

**State-Listed Wintering Grassland Raptor
2020-2021 Survey Report
for the
Mill Point Solar Project**

**Town of Glen
Montgomery County,
New York**

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EXECUTIVE SUMMARY

ConnectGen Montgomery County LLC, (the Applicant) a subsidiary of ConnectGen LLC (ConnectGen) is proposing the construction of the Mill Point Solar Project (the Project), a 250-megawatt (MW) photovoltaic (PV) solar energy generation facility in the Town of Glen, Montgomery County, New York. The Project Area at the time of the study consisted of approximately 4,000 acres, of which the actual Project is anticipated to require approximately 1,500 acres to construct and operate the facility.

In accordance with recommendations by the New York State Department of Environmental Conservation (NYSDEC) and on behalf of ConnectGen, TRC Environmental Corporation (TRC) conducted a winter raptor study at the proposed Project Area from November 16, 2020 to March 31, 2021 following the *NYSDEC Survey Protocol for State-listed Wintering Grassland Raptor Species* (Draft 2015, Protocol). An additional Survey Event was performed between April 1 and April 15, 2021 based on observations of listed species recorded during the final two weeks of March, in accordance with the Protocol. The objective of the winter raptor surveys was to determine the presence and Project Area use of state-listed grassland raptor species during the winter season and assess the need for any additional studies to determine impacts to these species from the proposed Project.

The study included both stationary and driving surveys throughout the Project Area in areas of potential habitat for state-listed grassland raptors. A total of 11 stationary survey points were identified in areas of potential habitat, and a driving route consisting of 21 driving survey stops was established along public roads traversing the Project Area. A total of 118 stationary surveys and 231 driving route survey stops were completed over 11 Survey Events, amounting to a total survey effort of 197.1 stationary survey hours and 16.6 driving survey hours during the study.

Forty-eight (48) observations of six raptor species were recorded during stationary surveys comprising a total of 425 use minutes. Overall mean use of the Project Area by raptors during stationary surveys was 0.036. Twenty-two (22) observations of four (4) species were recorded during driving route surveys in the Project Area. [REDACTED] were observed most frequently during both stationary and driving surveys. [REDACTED] accounted for 45.6 percent and 44.0 percent of stationary and driving route survey observations, respectively.

Two state-listed wintering grassland raptors were observed during the study. Nine (9) observations of [REDACTED] and 37 observations of [REDACTED], including six (6) incidental sightings, were recorded during the study. No [REDACTED] were observed during daytime driving surveys. [REDACTED] were observed hunting, circling, and perching. Twenty-seven (27) [REDACTED] observations were recorded during or incidental to stationary surveys, while 11 observations were recorded during or incidental to daytime driving surveys. [REDACTED] were documented hunting, soaring, and circling at multiple locations throughout the Project Area over the course of

the entire survey period. Roosting behavior was recorded in the vicinity of one stationary survey location (█) by both █.

Additionally, two █, were observed. Other raptor species observed during the study (e.g. red-tailed hawk, turkey vulture) are common and widely distributed across their respective ranges. Overall, raptor use of the Project Area was relatively constant throughout the study period, with observations increasing after snowmelt in March. Observations were recorded at all stationary locations except for S2. Given the number of █ observations, it is recommended that consultation with the NYSDEC occur to discuss the nature of these observations and potential impacts resulting from the Project. Additional studies to document Project Area use by state-listed wintering grassland raptors are not recommended at this time.

TABLE OF CONTENTS

1.0 INTRODUCTION..... 1

 1.1 Project Description 1

 1.1 Background Information..... 1

 1.2 Purpose and Objectives..... 1

2.0 STUDY PROTOCOL..... 3

 2.1 Survey Site Selection..... 3

 2.2 Survey Protocol 3

 2.2.1 Number and Timing of Surveys..... 4

 2.2.2 Surveyor Preparedness 4

 2.2.3 Data Collection 5

 2.3 Data Entry and Analysis 7

 2.3.1 Data Entry..... 7

 2.3.2 Data Analysis..... 7

3.0 RESULTS 9

 3.1 Survey Effort..... 9

 3.2 Stationary Surveys 10

 3.2.1 Spatial and Temporal Patterns of Raptor Use 10

 3.3 Daytime Driving Surveys 12

 3.3.1 Spatial and Temporal Patterns of Raptor Use..... 12

 3.4 Project Area Use by State-Listed Species 14

 3.5 Incidental Observations 17

4.0 CONCLUSIONS..... 18

5.0 REFERENCES..... 19

TABLES AND FIGURES

Table 1. Summary of Survey Effort9

Table 2: Frequency of Raptor Observations During Stationary Surveys by Species..... 10

Table 3: Raptor Observations During Stationary Surveys by Survey Location 11

Table 4: Frequency of Raptor Observations During Daytime Driving Surveys by Species..... 12

Table 5: Raptor Observations During Driving Surveys by Survey Event..... 13

Table 6. Observations of State-listed Species 16

Figure 1. Wintering Grassland Raptor Survey Locations21

Figure 2. Raptor Use Minutes Recorded During Stationary Surveys by Survey Location22

