SAPLING SOLAR, LLC
SAPLING SOLAR
ENVIRONMENTAL IMPACT ANALYSIS

Sapling Solar, LLC (Applicant) contracted Atwell, LLC (Atwell) to complete an Environmental Impact Analysis (EIA) for the portions of the Sapling Solar Project (Project) area containing proposed development within Gustin Township, in Alcona County, Michigan. Up to approximately 820 acres of fenced in areas are proposed within 1,427 acres of participating land, hereby referred to as the Site. The purpose of this EIA is to determine potential environmental impacts of development at the Site and to comply with local ordinances.

Evaluations were completed to determine potential impacts on water resources, air quality, sound and noise, utilities and infrastructure, community safety, wildlife, wetlands, floodplains, farmlands, and soils within the Site. A larger area outside of Gustin Township was studied during the project due diligence phase to determine siting of project infrastructure, although the results of these studies will not be discussed further within this Study.

This EIA was conducted through a combination of desktop research and field reconnaissance. Data acquisition was conducted through publicly available information from a variety of sources including federal, state, and local agencies; Geographic Information System (GIS) databases; and literature review.

SUMMARY OF FINDINGS

Based on this desktop analysis and the results of on-site assessments, Atwell did not identify any critical impacts posed by development of a solar project at the Site that would adversely affect threatened and endangered species, water resources and floodplains, protected farmlands and soils, or any other environmental, cultural, historic, aesthetic factors within the Site or its vicinity.

PROJECT INTRODUCTION

The Site is located in eastern Alcona County, within Gustin Township. According to the National Land Cover Database (NLCD), the majority of land within the Site is mapped as cultivated crops. Secondary areas identified as woody wetlands, deciduous forest, and hay/pasture are mapped within the Site. Smaller areas of mixed forest, low-intensity development areas and developed, open space are also mapped within the Site (MRLC 2019).

Review of aerial imagery and an on-site assessment is consistent with NLCD data and shows that the majority of the Site is primarily used as farmland, including associated residential and agricultural buildings, field access roads, and maintained ditches adjacent to roadways, with secondary forested areas throughout. The surrounding area is also primarily rural agricultural land with low-density rural residences and farmsteads, and similarly dispersed wooded natural areas. The Village of Lincoln is located approximately two miles north of the project.

AIR QUALITY

The Project will not adversely affect air quality within the Site or surrounding vicinity. Operation of a solar energy system does not generate harmful emissions, fumes, or smoke. Solar panels are composed of non-hazardous, inert crystalline silicon that is enclosed between thick layers of glass, safely mounted on steel pilings mounted on the ground.

SOUND AND NOISE

The Project has been designed to have a low profile and be compatible with the surrounding area. The Project has been designed to minimize audible noise at neighboring residences, buildings, and non-participating parcels. The Project substation and inverters, which are the components of the facility capable of producing sound, are centrally located and away from non-participating landowners adjacent to the Project's boundaries. The center of the proposed substation is located approximately 870 feet from the nearest residence to the north. As currently designed, inverters are setback at least 600' from any non-participating residence. As described in the Sound Modeling Study (**Appendix D** of Special Land Use Permit Application), sound modeled at adjacent non-participating residences does not exceed 55 average hourly decibels, set forth in the Michigan Statewide Siting Regulations. Sapling Solar intends to apply for a variance for said provision.

UTILITIES AND INFRASTRUCTURE

The Site is located within an area that has largely been developed for agricultural production and the majority of the Site is directly accessible via roadways. Major roads abutting the Site include Michigan-72 Highway, McConnell Road, East Procunier Road, and F41 Road. In addition, farm access driveways or unpaved access roads are expected to provide access to portions of the Site. Refer to **Attachment A** for the location of existing roads around the Site.

Review of GIS data indicates the presence of one 115-kilovolt (kV) transmission line owned by METC that runs north to south along the western portion of the Site, and extends past the one-mile buffer of the Site (ABB Ability 2022). Refer to **Attachment A** for the location of existing transmission lines within and around the Site. The Project proposes the development of one transmission line and substation to support the proposed solar project.

One natural gas pipeline owned by DTE Energy Company runs through the southern portion of the Site, and extends past the one-mile buffer of the Site (Rextag Comprehensive Energy Data Intelligence 2023). Refer to **Attachment A** for the location of existing natural gas pipelines within and around the Site.

Two oil and gas wells with terminated permits are mapped within the Site, six plugged oil and gas wells are mapped within one mile of the Site (EGLE 2023). In addition, ten water wells are mapped within the Site. Numerous additional water wells are mapped within one mile of the Site (EGLE 2019). Refer to **Attachment A** for the location of oil and gas wells and water wells within and around the Site.

Atwell conducted a review of the publicly available USGS Protected Areas Database and Conservation and Recreation Land (CARL) database. No publicly managed lands were recorded within the Site. The Mikado Township Park and the Huron-Manistee National Forest is located within one mile of the Site (Ducks Unlimited, Inc. 2013; USGS 2023). Atwell did not conduct a title review. Therefore, additional easements or encumbrances may be present. Refer to **Attachment A** for the location of the recreational areas around the Site.

