Forest Raptor Survey Report

Hoffman Falls Wind Project

Towns of Fenner, Nelson, Eaton, and Smithfield

Madison County, New York

Prepared for:

Liberty Renewables Inc.
90 State Street, Suite 700
Albany, NY 12207
https://liberty-renewables.com/hoffmanfallswind/

Prepared by:

Environmental Design & Research
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
www.edrdpc.com

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ACRONYMS AND ABBREVIATIONS

DBS	diurnal broadcast survey
EDR	Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C.
FRS	Forest Raptor Survey
GIS	geographic information system
GPS	global positioning system
IPaC	Information for Planning and Consultation
kV	kilovolt
MSIM	Multiple Species Inventory and Monitoring
MW	megawatt
NLCD	National Land Cover Database
NYNHP	New York Natural Heritage Program
NYSDEC	New York State Department of Environmental Conservation
ORES	New York State Office of Renewable Energy Siting
POI	point of interconnection
SSC	species of special concern
TVES	terrestrial vertebrate encounter survey or terrestrial visual encounter survey
USDA	United States Department of Agriculture
USFS	United States Forest Service
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service

1.0 INTRODUCTION

1.1 Purpose of the Investigation

On behalf of Liberty Renewables Inc. (the Applicant), Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) has prepared this Forest Raptor Survey Report for the Hoffman Falls Wind Project, a proposed wind energy generation facility and associated infrastructure (the Facility) located in Madison County, New York (**Figure 1**). This report supports an Application for a siting permit under New York's Accelerated Renewable Energy Growth and Community Benefit Act, Executive Law § 94-c (Section 94-c) regulations.[1] The information included in this report is intended to help the Applicant design the Facility in a manner that minimizes adverse environmental impacts. This information will also assist the New York State Office of Renewable Energy Siting (ORES) and the New York State Department of Environmental Conservation (NYSDEC) in their determination of whether occupied habitat[2] for one or more state-listed threatened or endangered wildlife species exists within the area under consideration to host the Facility, in accordance with the requirements of Section 94-c.

The purpose of this study was to document the presence or absence of forest raptor species and any observed patterns of use by these species within a defined Forest Raptor Survey (FRS) Study Area during the summer season. The FRS Study Area consists of parcels, or portions of parcels, which have been under consideration by the Applicant for the siting of Facility components (**Figure 2**). Trained, qualified biologists conducted the 2023 forest raptor surveys based on the methodology established in the United States Department of Agriculture (USDA) and United States Forest Service (USFS) *Multiple Species Inventory and Monitoring Technical Guide. Gen. Tech. Rep. WO-73* (Manley et al., 2006), hereafter referred to as the USDA Guide. **BEGIN CONFIDENTIAL INFORMATION<** [redacted] **>END CONFIDENTIAL INFORMATION** The scope of these surveys was defined in a Forest Raptor Survey Work Plan (EDR, 2023a), which was submitted to ORES and NYSDEC in June 2023. ORES confirmed receipt of this submittal on June 21, 2023, and did not recommend changes to the proposed study design.

[1] Chapter XVIII, Title 19 of the New York Codes, Rules and Regulations (NYCRR) Part 900. Available at: https://ores.ny.gov/regulations

[2] The New York State Endangered Species Act (Environmental Conservation Law §11-0535) and its implementing regulations at 6 New York Codes, Rules, and Regulations (NYCRR) Part 182 define occupied habitat as follows: a geographic area in New York within which a species listed as endangered or threatened in this Part has been determined by the department to exhibit one or more essential behaviors. Essential behavior refers to any of the behaviors exhibited by a species listed as endangered or threatened in this Part that are a part of its normal or traditional life cycle and that are essential to its survival and perpetuation. Essential behavior includes behaviors associated with breeding, hibernation, reproduction, feeding, sheltering, migration and overwintering.

[3] [redacted]

1.2 Facility Location and Description

The proposed Facility is a utility-scale wind energy generating project located in Madison County, New York with a generating capacity of up to 100 megawatts (MW). The Facility will include up to 24 wind turbines, with 12 located in the Town of Fenner, three in the Town of Smithfield, one in the Town of Nelson, and eight in the Town of Eaton. Associated support facilities will include an underground medium voltage collection system, gravel access roads, a permanent meteorological (MET) tower, an aircraft detection lighting system (ADLS) tower, temporary construction laydown areas, a concrete batch plant, an operations and maintenance (O&M) facility, a medium voltage-to-transmission voltage collection substation, a point of interconnection (POI) switchyard, and a short 115-kilovolt (kV) transmission line that will connect the Facility to the high voltage electrical grid. The Facility will be constructed within an approximately 4,050-acre area (the Facility Site) that corresponds closely with the FRS Study Area. Within this area, a more limited subset of land will be selected for the siting, design, construction, and operation of the Facility. Some Facility components will be constructed in areas where disturbance has already occurred (e.g., agricultural fields that are used for hay and/or row crop production) to minimize the need for vegetation removal within natural communities.

