



**Exhibit 12: NYS Threatened or
Endangered Species**

Cider Solar Farm
Towns of Oakfield and Elba
Genesee County, New York

Matter No. 21-01108

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Abbreviations

BAEA	bald eagle
BBS	breeding bird survey
IPaC	Information for Planning and Consultation
NOHA	northern harrier
NYNHP	New York Natural Heritage Project
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
ORES	Office of Renewable Energy Siting
SEOW	short-eared owl
WCS	Wildlife Characterization Study

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Glossary of Terms

Applicant	Hecate Energy Cider Solar LLC
Project	Refers to the proposed Cider Solar Farm, an up to 500-megawatt utility scale solar project that will be comprised of photovoltaic panels, inverters, access driveways, electrical collection lines, point of interconnection/substation, construction staging areas, fencing and plantings, located on private land in the towns of Elba and Oakfield, Genesee County, New York.
Project Area	Refers to the Project Site and surrounding/adjacent land totaling approximately 7,518 acres.
Project Footprint	Refers to the limit of temporary and permanent disturbance within the Project Site caused by the construction and operation of all components of the Project totaling approximately 2,452 acres.
Project Site	Refers to those privately owned parcels under option to lease, purchase, easement or other real property interests with the Applicant in which all Project components will be sited totaling approximately 4,650 acres.
Study Area	Refers to the area evaluated for specific resource identification and/or resource impact assessment. The size of this area is appropriate for the target resource and takes into account the project setting, the significance of resource or impact being identified or evaluated, and the specific survey distances included in Chapter XVIII, Title 19 of NYCRR Part 900. As appropriate, the Study Area for each type of survey or resource impact assessment is provided in the respective sections within the Application.

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The content of Exhibit 12 is provided in conformance with Chapter XVIII, Title 19 of the New York Codes, Rules, and Regulations (NYCRR) § 900-2.13, as follows.

a) Wildlife Characterization Study

Hecate Energy Cider Solar LLC (Hecate or the Applicant) contracted Stantec Consulting Services Inc. (Stantec) to conduct a Wildlife Characterization Study (WCS) to summarize existing public information relative to listed federally or state threatened or endangered species that have the potential to occur within a Project specific study area. Specifically, the WCS reviewed the potential presence of listed species documented within the approximately 7,845-acre Project Area¹ and a 5-mile buffer² around the Project Area (Study Area) based upon publicly available data. The complete WCS is attached in Appendix 12-A: *Wildlife Site Characterization*.

Stantec consulted publicly available online databases to screen for records of federally or state listed and conservation concern species in the Study Area. The purpose of this review was to develop a baseline understanding of rare species potentially using the Project Area or Study Area.

Federal and New York State-Listed Documented Species

Based on the review of available data sources described in the WCS, 10 listed species (9 animals and 1 plant) were identified as potentially occurring within the Study Area and/or Project Site (Table 12-1: *Documented Species Potentially Occurring within the Study Area and Project Area*). Additional information on the habitat requirements and preferences associated with the nine animal species, as well as the probability of occurrence in the Project Site and Project Parcels, is provided in the WCS. The data review did not identify federally designated critical habitat for any threatened or endangered species in Genesee County (USFWS 2020).

In addition, New York State Department of Environmental Conservation (NYSDEC) provided the Project with confidential locations of known populations of state-listed protected species in the Study Area within the vicinity of the Project Site (NYSDEC, personal comm.). These records match the information found in other database reviews and information provided by NYSDEC did not differ from the database review.

Table 12-1: Documented Species Potentially Occurring within the Study Area and Project Area

Common Name	Scientific Name	Status	Within Study Area	Within Project Area
Eastern massasauga	<i>Sistrurus catenatus catenatus</i>	Federally threatened	Yes	No
Houghton's goldenrod	<i>Solidago houghtonii</i>	Federally threatened	Yes	No
Bald eagle	<i>Haliaeetus leucocephalis</i>	State threatened	Yes	No
King rail	<i>Rallus elegans</i>	State threatened	Yes	No
Northern harrier	<i>Circus hudsonius</i>	State threatened	Yes	Yes

¹ 7,845 acres was the approximate size of the Project Area at the time that the WCS was conducted. The current Project Area is 7,518 acres.