Figure 3. Number of Observations and Raptor Use by Survey Event for Stationary Surveys23

Figure 4. Distribution and Frequency of Raptor Observations During Daytime Driving Surveys 24

Figure 5. Listed Species Flight Paths25

APPENDICES

- Appendix A State-listed Wintering Grassland Raptor Survey Study Plan for Mill Point Solar Project
- Appendix B Data Form Example
- Appendix C List of Avian Species Observed
- Appendix D Survey Data Sheets (*provided as zipped file*)
- Appendix E GIS Shapefile Package (*provided as zipped file*)

1.0 INTRODUCTION

ConnectGen Montgomery County LLC, (the Applicant) a subsidiary of ConnectGen LLC (ConnectGen) is proposing the construction of the Mill Point Solar Project (the Project), a 250-megawatt (MW) photovoltaic (PV) solar energy generation facility in the Town of Glen, Montgomery County, New York. On behalf of Mill Point Solar, TRC Environmental Corporation (TRC) has prepared this State-Listed Wintering Grassland Raptor Survey Report supporting development of the Project.

1.1 Project Description

The Project is located in a rural residential community. Lands surrounding the Project Area are predominantly comprised of cropland (active and fallow), interspersed with successional old fields and isolated patches of northern hardwood forest. The location of Project components is evolving as siting and design efforts progress. The Project Area at the time of the study consisted of approximately 4,000 acres, of which approximately 1,500 acres will be required for construction and siting of Project components. Project components may consist of tracker technology PV panels, inverters, access roads, buried (and possibly overhead) electric collection lines, a collection substation, and electrical interconnection facilities.

1.1 Background Information

Several locations in the Project Area contain potential habitat for overwintering grassland raptor species known to occur in eastern New York, including the [REDACTED]

[REDACTED]. Potential habitat for grassland raptors is located throughout the Project Area and consists of successional old fields and agricultural areas. The Project Area contains artificial perching locations (i.e. telephone poles, power line structures, etc.) and natural perches along forest edges. The Project is located immediately adjacent to the Mohawk River, a site which may concentrate migratory raptors and eagles. A review of the New York Natural Heritage Program (NYNHP) database and Environmental Resource Mapper, and consultation with NYSDEC (received on November 19, 2020) indicated no records of occupied habitat or occurrences of state-listed species targeted by the surveys (i.e. northern harrier and short-eared owl) exist within or nearby the Project Area.

1.2 Purpose and Objectives

The purpose of the winter raptor survey was to determine the presence and Project Area use by state-listed threatened/endangered grassland raptor species during the winter season. Target species were the state-listed short-eared owl (endangered) and northern harrier (threatened). Data was used to develop a qualitative assessment of general patterns of use by those species and other raptors identified within the vicinity of the proposed Project.

The main objectives of winter raptor surveys were to:

- document presence of state-listed species within the Project Area;
- summarize and map use of the Project Area by state-listed species; and
- summarize and map use of the Project Area by any non-listed raptor species observed during surveys.

Information obtained from these surveys will be used to evaluate the potential for state-listed species to occur within the Project Area. During the regulatory review process, this information would be used to inform potential avoidance, minimization, and/or mitigation strategies pursuant to 6 New York Codes, Rules, and Regulations (NYCRR) Part 182.

Survey protocols were based on the *New York State Department of Environmental Conservation (NYSDEC) Survey Protocol for State-listed Wintering Grassland Raptor Species, Draft 2015* (Protocol). TRC provided a winter raptor survey study plan (Appendix A) to the Office of Renewable Energy Siting and NYSDEC for review on November 6, 2020. NYSDEC provided comments on the survey study plan on November 19, 2020, which were incorporated as applicable. A final survey study plan was provided to NYSDEC on December 4, 2020.

2.0 STUDY PROTOCOL

2.1 Survey Site Selection

Stationary survey locations were selected based on habitat and visibility at the Project Area in order to effectively survey potential habitat for grassland raptors. Review of aerial imagery of potential habitat within the Project Area was used to pre-determine locations for stationary points and driving routes with consideration of site-specific topographical conditions and visual obstructions. Survey locations were established within potential habitat (e.g., grasslands and open fields) at vantage points with clear visibility of the habitat area. Locations were situated along public rights-of-way or in participating parcels within the Project Area. Locations were established along hedgerows or forest edges or were conducted within or next to vehicles to conceal surveyors from raptors flying overhead. Locations were spaced approximately 1,000 meters apart where multiple sites were required to survey a contiguous area of unobstructed grassland habitat. Several locations also provided views of presumed reference areas (e.g., grassland or open field habitat not located within the proposed Project Area or area to be developed). Where possible, observations were determined to represent control data where the viewshed was primarily of potential habitat located outside of the Project Area boundary effective at the time of the study.

A total of eleven (11) stationary survey locations were selected within the Project Area in areas of potential habitat for short-eared owls and/or northern harriers (Figure 1). Three (3) stationary survey locations (S9, S10, and S11) were added after the first survey visit based on the addition of parcels to the Project Area that contained potential habitat for grassland raptors.