2.0 BACKGROUND INFORMATION

2.1 Existing Conditions

The Applicant has gathered a substantial amount of information on existing ecological conditions within the FRS Study Area. These investigations have included preparation of a Wildlife Site Characterization study for the Facility (EDR, 2023b), plus additional desktop analyses and on-site field assessments (e.g., breeding bird surveys, spring and fall raptor migration surveys, winter raptor surveys, marsh bird surveys; refer to Section 5.0). Based on these assessments, the lands currently under consideration for the Facility are primarily composed of agricultural fields, along with mixed forest, evergreen forest, woody wetlands, early successional communities, and developed land (primarily rural single-family houses, farms, and associated yards).

As presented in Section 4.3.3 of the Wildlife Site Characterization (EDR, 2023b), EDR conducted a desktop analysis to identify core forest blocks (i.e., contiguous forested areas 150 acres or larger, as defined in the Section 94-c regulations) in the vicinity of the Facility. Based on data from the most current United States Geological Survey (USGS) National Land Cover Database (NLCD) (USGS, 2019), nine core forest blocks overlap with the FRS Study Area. These core forest blocks range in size from 250 to 1,159 acres. The largest area of any single core forest block occurring within the FRS Study Area totals approximately 675 acres. Cover types assumed to constitute forest in this analysis included all areas classified by the NLCD as deciduous forest, mixed forest, evergreen forest, and woody wetlands.

2.2 Agency Database Review and Consultation

As part of the Wildlife Site Characterization, EDR consulted with federal and state agencies regarding the potential presence of listed threatened or endangered species in the vicinity of the Facility. This included database review via the United States Fish and Wildlife Service (USFWS) online Information for Planning and Consultation (IPaC) system, correspondence with the New York Natural Heritage Program (NYNHP), and a pre-application consultation meeting with ORES and the NYSDEC. EDR performed a review of the IPaC system for the Facility on April 6, 2021, and again on November 4, 2022. **BEGIN CONFIDENTIAL INFORMATION<** [redacted] **>END CONFIDENTIAL INFORMATION** A site-specific request for documented state-listed species occurrences in the vicinity of the Facility was submitted to NYNHP on November 4, 2022, and a response was received on December 28, 2022. The response letter indicates that the NYNHP database contains records of several state-listed threatened or endangered bird species that have been documented within 10 miles of the Facility. **BEGIN CONFIDENTIAL INFORMATION<** [redacted] **>END CONFIDENTIAL INFORMATION**

In a pre-application consultation meeting held on June 11, 2021, and in an updated letter that was subsequently issued on March 6, 2023, ORES and NYSDEC indicated that the Facility is not sited within areas of previously mapped occupied habitat for any state-listed species (EDR, 2023a). **BEGIN CONFIDENTIAL INFORMATION<** [redacted] **>END CONFIDENTIAL INFORMATION**

2.3 Previously Completed Avian Surveys

BEGIN CONFIDENTIAL INFORMATION< [redacted] **>END CONFIDENTIAL INFORMATION** These previously completed avian studies and associated forest raptor species observations are summarized below.

Spring raptor migration surveys were conducted for the Facility between March 4, 2021, and May 26, 2021, representing a total of 125 total survey-hours. **BEGIN CONFIDENTIAL INFORMATION<** [redacted]

[redacted]>**END CONFIDENTIAL INFORMATION** Observed behaviors for these species included soaring, gliding, flapping, foraging, and interacting.

Initial breeding bird surveys were conducted between May 20, 2021, and July 20, 2021, representing a total of more than 51 survey-hours. **BEGIN CONFIDENTIAL INFORMATION**<[redacted]>**END CONFIDENTIAL INFORMATION** Observed behaviors for this species included gliding, flapping, and foraging. Additional breeding bird surveys were conducted between May 4, 2023, and July 20, 2023, representing a total of more than 224 survey-hours. EDR did not observe any of the four target forest raptor species during this survey period (EDR, 2023f).

Winter raptor surveys were conducted between November 14, 2022, and April 6, 2023, representing 416 total survey-hours. **BEGIN CONFIDENTIAL INFORMATION**<[redacted]>**END CONFIDENTIAL INFORMATION** Observed behaviors for these species included gliding, flapping, perching, and vocalizing. Marsh bird surveys were conducted on May 18, June 7, and June 23, 2023, representing a total of 330 survey-minutes. EDR did not observe any of the four target forest raptor species during this survey period (EDR, 2023e).