² 19 NYCRR § 900-1.3(g)(1)(ii-iii) dictates that the WCS is to include the area within 5 miles of the proposed facility.

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Common Name	Scientific Name	Status	Within Study Area	Within Project Area
Black tern	<i>Chlidonias niger</i>	State endangered	Yes	Yes ¹
Pied-billed grebe	<i>Podilymbus podiceps</i>	State threatened	Yes	Yes
Sedge wren	<i>Cistothorus platensis</i>	State threatened	Yes	Yes
Least bittern	<i>Ixobrychus exilis</i>	State threatened	Yes	Yes
Northern-long eared bat	<i>Myotis septentrionalis</i>	State and federally threatened	Yes	Yes

¹ The NYNHP response letter indicates that black tern occurs within the Project Area. However, the mapping data from NYNHP depicts black tern within the Study Area but not within the Project Area (Appendix 12-A).

A review of Information for Planning and Consultation (IPaC) data within the Study Area indicates occurrence of a federally threatened reptile and a federally threatened plant: eastern massasauga and Houghton's goldenrod. Eastern massasaugas are typically associated with shallow wetlands, often using sphagnum bogs, fens, swamps, marshes, peatlands, wet meadows, floodplains, old fields, and dry woodlands. Houghton's goldenrod is restricted to calcareous beach sands, rocky and cobbly shores, beach flats, edges of marl ponds, and shallow interdunal wetlands that parallel lake shores. The only known location of the species occurs in Bergen Swamp Nature Preserve within a marl fen approximately 7 miles east of the Project Area. IPaC identified no federally threatened or endangered species occurring within the Project Site.

According to New York Natural Heritage Project (NYNHP), there are seven NYS-listed threatened or endangered species documented within the Study Area: bald eagle, king rail, northern harrier, black tern, pied-billed grebe, sedge wren, and least bittern. Except for bald eagle and king rail, these species were also identified within the Project Area. Bald eagles prefer complex forested habitats with variable structures, with forests occurring near lakes, rivers, or wetlands. In winter, this species often congregates near large rivers. King rails breed in shallow wetlands and marshes that contain some open water. Northern harriers inhabit a wide variety of grassland habitats, with a preference for wet grasslands and marshes for breeding. Black terns breed in relatively secluded freshwater emergent marshes and forage over nearby open water. This species has rigid habitat requirements, with a preference for marshes greater than 20 hectares. Pied-billed grebes breed on seasonal or permanent ponds and other bodies of slow-moving or still water. Sedge wrens prefer habitats with dense, tall sedges and grasses and avoid areas with standing water. Least bitterns breed in freshwater marshes with tall, emergent vegetation. This species prefers larger contiguous areas of marsh habitat exceeding 5 hectares.

NYNHP also indicated that the Project Area is located in a significant winter raptor concentration area. The NYSDEC has made recent efforts to more closely monitor and identify wintering raptor concentration areas throughout New York State, and the northern harrier is included as a primary target species.

The IPaC review and NYNHP data did not identify northern long-eared bat within the Study Area or Project Area. Based on the range of this species, northern long-eared bat was considered to have the potential to occur within the Study Area and Project Area. Northern long-eared bats hibernate in caves and mines during the winter. In the summer, this species roosts under the bark of trees or in tree cavities

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or crevices. Northern long-eared bats typically use mature interior forests and tend to avoid woodlands with significant edge habitat.

b) Pre-Construction Surveys

1) Breeding Bird Survey

Hecate retained Stantec to conduct a breeding bird survey (BBS) to assess the distribution, relative abundance, and species richness of breeding birds within grassland (native and modified) habitats in the Project Area. The complete report detailing comprehensive methods and results of the BBS is included in Appendix 12-B(1): *Hecate Cider Solar Farm Breeding Grassland Bird Survey*.

