent (b)	3.2%	5.3%	19.1%
White alone, not Hispanic or Latino, percent	92.0%	89.6%	58.9%
Population Characteristics			
Veterans, 2018-2022	3,007	3,957	17,038,807
Foreign born persons, percent, 2018-2022	3.1%	2.6%	13.7%
Housing			
Housing units, July 1, 2022, (V2022)	24,056	20,001	143,786,655
Owner-occupied housing unit rate, 2018-2022	75.3%	71.5%	64.8%
Median value of owner-occupied housing units, 2018-2022	\$182,600	\$184,000	\$281,900
Median selected monthly owner costs -with a mortgage, 2018-2022	\$1,374	\$1,434	\$1,828
Median selected monthly owner costs -without a mortgage, 2018-2022	\$565	\$509	\$584
Median gross rent, 2018-2022	\$814	\$919	\$1,268
Building permits, 2022	145	90	1,665,088
Families & Living Arrangements			
Households, 2018-2022	19,197	17,992	125,736,353
Persons per household, 2018-2022	2.39	2.52	2.57
Living in same house 1 year ago, percent of persons age 1 year+, 2018-2022	90.2%	90.1%	86.9%
Language other than English spoken at home, percent of persons age 5 years+, 2018-2022	4.5%	8.3%	21.7%
Computer and Internet Use			
Households with a computer, percent, 2018-2022	91.8%	88.6%	94.0%
Households with a broadband Internet subscription, percent, 2018-2022	80.1%	83.9%	88.3%
Education			
High school graduate or higher, percent of persons age 25 years+, 2018-2022	90.6%	90.9%	89.1%
Bachelor's degree or higher, percent of persons age 25 years+, 2018-2022	20.7%	20.1%	34.3%
Health			
With a disability, under age 65 years, percent, 2018-2022	9.4%	9.6%	8.9%
Persons without health insurance, under age 65 years, percent	8.3%	8.9%	9.3%

Economy			
In civilian labor force, total, percent of population age 16 years+, 2018-2022	61.7%	62.2%	63.0%
In civilian labor force, female, percent of population age 16 years+, 2018-2022	59.1%	57.8%	58.5%
Total accommodation and food services sales, 2017 (\$1,000) (c)	72,155	68,514	938,237,077
Total health care and social assistance receipts/revenue, 2017 (\$1,000) (c)	279,589	371,315	2,527,903,275
Total transportation and warehousing receipts/revenue, 2017 (\$1,000) (c)	79,793	190,756	895,225,411
Total retail sales, 2017 (\$1,000) (c)	840,642	599,682	4,949,601,481
Total retail sales per capita, 2017 (c)	\$18,598	\$13,088	\$15,224
Transportation			
Mean travel time to work (minutes), workers age 16 years+, 2018-2022	20.6	20.4	26.7
Income & Poverty			
Median household income (in 2022 dollars), 2018-2022	\$59,379	\$66,451	\$75,149
Per capita income in past 12 months (in 2022 dollars), 2018-2022	\$34,146	\$33,256	\$41,261
Persons in poverty, percent	⚠ 12.6%	⚠ 13.6%	⚠ 11.5%
BUSINESSES			
Businesses			
Total employer establishments, 2021	1,352	963	8,148,606
Total employment, 2021	17,580	15,776	128,346,299
Total annual payroll, 2021 (\$1,000)	836,573	792,673	8,278,573,947
Total employment, percent change, 2020-2021	0.4%	-1.8%	-4.3%
Total nonemployer establishments, 2020	3,104	2,507	27,151,987
All employer firms, Reference year 2017	1,210	1,004	5,744,643
Men-owned employer firms, Reference year 2017	602	S	3,480,438
Women-owned employer firms, Reference year 2017	121	167	1,134,549
Minority-owned employer firms, Reference year 2017	S	S	1,014,958
Nonminority-owned employer firms, Reference year 2017	1,011	S	4,371,152
Veteran-owned employer firms, Reference year 2017	78	29	351,237
Nonveteran-owned employer firms, Reference year 2017	922	S	4,968,606
GEOGRAPHY			
Geography			
Population per square mile, 2020	54.1	51.4	93.8
Population per square mile, 2010	53.2	49.6	87.4
Land area in square miles, 2020	863.05	900.90	3,533,038.28
Land area in square miles, 2010	862.71	900.78	3,531,905.43
FIPS Code	55005	55081	1



# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

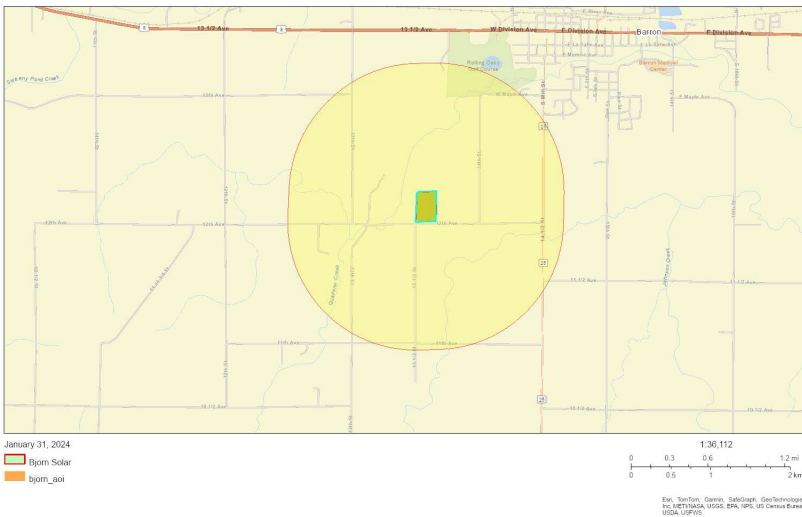
## Barron County, WI

1 mile Ring around the Area

Population: 292

Area in square miles: 3.96

A3 Landscape



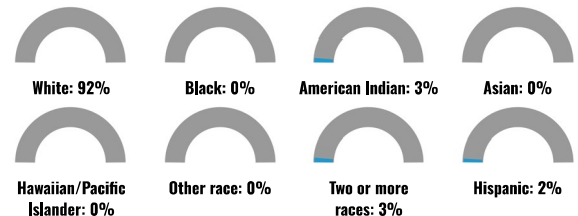
### COMMUNITY INFORMATION



### LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	91%
Spanish	5%
German or other West Germanic	1%
Other and Unspecified	3%
Total Non-English	9%

### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

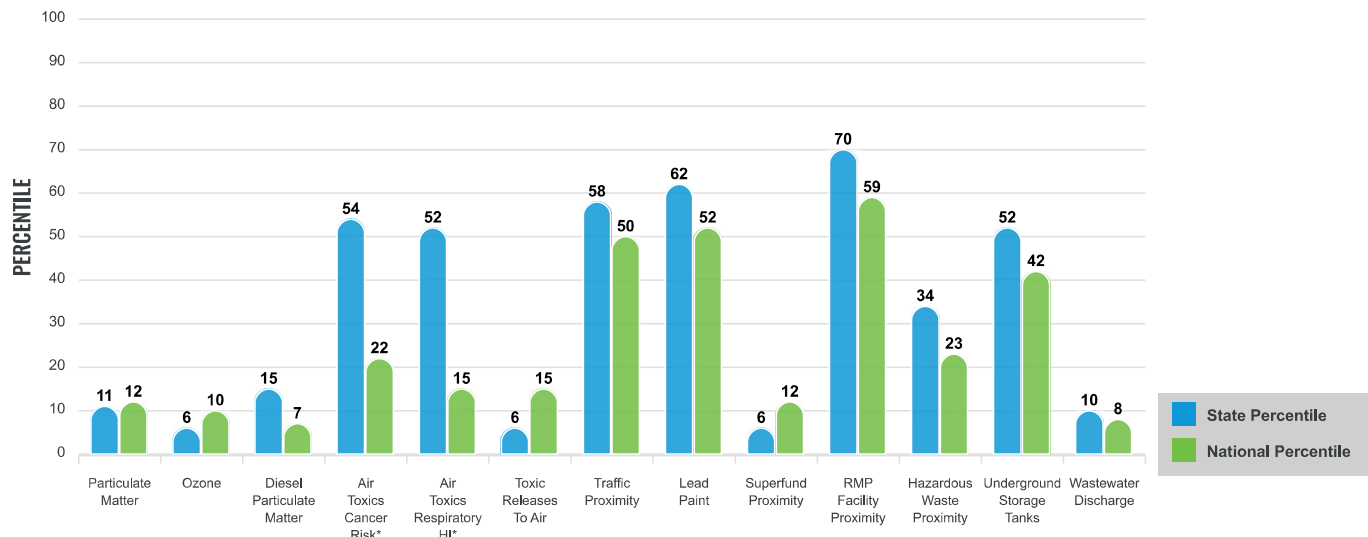
## Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

### EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

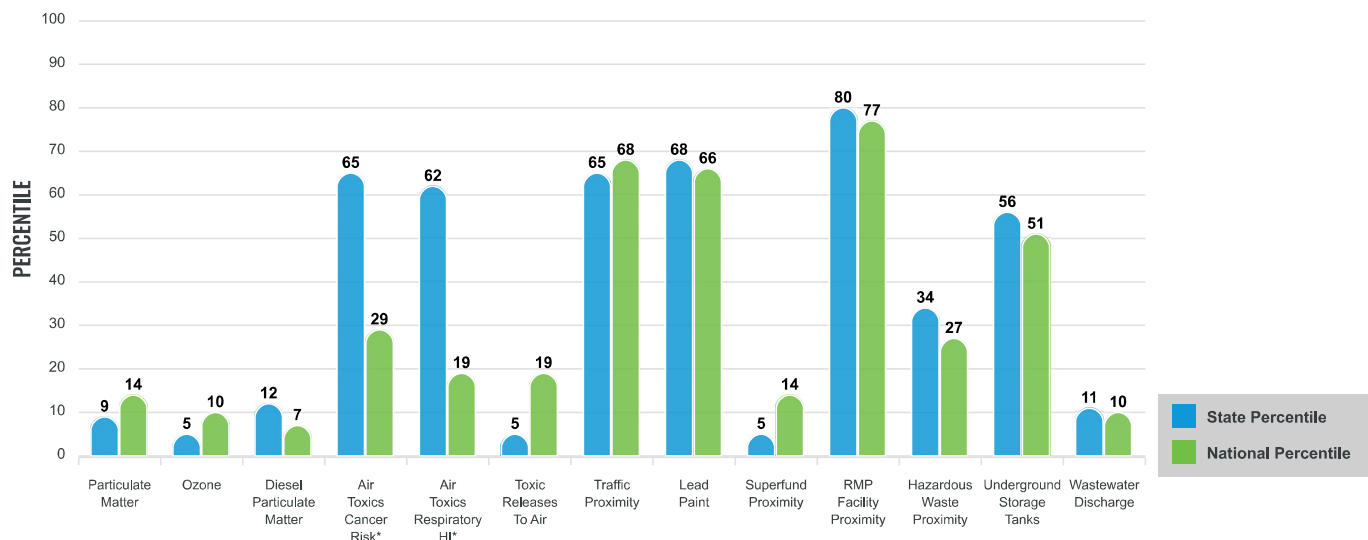
#### EJ INDEXES FOR THE SELECTED LOCATION



### SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

#### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 1 mile Ring around the Area

# EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
<b>POLLUTION AND SOURCES</b>					
Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	6.33	7.98	7	8.08	10
Ozone (ppb)	54.7	58.6	4	61.6	8
Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	0.0659	0.179	9	0.261	6
Air Toxics Cancer Risk* (lifetime risk per million)	19	19	0	25	1
Air Toxics Respiratory HI*	0.2	0.21	7	0.31	4
Toxic Releases to Air	39	8,100	4	4,600	15
Traffic Proximity (daily traffic count/distance to road)	180	320	57	210	72
Lead Paint (% Pre-1960 Housing)	0.43	0.4	60	0.3	68
Superfund Proximity (site count/km distance)	0.016	0.12	4	0.13	12
RMP Facility Proximity (facility count/km distance)	1.3	0.59	86	0.43	92
Hazardous Waste Proximity (facility count/km distance)	0.1	1.4	21	1.9	20
Underground Storage Tanks (count/km <sup>2</sup> )	0.79	3.3	45	3.9	44
Wastewater Discharge (toxicity-weighted concentration/m distance)	1E-06	0.028	8	22	8
<b>SOCIOECONOMIC INDICATORS</b>					
Demographic Index	19%	24%	53	35%	29
Supplemental Demographic Index	13%	12%	66	14%	50
People of Color	8%	21%	40	39%	19
Low Income	29%	28%	61	31%	54
Unemployment Rate	2%	4%	42	6%	32
Limited English Speaking Households	0%	1%	0	5%	0
Less Than High School Education	10%	8%	72	12%	56
Under Age 5	4%	5%	44	6%	45
Over Age 64	26%	18%	83	17%	82
Low Life Expectancy	23%	19%	84	20%	78