EDR also conducted avian surveys for the previously proposed Blue Hill Wind Project, which now corresponds with the eastern portion of the Facility in the Town of Eaton (the two projects have been combined). Spring raptor migration surveys were conducted for the Blue Hill Wind Project between March 4, 2021, and May 27, 2021, which represented a total of 120 survey-hours. **BEGIN CONFIDENTIAL INFORMATION**<[redacted]>**END CONFIDENTIAL INFORMATION** Observed behaviors for these species included soaring, gliding, flapping, and performing a courtship flight display. Breeding bird surveys were conducted for the Blue Hill Wind Project between May 20, 2021, and July 22, 2021, which represented a total of 1,100 survey-minutes for timed point count surveys. EDR did not observe any of the four target forest raptor species during this survey period (EDR, 2021d).

Fall raptor migration surveys were conducted for the Blue Hill Wind Project between August 17, 2021, and December 14, 2021, which represented a total of 146 survey-hours. **BEGIN CONFIDENTIAL INFORMATION**<[redacted]>**END CONFIDENTIAL INFORMATION** Observed behaviors for these species included gliding, flapping, perching, and interacting.

Finally, eagle point count surveys are currently being conducted following USFWS guidance at 11 stationary survey locations. These monthly surveys started on March 15, 2023, and are ongoing. Between March 15, 2023, and August 29, 2023, the study included approximately 84 total survey-hours. **BEGIN CONFIDENTIAL INFORMATION<** [redacted] **>END CONFIDENTIAL INFORMATION** Observed behaviors for these species included soaring, flapping, gliding, carrying food, visiting a probable nest site, and interacting.

3.0 2023 FOREST RAPTOR SURVEYS

3.1 Survey Period and Frequency

For diurnal raptors, the USDA Guide (Manley et al., 2006) recommends that diurnal broadcast surveys (DBS) and terrestrial vertebrate encounter surveys or terrestrial visual encounter surveys (TVES) be conducted at Multiple Species Inventory and Monitoring (MSIM) sampling hexagons during the summer between mid-June and the end of August. Surveys can take place at any time of day, but it is recommended that they be conducted between 8 a.m. and 6 p.m. ORES and NYSDEC staff recommended conducting forest raptor DBS between June 15 and July 30, which is the optimal window to obtain a response from most species. Consistent with this guidance, surveys began on July 5, and each sampling hexagon within the FRS Study Area was surveyed three times by August 3, 2023. One DBS and one TVES were first completed at each sampling hexagon. Because no active forest raptor nests were observed during the DBS or initial TVES visits (which would confirm breeding), a second TVES was completed for each sampling hexagon. Weather forecasts were reviewed regularly in order to select appropriate survey days with no or minimal precipitation and wind speeds below 20 kilometers per hour (approximately 12.4 miles per hour).

3.2 Survey Methodology and Locations

Within each core forest block overlapping the FRS Study Area where Facility-related tree clearing and/or ground disturbance activities are anticipated, one or two 200-meter (m) radius (approximately 10-hectare) sampling hexagons served as the survey area for the DBS and TVES. EDR established a total of nine sampling hexagons within the FRS Study Area based on desktop review of mapped aerial imagery of core forest blocks, and anticipated Facility component locations (**Figure 3**). These survey locations provided coverage of larger, more intact forest stands within the FRS Study Area that: (1) are more likely to represent suitable forest raptor habitat; and (2) may contain areas of tree clearing and/or disturbance during construction of the Facility.

3.2.1 *Diurnal Broadcast Surveys*

Surveys at each sampling hexagon began with a DBS followed by an initial TVES. For each DBS, observers systematically searched for individual forest raptors and evidence of occupancy by traversing the sampling hexagon along parallel sets of north/south-oriented transects with 25-m spacing that run through the sampling hexagon (**Figure 3**). One of the four outer points in each 'corner' (northeast, northwest, southeast, or southwest) of the sampling hexagon was randomly selected as the starting point. Three observers walked

along adjacent transects, covering approximately 50 m every 5 minutes for a total of approximately 180 minutes per sampling hexagon.

Following the USDA Guide, one of the observers broadcast recorded vocalizations for each of the target species at four set locations (broadcast points) within the sampling hexagon. **BEGIN CONFIDENTIAL INFORMATION<** [redacted] **>END CONFIDENTIAL INFORMATION**

For the broadcasts, EDR biologists used: (1) a standardized set of forest raptor vocalization audio files obtained from the Cornell Laboratory of Ornithology Macaulay Library (Cornell Lab, 2023); (2) mobile phone or tablet devices; and (3) portable speakers capable of projecting at 90 to 110 decibels (dB). Broadcast equipment was tested and set to the proper volume levels prior to the start of the DBS. Broadcasts began with a 2-minute passive listening period followed by a regimented sequence of species calls and silence. Specifically, each species' call was broadcast three times, with 30 seconds of silence between calls, and an additional 30 seconds of silence between species. All three observers stopped walking during each round of broadcasts. Any raptor observations (auditory and/or visual) were recorded, along with detailed behavioral and location information.