Based on information provided by NYSDEC (20 July 2020), the Project Area and a 5-mile buffer (Study Area) surrounding it overlap known habitat for several listed species. Both the Project Area and the Study Area overlap the following:

- Black tern (*Chlidonias niger*) habitat (buffer area only)
- Least bittern (*Ixobrychus exilis*) habitat (northwest portion of Project Area and buffer)
- Sedge wren (*Cistothorus platensis*) habitat (northwest portion of Project Area and Study Area)
- Pied-bill grebe (*Podilymbus podiceps*) habitat (northwest portion of Project Area and Study Area)
- Prothonotary warbler (*Protonotaria citrea*) habitat (northwest portion of Project Area and Study Area)

In addition, the western portion of the Project Area also overlaps breeding and overwintering habitat for northern harrier (*Circus hudsonius*). Also, an active osprey (*Pandion haliaetus*) nest was located on a power line support structure in the Project Area.

Methods

Prior to undertaking the BBS for the Project, Stantec submitted a BBS Survey Plan to NYSDEC for their review (Stantec 2020). Based on NYSDEC's feedback, the Project's BBS Survey Plan was amended to follow the NYSDEC 2015 Protocols (NYSDEC 2015a). As a result, the BBS for the Project were conducted using two methods: (1) transect surveys; and (2) point count and meander surveys. Fieldwork was performed by a qualified Stantec biologist familiar with New York State birds by sight and sound during June and July of 2020.

Based on the NYSDEC Guidelines (2015), Stantec proposed to survey six transects. For the point count and meander surveys, Stantec surveyed each suitable grassland area (patch) that was larger than 10 acres within the Project Area. The survey resulted in identifying five grassland areas. The siting of these transects and point count and meander surveys was based on a preliminary habitat assessment, and subsequently updated as the survey proceeded. The five grassland areas were well distributed throughout the Project Area, allowing the five-point count stations and six transect surveys to provide good overall coverage of the Project Area.

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Results

Stantec detected 787 individuals representing 37 species at six transect and five point-count stations. An additional 24 species (n = 61 total species) were observed incidentally. Additional individuals observed that could not be identified to species due to distance from observer or flew over too quickly to identify, included unidentified sparrow, unidentified wren, unidentified warbler, and unidentified woodpecker. Appendix 12-B(1) shows the species detected and numbers of individuals detected by survey site.

Stantec did not observe any federally or state-listed endangered or threatened species. Stantec detected five state species of special concern (NYSDEC 2015b): American bittern (*Botaurus lentiginosus*; n = 2), Cooper's hawk (*Accipiter cooperii*; n = 1), common nighthawk (*Chordeiles minor*; n = 2), grasshopper sparrow (*Ammodramus savannarum*; n = 5), vesper sparrow (*Poocetes gramineus*) (n = 6).

High priority species of greatest conservation need (NYSDEC 2015b) observed included: bobolink (*Dolichonyx oryzivorus*; n = 34) and brown thrasher (*Toxostoma rufum*; n = 1).

Species detected during the survey are generally common, regionally abundant, and are representative of the habitats in which they were observed.

2) Wintering Raptor Survey

Stantec was retained by the Applicant to conduct a wintering raptor survey and determine the presence of wintering raptors at the Project, particularly the NYS-endangered short-eared owl (*Asio flammeus*) and NYS-threatened northern harrier.

Stantec conducted wintering raptor surveys at the Project Area between November 24, 2020, and March 31, 2021, during both crepuscular and diurnal periods. The goal of the wintering raptor survey was to document occurrences of species, particularly the target species, and their locations and behaviors. Observations of other species of interest including all raptors species, federally listed and other NYS-listed grassland bird species, species of special concern, shrikes, and arctic-breeding songbirds were also recorded. The complete *2020/2021 Wintering Raptor Survey Report* is included in Appendix 12-B(2).

Methods

Survey effort was based on NYSDEC survey protocols for wintering grassland raptors (NYSDEC 2015c). A draft wintering raptor bird survey plan was developed and shared with the Office of Renewable Energy Siting (ORES) on January 19, 2021. The number and location of survey points in the Project Area was determined using aerial mapping and was based on the size of grassland areas (>25 acres), proposed project infrastructure, and available viewpoints. Four stationary survey locations were placed within areas of potential grassland habitat. After the initial field visit, points were micro-sited based on viewshed and habitat suitability. Additionally, Stantec sampled two driving transects which meandered through two different sections of the Project Area.