There were two USEPA facility listings identified within the project area, and one identified within the one mile buffer (USEPA 2021). Additionally, there were no underground storage tank and leaking underground storage tank listings identified within the project area and three identified within the one mile buffer (EGLE

2022). Atwell recommends obtaining a database search through a supplier, such as an Environmental Data Resources, LLC radius report, to further review potential environmental constraints associated with USEPA and EGLE database sites. Refer to **Attachment A** for the location of these facilities and underground storage tanks within and around the Site.

No airports were identified within the project area boundary, 1-mile buffer, or within 2 miles of the project area. Three airports were identified within 10 nautical miles (11.5 miles) of the project area (FAA 2023).

The Project does not intend to impact any of these utilities during the process of construction or operation.

COMMUNITY SAFETY

The Project will comply with Michigan Public Service Commission and Federal Energy Regulatory Commission interconnection standards. The Project will be built and operated to meet or exceed the standards set forth in the National Electrical Code (NEC) as well as electrical standards required by the Alcona County Building Official. The Project will comply with the National Electrical Safety Code and Institute of Electrical and Electronics Engineers standards.

During operation of the Project, on-site personnel will be limited to a staff of approximately 2-3, and the Project will not include any dwelling units or other land uses. All arrays will be accessible by maintenance crews and emergency vehicles, via gravel or compacted soil access roads. A perimeter fence will be installed surrounding the Site, which will limit potential safety or security issues.

The Project will not generate traffic, noise, smoke, fumes, glare or odors detrimental to health, safety, or general welfare during operations. The Project is implementing setbacks from non-participating properties, public roadways, and residences in accordance with the requirements set forth in the Michigan Statewide Siting Regulations. Sapling Solar intends to apply for a variance for said provisions.

In addition, a Real Estate Adjacent Property Value Impact Report (**Appendix G** of Special Land Use Permit Application Narrative) has been prepared, showing that the proposed project will not adversely impact property values or other financial property interests in the vicinity of the Site.

WILDLIFE

The Endangered Species Act (ESA) of 1973 protects designated threatened and endangered species (TES) from extinction. In addition, the Michigan Natural Resources and Environmental Protection Act (NREPA), Part 365, Endangered Species Protection, protects state-listed TES, as well as federally listed wildlife and plants. MDNR is the agency responsible for implementing and enforcing Part 365 of the NREPA. For the purposes of this EIA, special status wildlife species include those listed under the ESA or as threatened or endangered by MDNR.

Atwell reviewed the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) System information regarding federally listed TES and other resources such as critical habitat on a project location basis. The USFWS IPaC report for the Site and surrounding area, identified five federally listed TES as having the potential to occur in the vicinity of the Site (USFWS 2024). Please note that candidate species and proposed listed species are not afforded protection under the ESA, and thus are not discussed in this EIA. No designated critical habitat was identified within the Site (USFWS 2024). Refer to **Attachment B** for project-specific IPaC results.

In addition, Atwell utilized the Michigan Natural Features Inventory (MNFI) electronic database to identify records of TES occurrences within the sections, township, and ranges in which the Site is located. The

MNFI results for the Site indicated that there are no records of state-listed TES within the vicinity of the Site (MNFI 2024). Please note that extinct species and species of concern are not afforded legal protection under the ESA or Part 365 of the NREPA and are subsequently not reviewed in this report. Refer to **Attachment B** for project-specific MNFI results.

The Migratory Bird Treaty Act (MBTA) of 1918 (U.S. Congress 1918) provides protection for many bird species in the United States, as it applies to nearly all migratory species. The MBTA implements treaties with several other nations and was enacted in response to the decline of migratory bird populations from uncontrolled commercial uses. It is unlawful to pursue, hunt, take, capture, kill, possess, or sell birds listed under the MBTA without appropriate permits. The statute does not discriminate between live or dead birds and grants full protection to any bird parts, including feathers, eggs, and nests, regardless of conservation status. IPaC results noted the bald eagle (*Haliaeetus leucocephalus*), black-billed cuckoo (*Coccyzus erythropthalmus*), bobolink (*Dolichonyz oryzivorus*), and wood thrush (*Hylocichla mustelina*) all are birds of particular concern because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in the project location. After on-site assessment and desktop review, it is unlikely that any impact to the migratory birds will take place with proper siting of the Project and compliance with USFWS best management practices (BMPs).

The Bald and Golden Eagle Protection Act (BGEPA) was enacted in 1940 (16 U.S.C. 668–668d, 54 Stat. 250) (U.S. Congress 1940) to preserve eagle populations from wanton killing and population declines. This act makes it illegal to take bald eagles or golden eagles *(Aquila chrysaetos)* or to trade in eagle parts, eggs, or feathers. Take has been broadly interpreted to include altering or disturbing nesting habitat. Disturbance is defined by the act as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (50 Code of Federal Regulations Part 22). Rule changes made on December 14, 2016, finalized permit regulations to authorize limited take associated with otherwise lawful activities. These regulations establish permit provisions for intentional take of eagle nests under, limited circumstances (MNFI 2022).