3.2.2 Terrestrial Visual Encounter Surveys

After the DBS was complete, surveyors performed a TVES within the same sampling hexagon. Each TVES was conducted on foot and consisted of one or two observers walking at a leisurely pace along a transect route with 50-m spacing that runs through the sampling hexagon (**Figure 3**). When using two surveyors, the observers started on opposite outer points of the sampling hexagon (after one of these points was randomly selected), and each observer searched half of the sampling hexagon. Observers systematically searched for individual forest raptors and evidence of occupancy, covering approximately 50 m every 5 minutes, for a total of approximately 120 minutes per sampling hexagon. One of the remaining/unused outer points of the sampling hexagon was randomly selected as the starting point for the second TVES visit.

For both the DBS and the TVES, observers used an electronic map and a global positioning system (GPS) to locate the sampling hexagons and navigate the transect lines. While walking along each transect, biologists scanned the canopy, ground, logs, and low limbs for forest raptor sign. Binoculars were used as a visual aid when needed. All indications of raptor occurrence (e.g., feathers, whitewash, prey remains, plucking perches, nests) were recorded and photographed. The locations of observed avian sign were also documented.

Surveys were conducted by qualified biologists with experience and training in both acoustic and visual identification of birds in New York State. Survey data were recorded in a standardized and organized fashion utilizing project-specific data sheets developed based on the USDA Guide *Appendix B. Example Data Forms for Core Animal Survey Methods* (Manley et al., 2006) paired with a mobile geographic information system (GIS) application and a GPS unit. Detailed locations and behaviors were recorded for all target forest species and any other raptors or state-listed endangered, threatened, or special concern species (NYSDEC, 2015) observed on-site, including during DBS and TVES, when traveling between/among sampling hexagons, and

when arriving at/leaving the site. Any suspected or confirmed roost and nest locations were also documented. While conducting surveys and traveling between/among sampling hexagons, biologists also recorded a list of incidental avian species observed, including those not otherwise detected during the DBS and TVES. Standardized common names and four-letter alpha codes were used for each avian species (following Pyle and DeSante, 2022). Behavior and breeding codes were based on those used for the New York Breeding Bird Atlas III (eBird, 2020). The following data were recorded for each DBS and TVES:

- Survey date.
- Observer name(s).
- Sampling hexagon ID.
- Start time and end time.
- Pertinent weather conditions including temperature, wind speed and direction, precipitation, cloud cover, and visibility.
- Detailed vegetation and habitat data, including photographs (during the second TVES visit to each sampling hexagon).
- Number and identification of each raptor species observed.
- Times and types of raptor call responses (if any).
- Distance and cardinal direction of raptor calls (relative to the observer).
- Suspect or confirmed avian sign (e.g., feathers, nest, whitewash).
- Observed activities, behaviors, and evidence of breeding (if any) for each individual bird.

Vegetation and habitat data were collected during the second TVES visit within one subplot positioned at each MSIM monitoring point. These data included percent ground cover (litter, vegetation, rock, and bare soil), litter depth, canopy cover, dominant woody plant species, average trunk diameter at breast height, presence/characteristics of snags, and observed forest management practices and disturbance (e.g., sources of significant noise, logging activities). Representative photographs were also taken to provide documentation of on-site conditions. Data gathered during field surveys were compiled, organized, and reviewed for quality and consistency each week.

3.3 Avian Sign Review

EDR biologists reviewed observed avian sign after the completion of surveys. Feather characteristics including size, shape, color, and patterning were analyzed by biologists and used to identify the suspected genus—or in some cases, the species—of the bird. In reviewing feathers to identify the most specific taxon possible, EDR referenced *The Feather Atlas: Flight Feathers of North American Birds*, an online resource maintained by the USFWS (USFWS, 2023). EDR also relied on *Bird Feathers*, a guide to North American avian species that provides information on flight feathers (remiges and retrices) and non-flight feathers (e.g., breast, belly, mantle) (Scott and C. McFarland, 2010).

3.4 Survey Results

A total of nine DBS were completed on eight different days from July 5, 2023 to August 1, 2023. A total of 18 TVES were conducted on eight different days from July 5, 2023 to August 3, 2023. The overall survey effort, including travel among sampling hexagons and vegetation/habitat surveys, totaled approximately 5,095 survey-minutes (more than 84 survey-hours). Completed survey information is summarized in **Table 1** in **Appendix A**.

3.4.1 State-Listed Raptors

No observations of state-listed threatened or endangered raptors were documented during the survey period (including incidentally outside of the timed surveys).

BEGIN CONFIDENTIAL INFORMATION< [redacted] **>END CONFIDENTIAL INFORMATION** Observed behaviors for these observations included flapping, gliding, and/or perching in appropriate habitat. Additional information regarding these observations is summarized below and in **Table 2** in **Appendix A**. Locations of state-listed raptor observation points and flight paths are illustrated in **Figure 4**. Raptor sign observations are summarized in **Table 3** in **Appendix A**, and their locations depicted in **Figure 5**. Representative photographs of forest habitat conditions are provided in **Appendix B**.