A driving survey route was established along public roads traversing the Project Area. Short-duration point counts were conducted at pre-determined locations along the route which provided visibility of potential habitat for grassland raptors from the public road. Point-count locations were established approximately every 0.5 mile along the driving route where habitat was visible.

Potential habitat was identified throughout the Project Area with visibility from Ingersoll Rd (County Highway [Co Hwy] 117), Auriesville Rd (Co Hwy 112), Logtown Rd (Co Hwy 110), Hyney Hill Rd (Co Hwy 123), Hall Rd, Fisher Road (Co Hwy 118), Van Epps Rd (Co Hwy 116), NY-30A, and Maple Avenue. One driving survey route consisting of 21 stops was selected along the above roadways. Routes and survey stops are depicted on Figure 1. GIS shapefiles of the survey points and driving routes/stops are included in a zipped package as Appendix E.

2.2 Survey Protocol

The protocol for state-listed wintering grassland raptor surveys at the Mill Point Solar Project followed the *NYSDEC Survey Protocol for State-listed Wintering Grassland Raptor Species, Draft 2015*, supplemented with input received from NYSDEC on November 19, 2020. Surveys included rotating stationary survey points as described above (Figure 1), and a driving route survey along public roads in areas of potential habitat.

Per NYSDEC recommendations, stationary surveys were designed such that weekly presence was maintained at the Project Area throughout the duration of the study, weather permitting. Approximately half of the stationary survey locations were surveyed each week such that all stationary locations were surveyed over a two-week period ("Survey Event"). Stationary surveys were completed by a single observer.

A driving route survey was completed once during each Survey Event, with one of the two driving routes completed each week. Driving surveys were completed by a single surveyor. Surveyors followed a set route along public roads within the Project Area and completed five-minute point counts at each established point count location along the route. Where raptors were noted between intended point count locations, the driver pulled over as needed to confirm identification.

Survey dates were selected to take advantage of optimal weather during each Survey Event, however some surveys were conducted under unfavorable conditions. Whenever possible, surveys were not conducted during inclement weather that would significantly interfere with either visibility or use of sites by raptors. Inclement weather included heavy precipitation, dense fog, or strong winds (i.e., wind speed 3 or 4 on Beaufort Scale).

2.2.1 Number and Timing of Surveys

Surveys were performed in winter of 2020-2021 and were conducted during the NYSDEC recommended study period between November 15, 2020, and March 31, 2021 (study period). This study was initiated on November 16, 2020. A total of nine (9) complete Survey Events occurred during the study period, which ended on April 1, 2021, with only eight (8) of 11 locations surveyed during the first Survey Event. Due to observations of listed species during the last two weeks of March, an additional Survey Event was completed between April 1 and April 15, 2021. One complete Survey Event encompassed stationary surveys at all stationary locations and one daytime driving survey along the driving route, conducted over a two-week period.

Stationary surveys were initiated one hour before sunset and concluded when it was too dark to see flying birds, typically one-half hour after sunset, or up to one hour after sunset if conditions such as snow cover or a full moon allowed for observing flying birds after dark. This timing targeted the temporal window when overwintering raptors are foraging and leaving/returning to their roosts.

The driving route survey was initiated prior to stationary surveys scheduled for the day, providing for ample time to complete the driving route and mobilize to stationary survey locations within the required timeframe.

2.2.2 Surveyor Preparedness

Field biologists with experience conducting natural resource assessments, including rare, threatened and endangered species assessments, performed this study. Biologists received specialized training in bird observation and species identification. In addition, surveyors familiarized themselves with the survey protocol, survey locations, driving routes, and the Project

Area as a whole to facilitate identification of site-specific features that raptors may use (i.e. stacked hay bales, trees stumps, fence posts, etc.). This training also highlighted the importance of surveyor concealment next to a parked vehicle or hedgerow vegetation to lessen behavioral avoidance by wintering raptors during the stationary surveys. Biologists were outfitted with binoculars with a magnification of 10x42 or higher and received training on proper use and techniques.

2.2.3 Data Collection

Detailed weather and bird observation data was collected during each survey. All data was entered onto digital data forms accessed by smartphone or tablet. Data was collected on forms adapted from those utilized by the Hawk Migration Association of North America (HMANA) for raptor migration surveys using HMANA-suggested codes and guidelines. An example data form is provided in Appendix B. Any observed roost sites, foraging paths, or flight paths were recorded digitally, and appended to the digital data sheet. Data was collected for any raptor or owl species observed at the Project Area. Additionally, observations of listed non-raptor species, arctic songbirds and winter resident grassland birds (i.e. snow buntings (*Plectrophenax nivalis*), horned larks (*Eremophila alpestris*), and Lapland longspurs (*Calcarius lapponicus*)), and incidental observations were documented, if sighted. Incidental observations include species documented within the Project Area, outside of the scheduled survey window (i.e., when walking to or from a survey location).

A data form was completed for each survey, regardless of anything observed. General information that was recorded on the forms include:

- client;
- project name;
- survey type (driving or stationary);
- survey location;
- visit number;
- date;
- observer name(s);
- survey start and end time;
- duration of survey (minutes); and
- sunset time.