In addition, according to the Bird Conservation Regions database, the Site and one-mile buffer are located within the Boreal Hardwood Transition area. Characterized by coniferous and northern hardwood forests, nutrient-poor soils, lakes, bogs, and rivers, this area is known to be the only spot in the world for Kirtland Warblers to breed along with other species of warblers, terns, and ducks. Specific impacts from the project are not expected to adversely impact any preferred habitat. The Project has been designed to avoid natural areas to the greatest extent possible. The Boreal Hardwood Transition area is not specifically protected under any statute (Bird Studies Canada and NABCI 2014).

The on-site TES habitat assessment and desktop review were conducted in June of 2024. Table 1, below, provides a list of special status wildlife species with potential to occur in or near the Site based on database review results (MNFI 2024; USFWS 2024) and a brief description of the results of on-site field assessments and desktop reviews. It should be noted that inclusion on the IPaC and MNFI lists does not indicate that the species is present within the Site.

Table 1. Federal and State listed TES

Level	Common Name (Species Name)	Status *	Range or Habitat Requirements	Potential for Occurrence in Site	Potential for Impact in Site
Birds					
Federal	Bald Eagle (*Haliaeetus leucocephalus*)	BGEPA, SC	Typically nests in large trees or snags near open bodies of water that can provide ample opportunity for fishing.	Moderate; the Site and surrounding area appears to contain suitable hunting and nesting habitat.	Low; as recommended by the USFWS (see below), any active eagle nests observed before construction will be buffered by at least 660' to avoid take.
Federal	Rufa Red Knot (*Calidris canutus rufa*)	LT	Sandy coastal habitats at or near tidal inlets or at the mouths of bays and estuaries, as well as other habitats such as brackish lagoons and tidal mudflats. In Michigan, this species can be expected to be present during migration along the Great Lakes shoreline, as well as inland occasionally on mudflats (e.g., at low reservoirs, flooded fields).	Low; the Site and surrounding area appear to lack coastal and estuarine habitat. Due to the distance of the project from Lake Huron, and the lack of suitable habitat, it is unlikely for this species occur within the Site.	Low; due to the site lacking suitable habitat, it is unlikely for this species to be impacted by the Project.
Insects					
Federal	Hine's Emerald Dragonfly (*Somatochlora hineana*)	LE, E	Typically found in wetlands dominated by graminoids (grass-like plants with minimal flowers). Prefers slow-moving cool water for larvae with woodland edges for adult hunting and roosting habitat.	Low; wetlands or waterbodies are mapped within Site, however suitable habitat for the species is likely not present within these areas.	Low; due to the site lacking suitable habitat, it is unlikely for this species to be impacted by the project. Additionally, the Project intends to avoid impacts to wetlands and streams to the greatest extent practicable.
Mammals					
Federal	Northern Long-eared Bat (*Myotis septentrionalis*)	LE, T	Upland forest in summer; caves and mines as hibernacula in winter.	Moderate; Wooded areas within Site may provide suitable roost habitat. The USFWS Bat Habitat Suitability Model indicates that approximately 380 acres of potentially suitable habitat is present within forested areas of the Site (see Figure 1 - Preliminary Constraints	Low; the project will require minimal tree clearing to support the project. In areas where tree clearing is proposed, the Project will follow USFWS recommended

Table 1. Federal and State listed TES

Level	Common Name (Species Name)	Status *	Range or Habitat Requirements	Potential for Occurrence in Site	Potential for Impact in Site
				Map). No known roost trees have been identified in Alcona County or neighboring counties.	BMPs to avoid take (see below).
Reptiles					
Federal	Eastern Massasauga (*Sistrurus catenatus*)	LT, T	Typically found in open, shallow wetlands, particularly favoring prairie fens. May also occur in bogs, shrub swamps, wet meadows, marshes, wet prairies, or floodplain forests. May also use adjoining uplands during the summer.	Moderate; The Site is within EMR range and portions of the Site are within Tier 2 EMR habitat. The closest Tier 1 habitat is mapped 3 miles southwest of the Site. This species' required habitat of large wetland complexes may be present within the Site.	Low; the Project intends to avoid impacts to wetlands and streams to the greatest extent practicable. Additionally, the Project is sited primarily within agricultural land, which is not considered suitable habitat by the USFWS. The Project will follow USFWS recommended BMPs to avoid take (see below).
Flowering Plants					
Federal	Pitcher's Thistle (*Cirsium pitcheri*)	LT,T	Grows on open sand dunes and low open beach ridges along Great Lakes shorelines.	Low; the Site does not contain open sand dunes or low open beach ridges. Due to the distance of the project from Lake Huron, and the lack of suitable habitat, it is unlikely for this species occur within the Site or be impacted by project development.	Low; due to the site lacking suitable habitat, it is unlikely for this species to be impacted by the Project.

*Federal (USFWS) status definition:

LE=endangered; LT=threatened;

State (MNFI) status definition:

E=Endangered; T=threatened; SC=special concern

The results of the threatened and endangered species habitat review were used to inform Project design and reduce potential impacts to significant natural features. USFWS recommended best management practices will be used to minimize impacts to potential TES with moderate to high potential to occur on-site and their habitat during the construction of the Project. This includes the bald eagle, northern long-eared bat, and the eastern massasauga rattlesnake. The Applicant intends to adhere to BMPs recommended from the USFWS and MDNR. These are documented below.