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3.4.2 Avian Sign and Other Raptor Observations

Other raptor observations beyond state-listed species included one broad-winged hawk (*Buteo platypterus*), three red-tailed hawks (*Buteo jamaicensis*), two turkey vultures (*Cathartes aura*), one great horned owl (*Bubo virginianus*), and an unknown buteo (*Buteo* sp.). The broad-winged hawk was an auditory observation recorded during the second TVES visit to sampling hexagon F on August 3, 2023. One red-tailed hawk was observed during the second TVES visit to sampling hexagon B on August 2, 2023. Two red-tailed hawk auditory observations were also recorded during the study; one at sampling hexagon D on July 5, 2023, and the other at sampling hexagon E on July 26, 2023. One turkey vulture was observed at sampling hexagon H on July 11, 2023, and another was observed at sampling hexagon E on July 25, 2023. One great horned owl was observed after being flushed at sampling hexagon I on July 28, 2023. An unknown buteo, most likely a red-tailed hawk, was observed outside of sampling hexagon E during the second TVES visit on August 2, 2023. A summary of all raptors observed within the FRS Study Area during the forest survey season is provided in **Table 4** in **Appendix A**.

Suspected raptor sign was documented between July 5, 2023 and August 3, 2023. Sign included:

- **BEGIN CONFIDENTIAL INFORMATION<** [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted] **>END CONFIDENTIAL INFORMATION**

A summary of all suspected state-listed raptor sign is provided in **Table 3** in **Appendix A**, and photographs of avian sign are provided in **Appendix C.** The locations of all suspected raptor sign are provided in **Figure 5**.

EDR also documented non-raptor and unknown avian sign between July 5, 2023 and August 3, 2023. These features included American crow feathers (two observations), ruffed grouse feathers (*Bonasa umbellus*; one observation), wild turkey feathers (*Meleagris gallopavo*; eight observations), and unknown feathers (six observations). American crow feathers were found within sampling hexagons G and I. Ruffed grouse feathers were found within sampling hexagon G. Wild turkey feathers were found within sampling hexagons F, H, and I. Unknown feathers were found within sampling hexagons A, B, C, D, I, and F. Documentation non-raptor and unknown avian sign is also provided in **Appendix C.**

3.4.3 Incidental Observations of Other Avian Species

In addition to the raptor observations described in Sections 3.4.1 and 3.4.2, incidental observations of other avian species were also recorded (refer to the survey data sheets in **Appendix D**, which include incidental observations). Most of the incidental observations were of relatively common passerines and woodpeckers. However, one state-listed high priority species of greatest conservation need (SGCN-HP) and multiple state-listed species of greatest conservation need (SGCN) were also observed.

The state-listed SGCN-HP observed was the brown thrasher (*Toxostoma rufum*). This species was observed within sampling hexagon B on July 18, 2023. Observed state-listed SGCN included the blue-winged warbler (*Vermivora cyanoptera*), black-throated blue warbler (*Setophaga caerulescens*), ruffed grouse, scarlet tanager (*Piranga olivacea*), and wood thrush (*Hylocichla mustelina*). The blue-winged warbler was observed within sampling hexagon C on July 25, 2023. Black-throated blue warblers were observed within sampling hexagon A on July 26, 2023, and August 3, 2023. Ruffed grouse were observed within sampling hexagons B and G between July 20, 2023, and August 3, 2023. Scarlet tanagers were observed within sampling hexagons A, C, E, F, and I between July 20, 2023, and August 3, 2023. Wood thrushes were observed within sampling hexagons A, C, D, E, F, and G between July 5, 2023, and August 3, 2023.

3.4.4 Additional Findings

In addition to bird observation data, vegetation and habitat data were collected during the second TVES visits to each sampling hexagon on August 2, 2023, and August 3, 2023, and are summarized in **Table 5** in **Appendix A**. Habitat information and representative photographs are also provided in **Appendices B** and **D**.

4.0 SUMMARY AND CONCLUSIONS

EDR biologists conducted forest raptor surveys at nine sampling hexagon locations within the FRS Study Area between July 5, 2023, and August 3, 2023. A total of nine DBS and 18 TVES were conducted over a period of five weeks. Each sampling hexagon was surveyed three times during the season.

Over the course of the season, a total of 14 raptors were observed, representing eight different species. No threatened or endangered species were observed during the survey period. **BEGIN CONFIDENTIAL INFORMATION<** [redacted]

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[redacted]>**END CONFIDENTIAL INFORMATION** These conclusions are supported by publicly available data (as summarized in the 2023 Wildlife Site Characterization), the data collected during the 2023 forest raptor study data, and other avian study data collected for the Facility. These findings will allow the Applicant to evaluate potential Facility-related impacts to state-listed forest raptors and identify possible impact avoidance and minimization measures in the Facility's Section 94-c Siting Permit Application.