The stationary survey locations and driving transects were surveyed during 10 consecutive survey periods from late-November 2020 through the end of March 2021. Each survey period was two weeks long, during which the four stationary surveys were surveyed once, and the two driving transects were

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surveyed twice. Surveys were conducted by biologists with experience identifying raptors and other grassland bird species in the region. Visits occurred in all weather conditions except for heavy rain or high winds where visual or auditory detections would be impaired. The order that points and transects were surveyed varied among the 10 survey events. All raptor species, including observations of target species, were recorded on datasheets and maps.

Stationary surveys consisted of passive 1.5- to 2.5-hour visual/auditory point count surveys beginning 1 hour before sunset and until it was too dark to see. Survey plots had no fixed radius and all visible observations were recorded, regardless of the distance from observer. Transects consisted of a series of roadside stops (22 total across 2 transects), situated approximately 0.5 miles apart, where a Stantec biologist conducted 5-minute observations scanning 360 degrees around each stop for the duration of the observation period. The transects were surveyed in the late afternoon, prior to stationary surveys.

Results

Through the course of 10 survey events, a total of four observations of northern harrier were documented; three at stationary survey locations and one at a driving transect point, as well as one incidental observation of a potential northern harrier in the Project Area. One short-eared owl was observed at a driving transect point. One additional state-threatened raptor, bald eagle, was documented: a total of 11 bald eagle observations occurred at 6 survey locations during 7 survey events. No other state-listed species and no federally listed species were observed.

Other raptor species observed during surveys included red-tailed hawk (*Buteo jamaicensis*; n = 96), turkey vulture (*Cathartes aura*; n = 29), Cooper's hawk (*Accipiter cooperii*; n = 10; state special concern), sharp-shinned hawk (*Accipiter striatus*; n = 7; state special concern), merlin (*Falco columbarius*; n = 3), rough-legged hawk (*Buteo lagopus*; n = 1), *Accipiter* sp. (n = 4), *Buteo* sp. (n = 2), and owl sp. (n = 1). Incidental observations of raptors include red-tailed hawk (n = 4) and sharp-shinned hawk (n = 1). Incidental observations occurred within the Project Area, but before, after, or between survey events. Additional species of interest observed within the Project Area included multiple flocks of horned lark (*Eremophila alpestris*; n = ~40; state special concern), snow bunting (*Plectrophenax nivalis*; n = ~100), and common redpoll (*Acanthis flammea*; n = ~30).

Details of each observation of listed raptors and raptors of special concern, as well as other species of interest, can be found in Appendix 12-B(2). A summary of northern harrier and short-eared owl is provided below.

Northern Harrier (NOHA)

NOHA are widespread throughout NYS during the winter, but numbers of birds vary depending upon conditions such as habitat quality, snow cover, and prey abundance (NYNHP 2021b). Stantec documented four NOHA observations and one potential NOHA observation during the 2020/2021 survey period. Two of the observations were of individual birds traveling through the Project Area. Two of the observations were of birds that were actively foraging, one of which appeared to be successful in catching prey (Appendix 12-B(2)).

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During winter months, NOHA are known to congregate around open habitats with high rodent populations (NYNHP 2021b). NOHA can be territorial on wintering grounds, exhibiting chasing or vocalizing toward other NOHA individuals or other raptor species (Smith et al. 2020). The wintering raptor surveys did not document any territorial activity by NOHA within the Project Area (Appendix 12-B(2)). The breeding season of NOHA typically begins in April, outside of the timeframe of the wintering raptor surveys. Some breeding behaviors may occur prior to nesting (e.g., courtship, prospecting for nest sites, territorial displays); however, no such behaviors were documented during the wintering raptor surveys. NOHA observations in the Project Area were infrequent, brief, and of solitary birds, suggesting that the Project Area does not contain high-quality wintering habitat. One survey location (Stationary Point 1) included multiple NOHA observations (n = 2). The Project Area is within the range of wintering NOHA and observations of this species occur in the Project Area. However, the documentation of two foraging observations at different survey locations do not indicate that the Project Area contains high quality foraging habitat for wintering NOHA.