Bald Eagle:

Prior to construction, the Applicant will perform eagle nest surveys within areas that have proposed developments, and the surrounding areas. As recommended by the USFWS, a 660-foot buffer surrounding any identified active nests will be used during construction to reduce any potential impacts to the species or its habitat.

Northern Long-Eared Bat:

A review of the USFWS Habitat Suitability Model (USFWS 2023a) determined that the Site is located within Bat Conservation Planning Zone 6. Based on the USFWS Project Design Guidelines for Federally Listed Bats in Michigan (USFWS 2023b), Zone 6 is located within the Lower Peninsula of Michigan and has high potential for summer habitat for this species. The USFWS conservation guidelines within Zone 6 include a recommended maximum area of contiguous forest clearing of 20 acres, and the recommended dates to avoid clearing activities are between May 1 and August 31.

If the Applicant is unable to adhere to the recommended avoidance dates for tree clearing, further coordination with USFWS will be conducted to ensure impacts to the species and its habitat are minimized.

Eastern Massasauga Rattlesnake:

In 2017, the USFWS Michigan Ecological Services Field Office published a screening tool for the EMR for projects that could potentially affect this species in Michigan. The screening tool includes a set of general BMPs recommended for work within suitable EMR habitat as well as activity-specific BMPs recommended for work within Tier 1, Tier 2 or potentially suitable habitat (USFWS et al).

General BMPs:

- Use wildlife-safe materials for erosion control and site restoration. Eliminate use of erosion control products containing plastic mesh netting or other similar material that could entangle EMRs.
- Increase human safety and awareness of EMRs by requiring workers to watch the Michigan Department of Natural Resources' 60-Second Snakes: The Eastern Massasauga Rattlesnake (video available at https://www.youtube.com/watch?v=-PFnXe_e02w) or review the EMR fact sheet (available at https://www.fws.gov/midwest/endangered/reptiles/eama/pdf/EMRFactSheetSept2016.pdf or by calling 517-351-2555).
- Require reporting of any EMR observations during project implementation, or observation of any other listed TES, to USFWS within 24 hours.

In addition to these general BMPs, traversing the least possible wetland (e.g., accessing wetland edges from uplands on either side rather than crossing the entire length of a wetland, or utilizing lateral access roads when available); utilization of existing roads, two-track routes, and crossings can help reduce potential impacts. Furthermore, if providing TES information to contractors as part of a pre-construction education program the information should include the EMR's field identification, life history, and habitat needs as well as certain BMPs and contact information to report any sightings.

For work within areas of mapped Tier 2 the USFWS recommends the following activity specific BMPs to avoid and minimize adverse impacts to this species to the maximum extent practicable.

- Reduce travel speeds to help give vehicle operators more time to identify and avoid EMRs and other wildlife.
- Placement of timber mats through all Tier 2 travel routes/pathways/causeways that occur through wetlands between mid-April and mid-October.
- Strictly control and minimize vehicle activity in known/presumed occupied EMR habitat to the extent possible. When feasible, vehicle activity is preferred after mid-October but before mid-April. After mid-April and before mid-October, speed limits within Tier 1 and Tier 2 habitats should be <15 MPH.
- Use wildlife-safe materials for erosion control and site restoration (i.e., eliminate the use of plastic mesh netting or other similar material that could ensnare EMR).
- Augering and any grading work should be accomplished well within the EMR active season (July through August), if feasible and practicable.
- Inspect and clean equipment and vehicles between work sites within Tier 2 habitat.
- Construction crews should be prepared with spill prevention and response plans for oils/fluids.
- Do not use large equipment or perform earth-moving activities, water withdrawal and discharge for hydrostatic testing, or other activities that substantially affect the ground or water levels in potential EMR hibernacula areas.

If the Applicant is unable to adhere to any recommended BMPs, further coordination with USFWS will be conducted to ensure impacts to the species and its habitat are minimized.

FLOODPLAINS, WETLANDS, AND WATER RESOURCES

Desktop review of natural features followed by on-site wetland delineations was performed for the Project in June 2024. The purpose of the on-site wetland delineation was to verify desktop delineations and confirmed the presence of mapped features. Prior to final site plan approval, the Applicant intends on delineating the entire site for wetlands, watercourses, and streams.

The entirety of the Site lies within the Au Sable Watershed (Hydrologic Unit Code [HUC] 04070007) (USGS 2020a). Based on review of the National Hydrography Dataset (NHD), two waterbodies are mapped within the Site. Several waterbodies ranging in size are mapped within one mile of the Site. Fourteen watercourses are mapped within the Site, including several sections of the east branch of the Pine River. Several other watercourses, including sections of the east and west branches of the Pine River, Backus Creek, and Van Etten Creek, are recorded within one mile of the Site (USGS 2020b). Thirteen of the watercourses mapped on site have been mapped as a Michigan trout or salmon regulated stream, numerous streams have also been mapped within the one-mile buffer. Note that many of these NHD-mapped ditches are not visible in recent aerial imagery within the Site. Additionally, 11 watercourses mapped within the Site are classified as 303(d) Listed Impaired Waters under the Clean Water Act (CWA), numerous others outside of the project area are also classified (USGS 2020b). Refer to **Attachment A** for the locations of mapped NHD and 303(d) Listed Impaired Waters within and around the Site.