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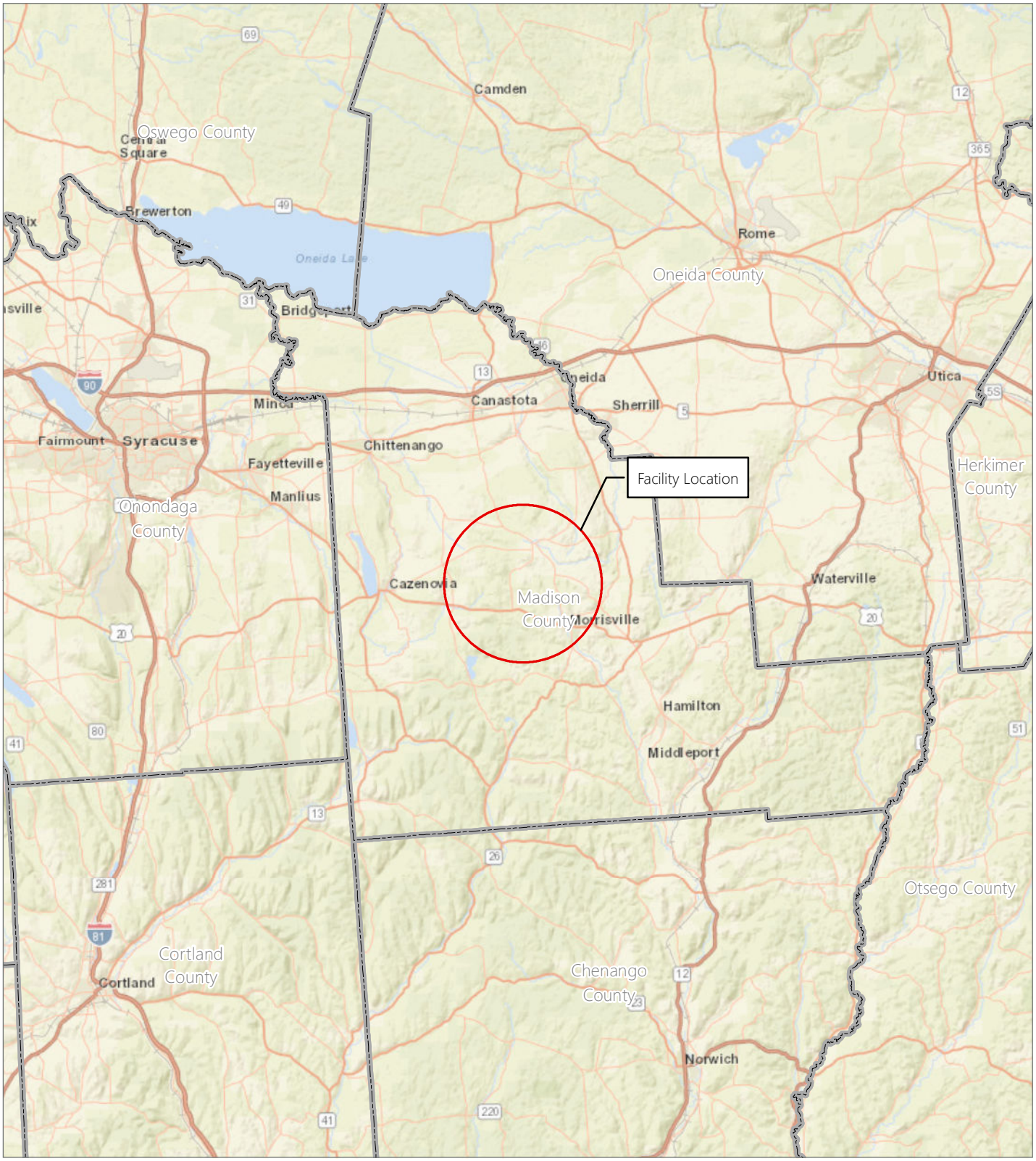
FIGURES