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

## Sites reporting to EPA within defined area:

Superfund .....	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities .....	0
Water Dischargers .....	0
Air Pollution .....	0
Brownfields .....	0
Toxic Release Inventory .....	0

## Other community features within defined area:

Schools .....	0
Hospitals .....	0
Places of Worship .....	1

## Other environmental data:

Air Non-attainment .....	No
Impaired Waters .....	Yes

Selected location contains American Indian Reservation Lands* .....	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community .....	No
Selected location contains an EPA IRA disadvantaged community .....	No

Report for 1 mile Ring around the Area

## EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	23%	19%	84	20%	78
Heart Disease	7.7	5.8	88	6.1	78
Asthma	10.3	9.9	77	10	61
Cancer	7.3	6.6	65	6.1	74
Persons with Disabilities	13.1%	12.1%	62	13.4%	53

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	7%	9%	52	12%	55
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	13%	14%	49	14%	55
Lack of Health Insurance	10%	6%	89	9%	70
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 1 mile Ring around the Area

## **Appendix I – Federal Aviation Administration**



## Notice Criteria Tool

[Notice Criteria Tool - Desk Reference Guide V\\_2018.2.0](#)

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.9](#).

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

<b>* Structure Type:</b>	SOLAR   Solar Panel ▼			
Please select structure type and complete location point information.				
<b>Latitude:</b>	45	Deg	22	M 52.87 S N ▼
<b>Longitude:</b>	91	Deg	52	M 36.77 S W ▼
<b>Horizontal Datum:</b>	NAD83 ▼			
<b>Site Elevation (SE):</b>	1148	(nearest foot)		
<b>Structure Height :</b>	14	(nearest foot)		
<b>Is structure on airport:</b>	<input checked="" type="radio"/> No <input type="radio"/> Yes			

### Results

You do not exceed Notice Criteria.