2.2.3.1 Weather Observations

Weather conditions known to influence detectability of raptor species were noted at the beginning of each survey and as conditions changed significantly throughout the survey. Parameters that were recorded included:

- wind speed (recorded based on the Beaufort scale);
- wind direction (compass direction from which the wind is coming, or “variable”);

- temperature (degrees Fahrenheit);
- relative humidity (percent relative);
- barometric pressure (in mmHg);
- percent cloud cover;
- visibility (approximate distance in kilometers [km]);
- precipitation; and
- snow depth (inches [in]) and condition (i.e. powder, crust, slush, etc.).

2.2.3.2 *Individual Raptor Observations*

Observations of any raptor or owl were recorded continuously throughout each survey. When collecting data, surveyors performed continuous scanning of the habitat, both with the naked eye and with binoculars. The following data was recorded for each individual bird observed:

- species (if possible) or genera;
- whether the raptor observation was an incidental sighting or not;
- count of individuals;
- first and last time observed;
- duration of observation (rounded to the nearest minute);
- age class (if possible);
- gender (if possible);
- behavior (such as circling, flapping, gliding, hunting, perching, soaring, or other);
- general compass bearing flight direction (S, SSW, NE, etc.);
- approximate flight height (in feet);
- digital map of flight path(s)/roost site(s)/etc.; and
- any additional notes about the observation.

In the event that a bird could not be identified to the species level, the bird was described to the greatest extent possible. For example, unknown raptors were further described as “buteo” versus “accipiter”, or “large” versus “small.”

If northern harriers or short-eared owls were observed, detailed behavior was documented, particularly when behavior could be indicative of roosting in an attempt to identify potential roost locations. Potential [REDACTED] was observed. Roosting behavior was identified by observing [REDACTED] dropping down to the ground and not taking flight again as it gets dark, or observation of [REDACTED] taking flight from the ground in the evening. Additionally, any concentrated activity in an area at or near dusk, interactions between [REDACTED], and individuals coming and going or appearing from a hedgerow, swale, tall grasses, or other protected locations were noted as potential roost locations. Locations of these sites, as well as number of individuals using a potential roost, were recorded in addition to the standard information recorded for all observations, if applicable. Additionally, perching locations and substrate were recorded for [REDACTED]. Any observed potential roost sites, foraging paths, or flight paths were documented digitally, overlain on photos of the Project Area, and then attached to the digital data form. [REDACTED] are shown on Figure 5.

2.2.3.3 Additional and Incidental Observations

When it did not detract from the detection of target species, observations of non-raptor species and/or other animals were recorded as “Additional Observations” on the digital data form. The time of the observation and a description of the observation were recorded.

Target species (i.e. raptors) where observed outside of a regular survey period were recorded as incidental observations and appended to the stationary survey data form for the survey being conducted on the evening of the observation. During driving route surveys, individuals observed between driving stops were not considered incidental. These observations were appended to the survey data form at the next driving route stop.

A full list of avian species documented at the Project, including non-target species and those observed incidentally, is included as Appendix C.

2.2.3.4 Field Quality Assurance and Quality Control

Data forms were reviewed for completeness and accuracy prior to leaving the survey location. Any errors or inconsistencies noted were rectified at that time. Data was further reviewed and verified by Project management staff following each Survey Event. Data was analyzed concurrently with on-going field work to ensure Project objectives were being met by the types and method of data being collected.

2.3 Data Entry and Analysis

2.3.1 Data Entry

Data was uploaded to the survey database after every survey was completed in order to ensure that no data was stored on the devices on which it was collected. Flight paths and locations for listed and target species were digitized over aerial maps of the Project and appended to data forms. Survey Data Forms are provided as Appendix D in a zipped file.

2.3.2 Data Analysis

The following summaries and statistics were generated in map or table form as appropriate to address the objectives and goals of this study:

- species composition;
- number and frequency of observations;
- raptor use patterns, both temporal and spatial, throughout the Project Area;
- roost/foraging site locations of state-listed species, if identified; and
- flight paths of state-listed species observed.

Standard statistical parameters (e.g., means) were computed where appropriate to support the basis for any determinations.

3.0 RESULTS

3.1 Survey Effort

A total of 118 stationary surveys and 231 driving route survey stops were completed over 11 Survey Events (Table 1). Survey locations S9, S10 and S11 were added after the first Survey Event and were therefore only visited 10 times during the study period. High winds were noted during surveys conducted on November 16th and November 25th, potentially impacting observations. Four [REDACTED] were observed during the study including [REDACTED]

[REDACTED] Observations of state-listed raptor species are further described in Section 3.4. A list of all avian species documented at the Project is included as Appendix C.