Figure 1. Regional Facility Location



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Madison County, New York

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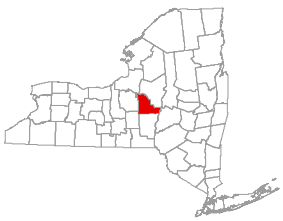
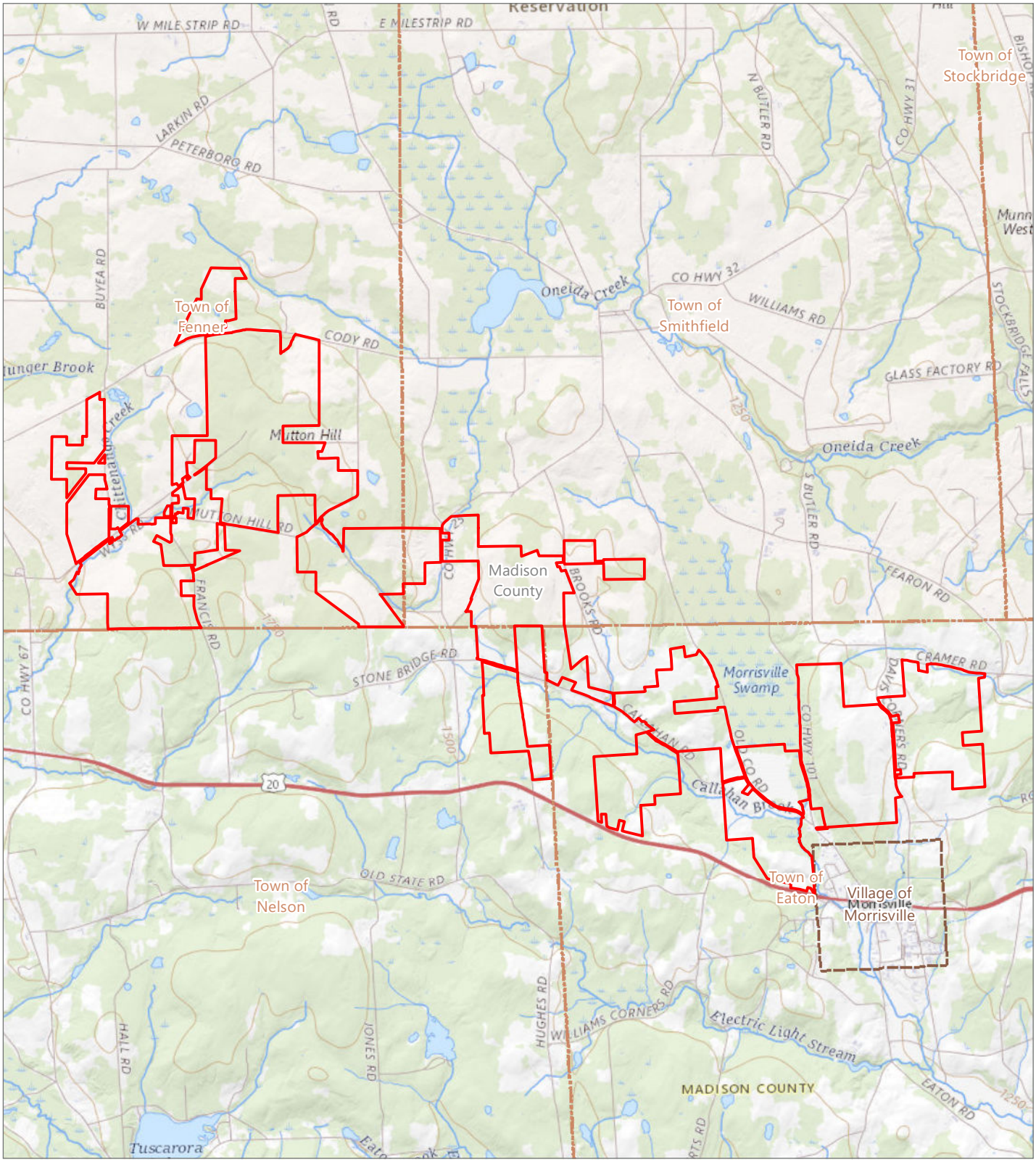