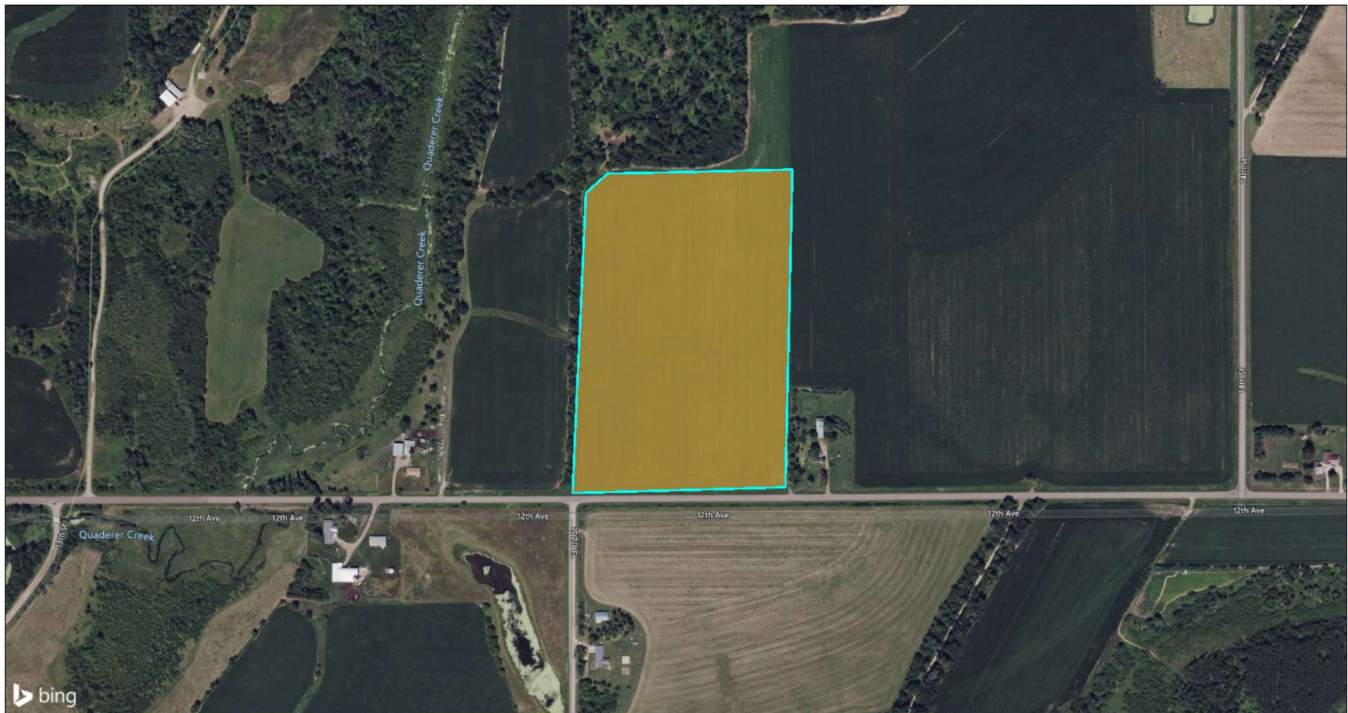


## **Appendix J – Environmental Risk Management**

# NEPAssist Report

## Bjorn Solar

### A3 Landscape



January 11, 2024

Bjorn Solar  
bjorn\_aoi

1:5,733

0 0.05 0.1 0.2 mi  
0 0.07 0.15 0.3 km

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(2023) Distribution Airbus DS © 2023 TomTom

Input Coordinates: 45.383405,-91.877244,45.383430,-91.875762,45.380004,-91.875869,45.379941,-91.879139,45.383177,-91.878933,45.383386,-91.878600,45.383405,-91.877244

Project Area	0.04 sq mi
Within an Ozone 1-hr (1979 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (1997 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (2008 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (2015 standard) Non-Attainment/Maintenance Area?	no
Within a Lead (2008 standard) Non-Attainment/Maintenance Area?	no
Within a SO2 1-hr (2010 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 24hr (2006 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 Annual (1997 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 Annual (2012 standard) Non-Attainment/Maintenance Area?	no
Within a PM10 (1987 standard) Non-Attainment/Maintenance Area?	no
Within a CO Annual (1971 standard) Non-Attainment/Maintenance Area?	no
Within a NO2 Annual (1971 standard) Non-Attainment/Maintenance Area?	no
Within a Federal Land?	no
Within an impaired stream?	no
Within an impaired waterbody?	no
Within a waterbody?	no
Within a stream?	no
Within an NWI wetland?	Available Online
Within a Brownfields site?	no

Within a Superfund site?	no
Within a Toxic Release Inventory (TRI) site?	no
Within a water discharger (NPDES)?	no
Within a hazardous waste (RCRA) facility?	no
Within an air emission facility?	no
Within a school?	no
Within an airport?	no
Within a hospital?	no
Within a designated sole source aquifer?	no
Within a historic property on the National Register of Historic Places?	no
Within a Land Cession Boundary?	yes
Within a tribal area (lower 48 states)?	no
Within the service area of a mitigation or conservation bank?	yes
Within the service area of an In-Lieu-Fee Program?	yes
Within a Public Property Boundary of the Formerly Used Defense Sites?	no
Within a Munitions Response Site?	no
Within an Essential Fish Habitat (EFH)?	no
Within a Habitat Area of Particular Concern (HAPC)?	no
Within an EFH Area Protected from Fishing (EFHA)?	no
Within a Bureau of Land Management Area of Critical Environmental Concern?	no
Within an ESA-designated Critical Habitat Area per U.S. Fish & Wildlife Service?	no
Within an ESA-designated Critical Habitat river, stream or water feature per U.S. Fish & Wildlife Service?	no

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