Table 1. Summary of Survey Effort

Survey Event	Survey Dates	Number of Stationary Survey Hours	Number of Driving Route Stops Completed	Conditions Affecting Detectability	Raptors Observed
1	11/16/2020-11/24/2020	16.9	21	High winds on 11/16/2020 and 11/24/2020	Yes
2	12/1/2020-12/10/2020	17.1	21	-	Yes
3	12/14/2020-12/23/2020	16.8	21	Snow depths >6 inches	Yes
4	12/28/2020-1/7/2021	16.6	21	-	No
5	1/11/2021-1/22/2021	20.9	21	-	Yes
6	1/25/2021-2/5/2021	21.5	21	Snow depths >6 inches	Yes
7	2/8/2021-2/18/2021	19.0	21	Snow depths >6 inches	No
8	2/23/2021-3/5/2021	20.4	21	Snow depths >6 inches	Yes
9	3/9/2021-3/19/2021	16.2	21	-	Yes
10	3/22/2021-4/1/2021	15.1	21	-	Yes
11	4/6/2021-4/14/2021	16.5	21	-	Yes

3.2 Stationary Surveys

A total of 48 observations of six (6) raptor species were recorded over the 197.1 hours of surveys completed at stationary survey locations during the study. The most observed species was the [REDACTED], which was observed 22 times (45.8 of observations). Overall, 425 raptor use minutes¹ were recorded throughout the study for a mean use of 0.036². Raptor use was highest by the [REDACTED], which had a mean overall use of 0.018. Table 2 summarizes the frequency and use of raptor species observed during stationary surveys. [REDACTED] were observed during stationary surveys. Section 3.4 summarizes observations of state- and/or federally listed species. Observations of non-raptor species and species observed incidentally to surveys are discussed in Section 3.5.

Table 2: Frequency of Raptor Observations During Stationary Surveys by Species

Species	No. Observations ¹	Percent of Total Observations	Use Minutes ²	Mean Overall Use ³
American Kestrel	3	6.3	34	0.003
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Red-tailed Hawk	7	14.6	91	0.008
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Turkey Vulture	6	12.5	11	0.001
Total Observations	48	100.0	425	0.036

¹ Includes only observations recorded during regular surveys

² Raptor use minutes are defined as the number of minutes raptors were observed during surveys.

³ Mean overall use is calculated by dividing the number of use minutes by the total number of survey minutes conducted to determine a use rate.

⁴ Indicates state-listed species

3.2.1 Spatial and Temporal Patterns of Raptor Use

Raptors were documented from 10 of 11 stationary survey locations. Table 3 summarizes the spatial distribution of observations recorded during stationary surveys. The highest number of observations were recorded at stationary survey location [REDACTED]. Eight observations of [REDACTED], six observations of [REDACTED], three observations of turkey vulture (*Cathartes aura*) and one observation of red-tailed hawk (*Buteo jamaicensis*) were recorded at this location representing 39.1 percent of stationary survey observations. Additionally, [REDACTED] accounts for 131 raptor use minutes; the highest number of use minutes observed at any stationary survey location.

Use at the Project Area was widespread, with observations occurring at all but one survey location (S2). The highest recorded use was concentrated in the [REDACTED] portion of the Project Area (Figure

¹ Raptor use minutes are defined as the number of minutes raptors were observed within the Project Area during surveys.

² Mean overall use is calculated by dividing the number of use minutes by the total number of survey minutes conducted to determine a use rate.

2). The highest number of species was recorded at locations [REDACTED], with four species observed at each (Table 3).

Table 3: Raptor Observations During Stationary Surveys by Survey Location

Survey Location	Species ¹	No. Observations ²	% Total Observations	Use Minutes	Mean Overall Use
S1	[REDACTED]	8	17.4	43	0.042
	[REDACTED]	1	17.4	3	0.003
		9	17.4	46	0.045
S2	No Observations Recorded				
S3	[REDACTED]	1	2.2	6	0.006
		1	2.2	6	0.006
S4	Red-tailed Hawk	1	2.2	4	0.004
		1	2.2	4	0.004
S5	[REDACTED]	6	13.0	60	0.048
	Red-tailed Hawk	1	2.2	1	0.001
	[REDACTED]	8	17.4	67	0.053
	Turkey Vulture	3	6.5	3	0.002
		18	39.1	131	0.104
S6	American Kestrel	1	2.2	1	0.001
	[REDACTED]	2	4.4	54	0.042
	Red-tailed Hawk	1	2.2	15	0.012
	Turkey Vulture	2	4.4	5	0.004
		6	13.0	75	0.058
S7	Red-tailed Hawk	1	2.2	14	0.012
	Turkey Vulture	1	2.2	3	0.003
		2	4.4	17	0.015
S8	[REDACTED]	2	4.4	36	0.029
	Red-tailed Hawk	2	4.4	21	0.017
		4	8.7	57	0.047
S9	[REDACTED]	1	2.2	6	0.006
	Red-tailed Hawk	1	2.2	36	0.037
		2	4.4	42	0.043
S10	American Kestrel	1	2.2	22	0.024
	[REDACTED]	1	2.2	1	0.001
	[REDACTED]	1	2.2	9	0.010
		3	6.5	32	0.035
S11	American Kestrel	1	2.2	11	0.011
	[REDACTED]	1	2.2	4	0.004
		2	4.4	15	0.015
Total		48	100.0	425	0.035

1 indicates state-listed species

2 Includes only observations recorded during regular surveys

Observations were recorded during 9 of the 11 Survey Events for survey locations S1 through S8 and during eight of 10 Survey Events at survey locations S9, S10, and S11, with Survey Event 4 and 7 being the only events in which raptors were not observed. Raptor use documented on stationary surveys was highest during Survey Event 1 (late November) with a total of 127 use minutes across seven observations (Figure 3). Raptor use was inconsistent throughout the study period, with several peaks throughout (Figure 3). The number of observations fluctuated as well. The greatest number of observations were recorded during Survey Event 11 (April 2021) with 14 observations. Species richness peaked during Survey Event 9 and 11 with a total of four species recorded.