Short-eared Owl (SEOW)

The wintering populations of SEOW vary depending upon rodent populations and snow cover. During this time, SEOW congregate with conspecifics and NOHA around large fields with high prey abundance (NYNHP 2021a). There was one SEOW observation during the winter 2020/2021 surveys; the observed individual flushed from a narrow depression along a stream/ditch that had higher vegetation and provided more cover than the surrounding agricultural fields (Appendix 12-B(2)). Based upon the results of this survey, SEOW occurrences in the Project Area in winter are infrequent. The SEOW breeding season begins in March and 2020/2021 overlaps with the wintering raptor surveys (NYSDEC no date [a]); however, no breeding activity was observed. Furthermore, New York is at the southern edge of the breeding range for SEOW where breeding is mostly limited to the St. Lawrence and Lake Champlain valleys, Great Lakes plains, and marshes of Long Island (NYNHP 2021a); therefore, it is not expected that SEOW would breed in the Project Area.

Bald Eagle (BAEA)

Wintering populations of BAEA are found throughout the state, however numbers vary based on habitat availability (NYNHP 20201c). The Project Area is within the wintering range of BAEA. During the winter BAEA tend to congregate in the highest numbers near large bodies of water where they often roost in groups (NYNHP 2001c). The breeding season of BAEA usually begins in March.

During the 2020/2021 winter raptor surveys, Stantec documented 11 BAEA observations. Six of these observations were flyovers, including a pair of adults. The remaining three observations were of perched birds; one of these observations included a pair of perched adults. No communal roosts were observed during survey efforts due to the fact that the Project Area contains very little open water. No breeding behaviors (courtship, territorial displays, or nest site prospecting) or nests were documented during survey efforts. No foraging activity was observed. The majority of BAEA observations were brief and of solitary birds. These results indicate the Project Area does not contain high quality wintering habitat for BAEA.

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c) ORES Determination on NYS Threatened or Endangered Species

The Applicant received ORES's determination pursuant to 19 NYCRR § 900-1.3(g)(7) as to the existence of occupied habitat at the Project on May 26, 2021 (see Appendix 12-C: *Cider Solar Determination of Occupied Habitat, Incidental Take and Net Conservation Benefit*). ORES determined that the Project is not within one and a half (1.5) miles of a maternity roost site or five (5) miles of a hibernaculum site of northern long-eared bat; is not within two and a half (2.5) miles of maternity roosts, hibernaculum or bachelor colonies of Indiana bat (*Myotis sodalis*); has no bald eagle nests identified within close proximity; and will not result in the potential take of any threatened or endangered grassland bird species; therefore, does not contain occupied habitat for listed species and will not impact listed species.

d) For a Project with Confirmed or Presumed Occupied Habitat

ORES determined that the Project does not contain occupied habitat for listed species; therefore, this section is not applicable.

e) For a Project with De Minimis Impacts to Listed Grassland Birds or their Habitat

ORES determined that the Project will not result in the potential take of any threatened or endangered grassland bird species; therefore, this section is not applicable.

f) For a Project that would Adversely Impact NYS Threatened or Endangered Species

ORES had determined that the Project would not adversely impact any NYS threatened or endangered species or their habitat; therefore, this section is not applicable and a Net Conservation Benefit Plan in compliance with 19 NYCRR § 900-6.4(o) is not required.

However, the Applicant has prepared a Grassland Management Plan to promote the enhancement of grassland habitat at the Project (see Appendix 12-D: *Grassland Habitat Management Plan, Cider Solar Farm*). The land under consideration comprises 35 acres of rotational row crops which, in cooperation with a Project participant, will be converted and managed according to planting, mowing, vegetation management and monitoring regimes, to promote use of the property by both grassland bird species and pollinators. The plan will consider NYSDEC's *Best Management Practices for Grassland Birds*³ and will contribute to grassland conservation efforts in the region.

³ NYSDEC. *Best Management Practice for Grassland Birds*. [Best Management Practices for Grassland Birds - NYS Dept. of Environmental Conservation](#). Accessed 1 April 2021.

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