In addition, the USFWS National Wetlands Inventory (NWI) maps wetland areas throughout the Site that were used for the desktop delineation and guided field efforts to confirm suspicious wetland areas. Wetlands mapped within the Site include freshwater emergent (PEM), scrub-shrub (PSS), and forested

(PFO) wetland communities. Note that many of the NHD-mapped watercourses are also mapped by the NWI as riverine wetland communities (USFWS 2022). Refer to **Attachment A** for the locations of mapped NWI features, state wetland features, desktop delineated features, and field identified features within and around the Site.

The Federal Emergency Management Agency (FEMA) has completed a study to determine flood hazard comprising the parcels of the Site and within one mile of the Site and has ascertained through floodplain data that the Site is primarily located in Zone X - Areas of Minimal Flood Hazard (FEMA 2024), but also contains locations in FEMA Zone A 100-year Floodplain. Refer to **Attachment A** for the locations of mapped FEMA floodplain around the Site.

As sited, the Project optimizes efficient use of land to generate solar power, while avoiding impacts to natural resources or existing land uses. Additionally, as designed, the Project avoids impacts to wetlands, watercourses, and floodplains to the extent practicable. The Project will utilize 25' voluntary setbacks around natural resources where applicable. The Applicant intends on obtaining the necessary permits from EGLE for any impacts to wetlands, watercourses, waterbodies, and floodplains prior to construction.

FARMLANDS AND SOILS

The Site is located within the Eastern Lake Plains of the Interior Plains physiographic region of the U.S. (Vigil et al. 2000) and within the Northern Lower Peninsula Tunneled Uplands physiographic region of Michigan (Michigan Geological Survey 2009). The region is a result of glacial drift and includes hills and intervening plains. Soils are well and somewhat excessively drained, much of which is now artificially drained for the row crop agriculture that dominates land use in this region. Pre-settlement vegetation included a variable mix of forests including cedar and other swamp conifers in the lowlands, beech-sugar maple-hemlock forests in the west, and pine forests in the east on uplands (MGS 2021).

The USDA NRCS Web Soil Survey was utilized to determine several metrics related to the soil types that underlie the Site including: hydric rating, potential to corrode steel, potential to corrode concrete, and the potential for shallow excavations (USDA 2019). Hydric soils are conducive to the growth of hydrophytic (i.e., wetland) vegetation as a result of their tendency to be wet for extended periods of time (NRCS 2015). According to the web soil survey, the majority of soils mapped within the Site are classified as non-hydric (approximately 95 percent). Approximately 4 percent of soils mapped within the Site are classified as hydric and <1 percent of the soils are unclassified.

Agricultural land is the most compatible land for solar farms as the land generally consists of large acreage and solar uses are low intensity. The Project will serve to supplement farming incomes and allow for nutrient and land recharge while supporting native vegetation and pollinator habitat species. The Michigan Department of Agriculture & Rural Development ("MDARD") recognizes the need to install solar arrays on agricultural land, including land enrolled in PA116. At least one participating parcel within the Project is enrolled in PA116, however remaining title will not be granted until September, and more may be present. Giving soil rest can help maintain soil quality and contribute to biodiversity of agricultural land to increase nutrient levels and enable the land to revert back to agricultural uses at the end of the operational life for solar installations. According to the USDA, approximately 50 percent of the Site is classified as prime farmland if drained, approximately 25 percent is all areas are prime farmland, approximately 21 percent is not prime farmland, and approximately five percent is farmland of local importance.

Solar arrays will be mounted on piles, minimizing disturbance to the land. Grasses and other vegetation will be allowed to grow underneath and between panels and will be maintained against overgrowth. In addition, the Applicant will procure a mix of pollinator-friendly vegetation that will be planted throughout the fenced in areas of the Site. Presence of pollinator-friendly species has been shown to increase production of pollinator-dependent crops, such as soybeans. In addition, pollinator-friendly species tend to have deeper root systems, which filter and store more water, thereby decreasing runoff and increasing groundwater storage, and these species tend to require less chemical fertilizer and herbicide, therefore also decreasing pollutants entering surface waters and groundwater. Additionally, soil removal and topographic modifications will be completed in accordance with site-specific construction BMPs and the stabilization of the site will be managed to prevent soil erosion.

As stated above, there are numerous benefits to the existing farmland after the development of a solar project. At the end of the Project's operational life, it will be decommissioned and can be returned to agricultural use. Therefore, the Project will not negatively impact farmlands and soils.

CULTURAL, HISTORICAL, AND AESTHETIC FACTORS

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (54 U.S.C. 306108) requires that federal agencies take into consideration the effects of their undertakings on historic properties listed in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 in and of itself is not a permit requirement for a project but comes into play when a project involves a federal undertaking (located on federally managed land, has federal funding, or requires a federal permit). The lead federal agency must comply with Section 106 prior to approving the undertaking.