3.3 Daytime Driving Surveys

Driving route surveys were conducted during every Survey Event throughout the study, with total observation time totaling 16.6 hours. A total of 22 raptor observations of four species were documented during driving route surveys. Three incidental observations were also documented. Table 4 summarizes the frequency of raptor species observed during the driving surveys. One [REDACTED], was observed during daytime driving surveys. The [REDACTED] was also observed. [REDACTED] was the only species documented during driving surveys which was not observed during stationary surveys. Three species that were documented during stationary surveys were not recorded during daytime driving surveys, [REDACTED] red-tailed hawk, and [REDACTED]. Section 3.4 summarizes observations of state and/or federally listed species. [REDACTED] and turkey vultures were the most frequently observed raptor during daytime driving surveys and comprised a total of 84 percent of raptor observations (Table 4).

Table 4: Frequency of Raptor Observations During Daytime Driving Surveys by Species

Species	No. Observations	No. Incidental Observations	Percent of Observations
American Kestrel	1	2	12.0
[REDACTED]	1	0	4.0
[REDACTED]	10	1	44.0
Turkey Vulture	10	0	40.0
Total Observations	22	3	100.0

¹ indicates state-listed species

3.3.1 Spatial and Temporal Patterns of Raptor Use

Raptors were observed most frequently in the [REDACTED] portion of the Project Area during driving route surveys. Figure 4 summarizes the spatial distribution of observations recorded along the driving route. Raptors were observed from 10 of 21 driving route locations. The greatest number of observations (n=5) was recorded at driving survey locations D20 and D21. No observations were recorded at driving survey locations D1-D4, D7-D11, and D17-D18 (Figure 4).

Table 5 summarizes the temporal distribution of observations recorded during driving route surveys. Raptor activity was heavily skewed toward the late fall and late winter, with only one observation occurring between Survey Event 4 and Survey Event 8. The highest number of raptor observations was recorded during Survey Event 10, which accounted for 54.5 percent of total observations during the study period. Species richness was also greatest during Survey Event 10, with three raptor species observed.

Table 5: Raptor Observations During Driving Surveys by Survey Event

Survey Event	Survey Dates	Species	No. Observations	% Total Observations
1	11/16/2020 & 11/23/2020	[REDACTED]	1	4.5
			1	4.5
2	12/2/2020 & 12/8/2020	[REDACTED]	5	22.7
			5	22.7
3	12/15/2020 & 12/21/2020	[REDACTED]	2	9.1
			2	9.1
4	12/28/2020 & 1/6/2021	No Raptors Observed		
5	1/11/2021 & 1/18/2021	No Raptors Observed		
6	1/25/2021 & 2/3/2021	[REDACTED]	1	4.5
			1	4.5
7	2/8/2021 & 2/16/2021	No Raptors Observed		
8	2/23/2021 & 3/4/2021	No Raptors Observed		
9	3/9/2021 & 3/16/2021	American Kestrel	1	4.5
			1	4.5
10	3/22/2021 & 3/29/2021	[REDACTED]	1	4.5
		[REDACTED]	1	4.5
		Turkey Vulture	10	45.5
			12	54.5
11	4/6/2021 & 4/12/2021	No Raptors Observed		
Grand Total			22	100.0

3.4 Project Area Use by State-Listed Species

A total of 43 observations of state-listed threatened, endangered, and special concern species were recorded during the study period, for a total of 289 use minutes. Observations were scattered throughout the Project Area but were concentrated at stationary locations [REDACTED].

A total of 32 [REDACTED] observations and nine (9) [REDACTED] observations occurred during winter raptor surveys at the Project Area. [REDACTED] were observed for a total of 210 use minutes at eight (8) of the 11 stationary survey locations and at six (6) of 21 driving route stops. This species was recorded gliding, hunting, perching, and circling within the Project Area. [REDACTED] were observed at two stationary locations, for a total of 70 use minutes. [REDACTED] were observed on a single occasion each during stationary and driving surveys, respectively. Table 6 summarizes observations of state-listed species. Activity for both species was concentrated in the central portion of the Project Area around locations [REDACTED].

Some observations included behaviors that could indicate a roost location in the vicinity of [REDACTED] for both [REDACTED], and near [REDACTED] for [REDACTED]. Behaviors associated with each observation are described in detail below. Several observations of both species, including observations of multiple individuals at both [REDACTED] and inter-specific interactions at survey location [REDACTED] were recorded throughout the study period. Some observations were of individuals flying low above the ground. While these behaviors may indicate potential roosting activity, most observations appeared to be of individuals of both species hunting and foraging within the area, specifically surveyors observed individuals with or actively pursuing prey. No specific location where individuals dropped to the ground and remained there, or emerged from the ground not returning, which could more definitively indicate a roost location, was documented.