0 2.5 5 10
Miles

Prepared August 24, 2023
Basemap: Esri "World Street Map" map service

Figure 2. Forest Raptor Survey (FRS) Study Area



Hoffman Falls Wind Project

Towns of Fenner, Nelson, Eaton, and Smithfield,
Madison County, New York

Forest Raptor Survey Report

FRS Study Area

0 0.25 0.5 1
Miles

Prepared September 6, 2023
Basemap: Esri "USGS Topo" map service

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APPENDIX A

Summary Tables

Table 1. Completed Survey Information

Survey Date	Sampling Hexagon Surveyed	Type(s) of Surveys Completed	Start Time (24-hour)	End Time (24-hour)	Temperature Range (°F)	Wind Speed Range (mph)	Wind Direction(s)	Cloud Cover Range (%)	Visibility Range (miles)	Precipitation/ Impacts to Visibility
7/5/2023	D	DBS, TVES	1040	1626	79-86	1-3	NW	0-25	10+	None
7/11/2023	H	DBS, TVES	0907	1600	69-81	4-7	W, WSW	0	10+	None
7/18/2023	B	DBS	0852	1405	68-73	1-7	WSW	50-100	0.62-10[1]	Wildfire Smoke/ Sustained Rain
7/20/2023	B	TVES	0815	1040	59-73	1-3	S, SSW	10-25	10+	None
	C	TVES	1105	1530	74-76	0-3	SSE, ESE	25-50	10+	None
7/25/2023	A	DBS	1118	1520	75-79	0-3	NW	90-100	10+	None
	C	TVES	0815	1039	63-70	1-3	WNW, NW	25-90	10+	None
	E	DBS	1045	1424	72-76	0-7	WNW	90-100	10+	None
7/26/2023	A	TVES	1301	1502	81-82	4-7	SSW, SW	0-25	10+	None
	E	TVES	1322	1607	82	1-7	SW, SSW	10-25	10+	None
	G	DBS	0836	1233	65-81	1-3	SE, SSW	0	10+	None
7/28/2023	I	DBS, TVES	0911	1604	73-86	1-7	ESE, SW	25-90	10+	None
8/1/2023	F	DBS, TVES	0910	1545	60-70	1-7	NW	0-25	10+	None
	G	TVES	1012	1343	64-68	1-7	N, NNW	10-50	10+	None
8/2/2023	B	TVES	1345	1620	72-74	0-3	WNW, NW	25-90	10+	None
	C	TVES	1004	1346	67-72	1-3	ESE, WSW	10-50	10+	None
	E	TVES	1305	1554	70	4-7	W	90-100	10+	None
	H	TVES	1115	1330	68-73	1-7	WSW, WNW	10-90	10+	None
	I	TVES	0816	1052	53-60	1-3	SSE	0-50	10+	None
8/3/2023	A	TVES	0910	1239	65-74	4-7	S, SSW	50-100	10+	None
	D	TVES	0932	1120	66	8-12	S, SW	90-100	10+	None
	F	TVES	1158	1425	74-77	4-7	SSW	50-100	10+	None
	G	TVES	0850	1135	63-68	1-7	S, SSE	90-100	10+	None

[1] This visibility range was updated following the survey based on additional review of weather data.

Table 2. State-listed Raptor Observations

BEGIN CONFIDENTIAL INFORMATION<

Common Name	Scientific Name	Conservation Status[1]	Number of Observations[2]	Sex/Age	Date	Associated Sampling Hexagon	Observed Behavior(s)	Probable or Confirmed Breeding Behavior(s)[3]
[redacted]								

[1] Highest conservation status based on the List of Endangered, Threatened and Special Concern Fish & Wildlife Species of New York State (NYSDEC, 2015a).

[2] Includes all observations documented, including those recorded during DBS, TVES, and incidentally. In some cases, multiple features (e.g., perch point and flight path) were used to represent a single bird. In these instances, each distinct feature was considered a separate observation.

[3] Following New York Breeding Bird Atlas III breeding codes and definitions (eBird, 2020).

[4] [redacted]**>END CONFIDENTIAL INFORMATION**

Table 3. Summary of Suspected Raptor Sign

BEGIN CONFIDENTIAL INFORMATION<

Suspected Species	Scientific Name	Sign Type	Date	Associated Sampling Hexagon	Notes	Appendix B Photo Number(s)
[redacted]						

>END CONFIDENTIAL INFORMATION

Table 4. Summary of Raptors Observed During the Forest Raptor Survey

BEGIN CONFIDENTIAL INFORMATION<

Common Name	Scientific Name	Date(s) Observed	Total Observations[1]
[redacted]			

[1] Includes all observations documented, including those recorded during DBS, TVES, and incidentally. In some cases, multiple features (e.g., perch point and flight path) were used to represent a single bird. In these instances, each distinct feature was considered a separate observation.

[2] Observation was auditory, and no visual confirmation was made.**>END CONFIDENTIAL INFORMATION**

Table 5. Summary of Habitat Metrics for Each Sampling Hexagon

Sampling Hexagon	Primary Forest Type	Estimated Percent Canopy Cover	Estimated Percent Cover of Herbaceous Vegetation	Estimated Percent Cover of Shrub Vegetation	Estimated Percent Cover of Tree Vegetation	Dominant Woody Plant Species
A	Mixed	50-90%	25-50%	25-50%	25-50%	Black Cherry, Dogwoods (*Cornus* sp.), Eastern Cottonwood, Red Maple, Spruce sp., White Ash
B	Mixed	90-100%	25-50%	10-25%	1-10%	American Elm, Green Ash, Honeysuckle, Spruce sp., Sugar Maple
C	Mixed	50-90%	50-90%	25-50%	1-10%	American Beech, American Hophornbeam (*Ostrya virginiana*), Black Cherry, Green Ash, Honeysuckle, Norway Spruce
D	Mixed	90-100%	1-10%	0%	25-50%	American Beech, Eastern Hemlock, Sugar Maple
E	Deciduous	90-100%	90-100%	25-50%	10-25%	American Beech, Green Ash, Sugar Maple
F	Mixed	50-90%	50-90%	1-10%	10-25%	American Beech, American Hophornbeam, Black Cherry, Green Ash, Sugar Maple
G	Mixed	25-50%	90-100%	25-50%	1-10%	Common Buckthorn, Green Ash, Honeysuckle sp., Sugar Maple
H	Deciduous	90-100%	50-90%	1-10%	90-100%	Ash sp., Hawthorn sp., Maple sp.
I	Mixed	90-100%	1-10%	0%	25-50%	Eastern Hemlock, Maple sp.