Thus, Section 106 may become relevant for projects with permits issued under the CWA or ESA. Section 106 consideration involves consultation by the lead federal agency with interested state historic preservation officers, Native American tribes, the Advisory Council on Historic Preservation, and other consulting parties. Often, review of a federal undertaking by these consulting parties requires additional cultural resources investigations such as records searches, archaeological surveys, and architectural surveys. The requirement for additional investigations and their specific scope is determined by the lead federal agency in consultation with the involved parties

Atwell conducted a preliminary review of NRHP records maintained by the National Park Service to identify historic properties listed in the NRHP in Alcona County, Michigan. The database provides information regarding National Historic Landmark (NHL) properties and NRHP listed properties. No historic properties listed in the NRHP are located in the Site or within one mile (NPS 2023).

It is unknown if cultural resource surveys have been conducted within the Site previously. Based on Atwell's understanding of the proposed solar development project, formal coordination with Michigan State Historic Preservation Office (SHPO) is likely to be voluntary due to the apparent lack of a federal nexus. Coordination with the Michigan SHPO is necessary to determine if any other inventoried architectural, historical, and/or archaeological resources are known to occur within the Site.

The State of Michigan does not have specific cultural resources survey guidelines or requirements for projects that do not trigger compliance with Section 106 of the National Historic Preservation Act (54 U.S.C. 306108). Section 106 does not apply to the Project because it is privately funded; located on private land; and does not require a federal undertaking, permit, approval, or license. Therefore, Atwell does not anticipate cultural resources will be impacted by development of a large-scale solar development.

CONCLUSIONS

Based on this review of environmental factors within the Site, Atwell did not identify any critical impacts that would adversely affect threatened and endangered species, water resources and floodplains, protected farmlands and soils, or any other environmental, cultural, historic, aesthetic factors within the Site or its vicinity.

Wetland and surface water features which likely fall under EGLE jurisdiction are mapped within the Site. A complete delineation will be completed prior to construction to identify jurisdictional features, and the necessary permits will be obtained from EGLE. Natural features and potential TES habitat have been avoided at the maximum extent practical to the development of the Project. Additionally, BMPs have been recommended for species with potential to occur on-site.

Atwell did not identify any potential culturally significant areas within the Site that would require special consideration. Therefore, Atwell does not anticipate cultural resources will be impacted by development of a large-scale solar project.

Atwell did not identify any critical impacts posed by development of a solar project at the Site. Atwell recommends complying with local, state, and federal regulations related to environmental aspects of development.

Respectfully,

ATWELL, LLC

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Ernest Schenk,
Project Manager

Attachments

The following attachments are included with this memorandum:

Attachment A – Figure 1 –Preliminary Constraints Map

Attachment B – Information for Planning and Consultation and Michigan Natural Features Inventory Results

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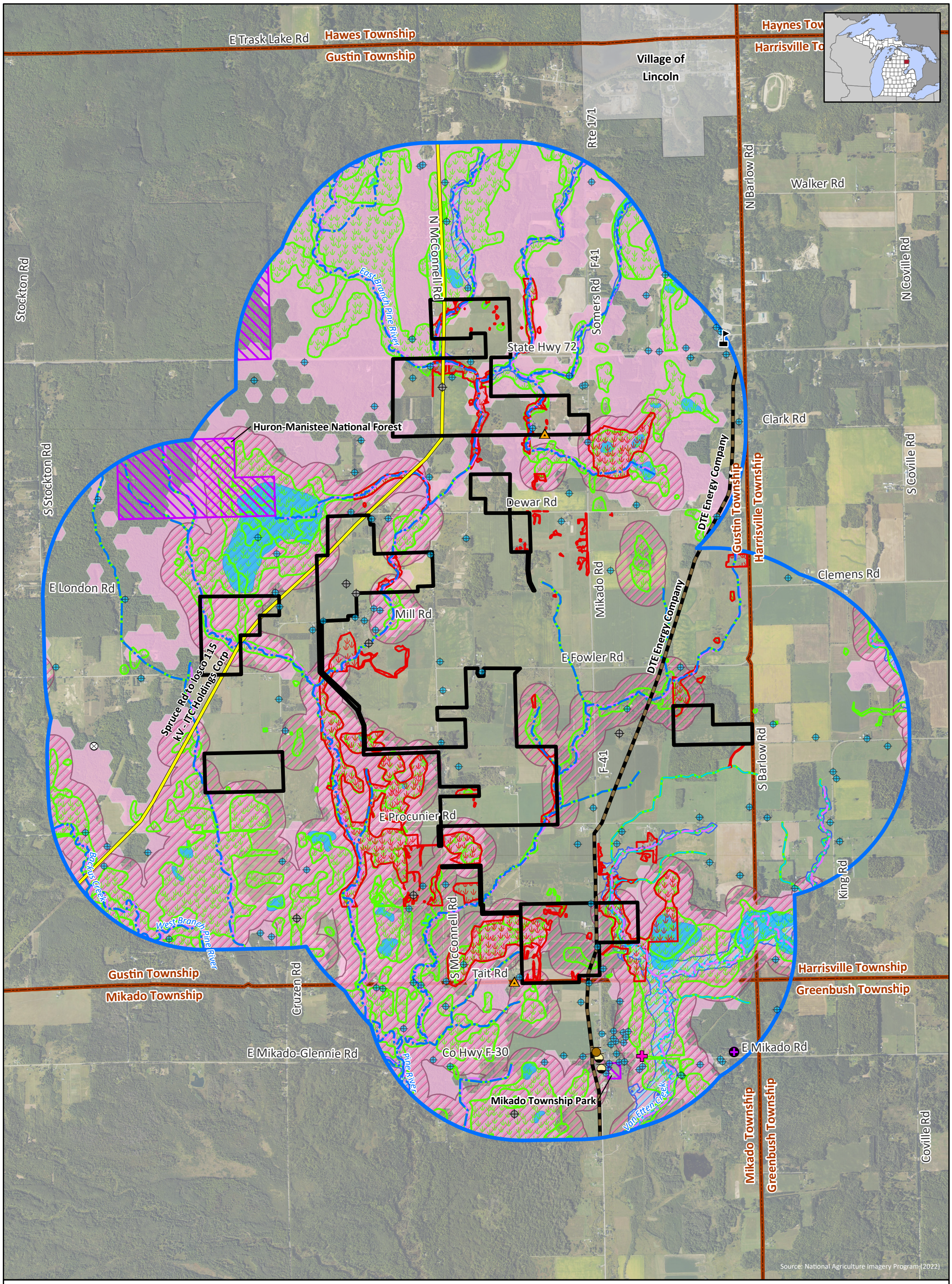
ATTACHMENT A:
FIGURE 1 –PRELIMINARY CONSTRAINTS MAP