Flight paths documented for listed species observed during surveys are shown in Figure 5. No definitive roost locations were documented, however roosting behavior, as described above, was observed at survey location [REDACTED] for the [REDACTED], and for [REDACTED] at survey location [REDACTED]. GIS shapefiles of winter raptor survey stationary points and driving routes/stops, state-listed and special concern species observations, and the Project Area are included as Appendix E, a zipped file.

[REDACTED]

A total 22 observations of [REDACTED] were recorded during stationary surveys. An additional five observations were recorded incidentally to surveys. Eight of the non-incident observations occurred at location [REDACTED], and five occurred at location [REDACTED], located in the [REDACTED] portions of the Project Area, respectively (Figure 5). Observations were also recorded at locations [REDACTED]. The first observation (location [REDACTED]) occurred on the first day of surveys (November 16, 2020), and the last observation (location [REDACTED]) occurred on April 14, 2021. [REDACTED] were observed during every month of the study except January 2021.

Observations of [REDACTED] were consistent throughout most of the study period and [REDACTED], with [REDACTED] recorded at eight (8) of 11 stationary locations. Observed behaviors included hunting, circling, and gliding. In five instances, male and female [REDACTED] were simultaneously observed, with three of these five instances occurring at location [REDACTED]. Many observations were brief (<2 minutes); however, seven observations were 16 minutes or longer, with a high of 52 minutes. Fifteen of the observations indicated that individuals were hunting, with surveyors noting active pursuit of prey items and birds observed flying low to the ground over open habitat scanning from above. One observation, recorded on November 18, 2020 from survey location [REDACTED] indicated an individual flying approximately one foot off the ground and landing [REDACTED].

A total of 10 observations were recorded during driving surveys, with one (1) additional incidental observation, from six (6) locations. Locations where [REDACTED] were observed during driving surveys closely align with observation locations recorded during stationary surveys (Figure 5).

The presence of multiple individuals at or around dusk, flying low to and landing on the ground may indicate a roost location for [REDACTED] in the vicinity of Locations [REDACTED]. The 37 total observations were from 29 records. Observations of multiple individuals were recorded on the same record (i.e., more than one individual was observed at the same time), and multiple observations were recorded during the same survey (i.e., several observations of individuals were recorded during the survey at different times). Habitat surrounding [REDACTED], where these observations were concentrated, is comprised of [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] Activity near [REDACTED] was highly concentrated with most individuals observed within 200 meters of the survey location.

Although multiple individuals were observed around [REDACTED], activity was more dispersed and habitat surrounding [REDACTED] is [REDACTED]
[REDACTED] It is more likely that the areas surrounding [REDACTED] are being utilized for foraging rather than roosting.

[REDACTED]

A total of nine (9) observations of [REDACTED] were recorded during stationary surveys. Eight (8) of these observations occurred at location [REDACTED] in the [REDACTED] of the Project Area (Figure 5). The first observation (location [REDACTED]) occurred on December 14, 2020, with the last observations (location [REDACTED]) occurring on April 7, 2021. Five (5) of the nine (9) observations of [REDACTED] occurred during March. One observation documented interactions between two individuals. Observed behaviors included foraging, hunting, circling, and flapping. Both [REDACTED] were documented at [REDACTED] during Survey Events 3, and one observation indicated interactions between the two species. Observations of more than one individual were recorded on four (4) of the seven (7) occasions on which the species was documented at survey location [REDACTED]. Two observations of individuals perching on or near the

ground at dusk were recorded at this location. Observations of multiple individuals in a single location, and the presence of [REDACTED] at this same location could indicate a potential roost location in the vicinity of location [REDACTED].

[REDACTED]

One [REDACTED] was recorded during the driving survey at location [REDACTED] in the [REDACTED] of the Project Area on March 29, 2021 (Figure 5). The individual was observed gliding over the field to the south of location [REDACTED] for one minute.

[REDACTED]

[REDACTED] was recorded in the [REDACTED] of the Project Area at stationary location [REDACTED] on December 9, 2020 during (Figure 5). The individual was observed capturing a prey item in the [REDACTED], before returning to its perch on an adjacent telephone pole.

Table 6. Observations of State-listed Species

Species	Listing Status ¹	No. Observations ²	No. Incidental Observations ³	Survey Locations Observed	No. Use Minutes ⁴	Potential Roosting Behavior Recorded (Locations)
[REDACTED]	[REDACTED]	1	-	[REDACTED]	N/A	No
[REDACTED]	[REDACTED]	32	5	[REDACTED]	210	Yes ([REDACTED])
[REDACTED]	[REDACTED]	1	-	[REDACTED]	9	No
[REDACTED]	[REDACTED]	9	-	[REDACTED]	70	Yes ([REDACTED])

Notes:

1 SE = state endangered, SSC = species of special concern, ST = state threatened

2 Includes only observations non-incidental observations.

3 Includes only observations recorded incidentally to regular surveys.

4 Calculated using only observations recorded during regular stationary surveys.

3.5 Incidental Observations

Incidental observations of raptor species included one observation of a [REDACTED] and two observations of American kestrel (*Falco sparverius*). Incidental observations of raptor and non-raptor species are not included in reported results.