Project Area (~1,427 acres)
1-mile Buffer
UST (Active)
LUST (Open)
Cemetery
Park
School
Tower
Oil & Gas Well (EGLE)
Water Well (EGLE)
Facility (EPA)
Existing Transmission
Natural Gas Pipeline (Rextag)
303d Stream
Trout Stream (MDNR)
Watercourse (NHD)
Waterbody (NHD)
Wetland (NWI)
Zone A: subject to inundation by the one-percent-annual chance flood event
Desktop Delineated and Field Confirmed Wetlands
Protected Areas (PADUS)
Tier 2 EMR Habitat (EGLE)
USFWS Modeled Bat Habitat
Boreal Hardwood Transition BCR - all areas
City/Village
Township

ATWELL

Sapling Solar, LLC
Sapling Solar Project
23008076
July 30, 2024
DRAFT/Confidential

0 3,000 Feet

Figure 1
Preliminary Constraints Map
Alcona County, Michigan

G:\Jobs2300\T23008071_Ranger_SaplingSolar_AlconaCo_MI\Projects\ProjectTemplate\T23008071_SaplingSolar.aprx 7/30/2024

ATTACHMENT B:
INFORMATION FOR PLANNING AND CONSULTATION AND MICHIGAN NATURAL FEATURES INVENTORY RESULTS

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

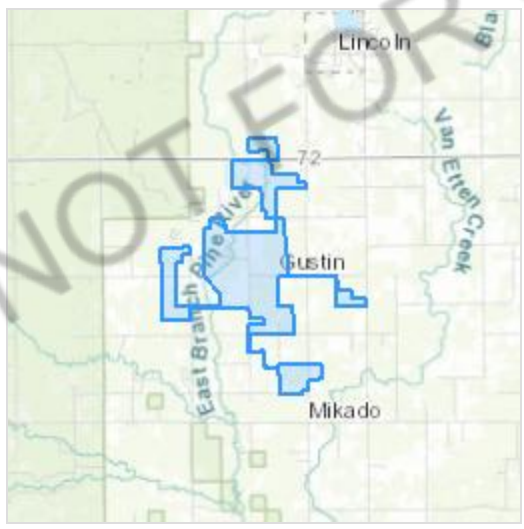
IPaC resource list

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

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

Location

Alcona County, Michigan



Local office

Michigan Ecological Services Field Office

(517) 351-2555
(517) 351-1443

2651 Coolidge Road Suite 101
East Lansing, MI 48823-6360

Endangered species

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

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

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

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

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

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

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

---

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

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

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

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Birds

NAME	STATUS
Rufa Red Knot Calidris canutus rufa Wherever found This species only needs to be considered if the following condition applies: • Only actions that occur along coastal areas during the Red Knot migratory window of MAY 1 - SEPTEMBER 30. There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/1864	Threatened

Reptiles

NAME	STATUS
Eastern Massasauga (=rattlesnake) Sistrurus catenatus Wherever found This species only needs to be considered if any of the following conditions apply: • For all projects:Project is within Tier2 Habitat • For all Projects: Project is within EMR Range No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2202	Threatened

Insects

NAME	STATUS

NAME	STATUS
Hine's Emerald Dragonfly Somatochlora hineana Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7877	Endangered
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Pitcher's Thistle Cirsium pitcheri Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8153	Threatened

Critical habitats

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

There are no critical habitats at this location.

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

Bald & Golden Eagles

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

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

Additional information can be found using the following links:

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

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

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

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

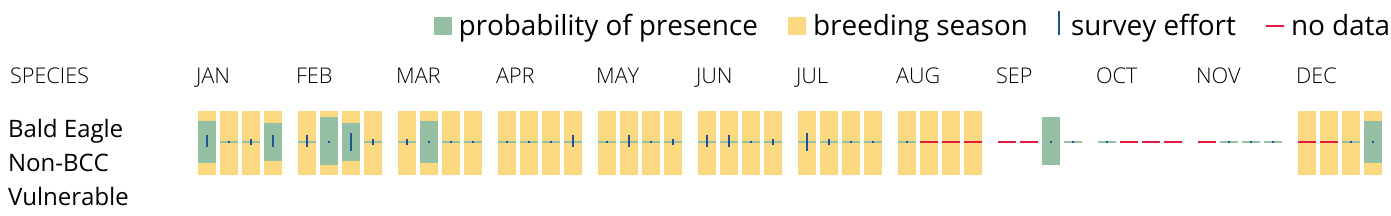
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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

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

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

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



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

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

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

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

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

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

What if I have eagles on my list?

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

Migratory birds

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

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

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

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

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

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

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

Wood Thrush *Hylocichla mustelina* Breeds May 10 to Aug 31

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

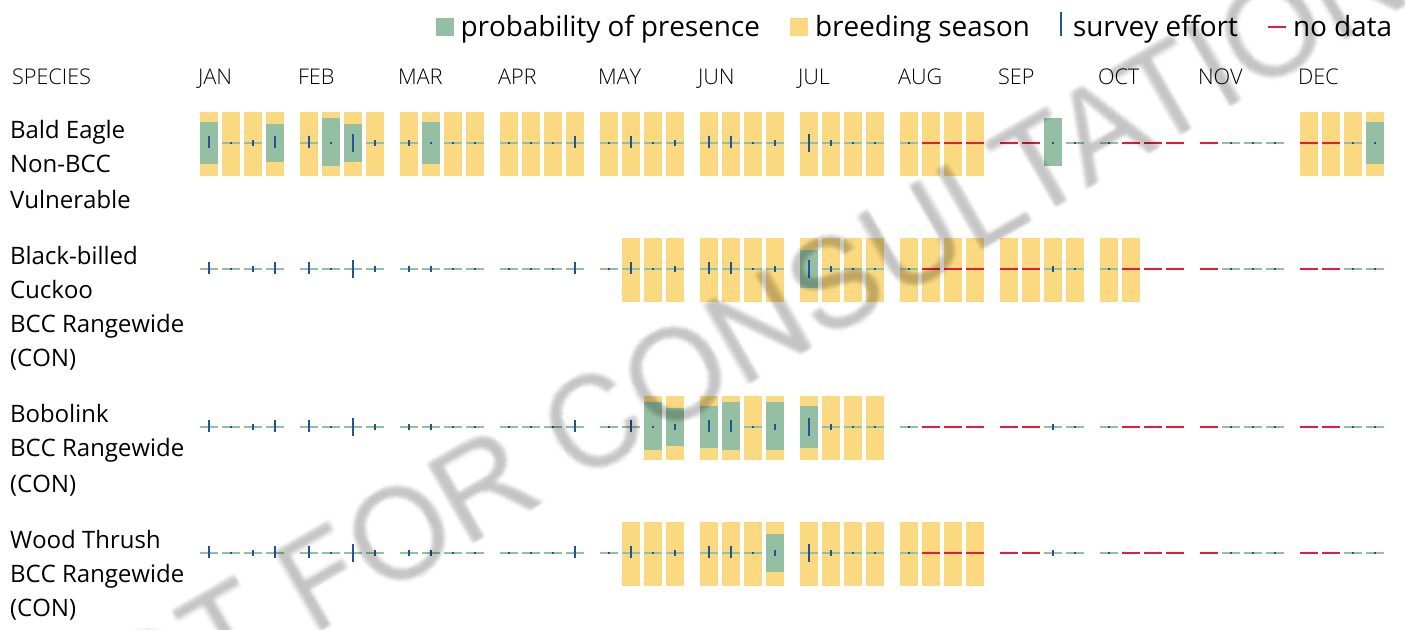
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1B
- PEM1Af
- PEM1A
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1/SS1C
- PFO1/SS1A
- PFO4/SS1A
- PSS1/4A
- PFO1/4A
- PSS1/EM1A
- PSS1A
- PFO4A
- PSS1/4C

RIVERINE

- R5UBH
- R4SBC

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

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

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Michigan Natural Features Inventory

Web Database Search

MICHIGAN STATE UNIVERSITY EXTENSION

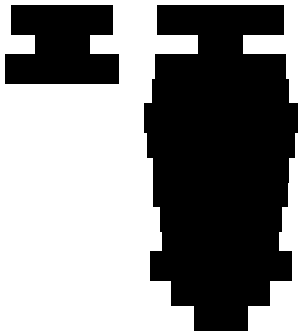
Search Results for Town 26N, Range 08E, Section 11,14,15,21-23,25-28,34-36

Query Results Generated on Jul 31, 2024

Displaying Record 1 to 1 of 1 Records Found

Database Updated on Jul 01, 2024

New Search | Refine Search | Previous 25 Records | Next 25 Records

Abstract	Common Name	Scientific Name	State Status	Federal Status	Last Observed Date	Element Category	Mapping Precision	Site of Observation	Best Documentation of EO	Town	Range	Section	County
	Big water crayfish	Cambarus robustus	SC		1968-06-06					26N	08E	34	Alcona

New Search | Refine Search | Previous 25 Records | Next 25 Records