Non-raptor species recorded during surveys included Canada goose (*Branta Canadensis*); American crow (*Corvus brachyrhynchos*); common raven (*Corvus corax*), song sparrow (*Melospiza melodia*), American robin (*Turdus migratorious*), and [REDACTED]. Observations include both those documented during scheduled surveys and incidentally while observers were present within the Project Area. A list of all avian species observed is provided as Appendix C.

4.0 CONCLUSIONS

A total of 197.1 hours of stationary surveys and 16.6 hours of driving surveys were completed over 11 Survey Events during the Winter Raptor Survey implemented at the Project. Forty-eight (48) observations of (6) six species were recorded during stationary surveys, with an additional 22 observations of four (4) species during driving surveys. Across both surveys a total of seven (7) species were observed using the Project Area. Both stationary and driving wintering grassland raptor surveys at the Mill Point Solar Project indicated that the Project Area is used most during winter months by [REDACTED], with observations primarily concentrated in the [REDACTED] of the Project Area particularly at stationary locations [REDACTED] of the Project Area.

Observations were made throughout the entire study period and raptor activity overall was concentrated in the [REDACTED] of the Project Area. Activity fluctuated throughout the study period with the highest number of observations and use minutes recorded during the first and last survey events in November 2020 and April 2021. No observations were recorded at driving survey locations D1-D4, D7-D11, and D17-D18.

[REDACTED] Additionally, two [REDACTED] were observed throughout the Project Area, and during most Survey Events. [REDACTED] were observed at [REDACTED] of the Project Area with most activity recorded during the month of March. Though a roost site was not definitively located or observed, behaviors recorded near locations [REDACTED] are consistent with roosting activity, though activity at [REDACTED] is more likely associated with foraging.

Behaviors exhibited by the [REDACTED] observed suggest both species are winter residents, utilizing the Project Area for foraging and potentially roosting throughout the winter season. No nests or breeding behavior were documented. Given the nature of these observations, it is recommended that consultation with the NYSDEC occur to discuss potential impacts and implications for the Project.

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


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FIGURES

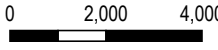


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	PROPOSED PROJECT AREA
	DRIVING ROUTES
	MUNICIPAL BOUNDARIES
	STATIONARY SURVEY LOCATIONS
	DRIVING SURVEY LOCATIONS

BASE MAP: ESRI WORLD IMAGERY MAP SERVICE
 DATA SOURCES: ESRI, TRC






 1:48,000 1" = 4,000'



New York Overview

SITE LOCATION

PROJECT: CONNECTGEN - MILL POINT SOLAR PROJECT	
TOWN OF GLEN MONTGOMERY COUNTY, NY	
TITLE: WINTER RAPTOR SURVEY SURVEY LOCATIONS MAP	
DRAWN BY: D. SWEENEY	PROJ. NO.: 411360
CHECKED BY: R. MONROE	FIGURE 1
APPROVED BY: T. KONDAK	
DATE: APRIL 2021	
	
10 MAXWELL DRIVE CLIFTON PARK, NY 12065 PHONE: 518-348-1190	
FILE:	Mill_Point_WinterRaptor_Survey



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<p> PROPOSED PROJECT AREA</p> <p> 0 USE MINUTES</p> <p> 1 - 15 USE MINUTES</p> <p> 15 - 50 USE MINUTES</p> <p> 50 - 131 USE MINUTES</p> <p> MUNICIPAL BOUNDARIES</p> <p><small>BASE MAP: ESRI WORLD IMAGERY MAP SERVICE DATA SOURCES: ESRI, TRC</small></p>	 0 2,000 4,000 FEET 1:48,000 1" = 4,000' New York Overview SITE LOCATION	<p>PROJECT: CONNECTGEN - MILL POINT SOLAR PROJECT TOWN OF GLEN, MONTGOMERY COUNTY, NY</p> <p>TITLE: RAPTOR USE MINUTES RECORDED DURING STATIONARY SURVEYS BY SURVEY LOCATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DRAWN BY: D. SWEENEY</td> <td style="width: 50%;">PROJ. NO.: 411360</td> </tr> <tr> <td>CHECKED BY: R. MONROE</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">FIGURE 2</td> </tr> <tr> <td>APPROVED BY: K. BARNSTEAD</td> </tr> <tr> <td>DATE: APRIL 2021</td> </tr> </table> <p style="text-align: center;"></p> <p style="text-align: right;"><small>10 MAXWELL DRIVE CLIFTON PARK, NY 12065 PHONE: 518-348-1190</small></p> <p>FILE: Mill_Point_WinterRaptor_Survey</p>	DRAWN BY: D. SWEENEY	PROJ. NO.: 411360	CHECKED BY: R. MONROE	FIGURE 2	APPROVED BY: K. BARNSTEAD	DATE: APRIL 2021
DRAWN BY: D. SWEENEY	PROJ. NO.: 411360							
CHECKED BY: R. MONROE	FIGURE 2							
APPROVED BY: K. BARNSTEAD								
DATE: APRIL 2021								

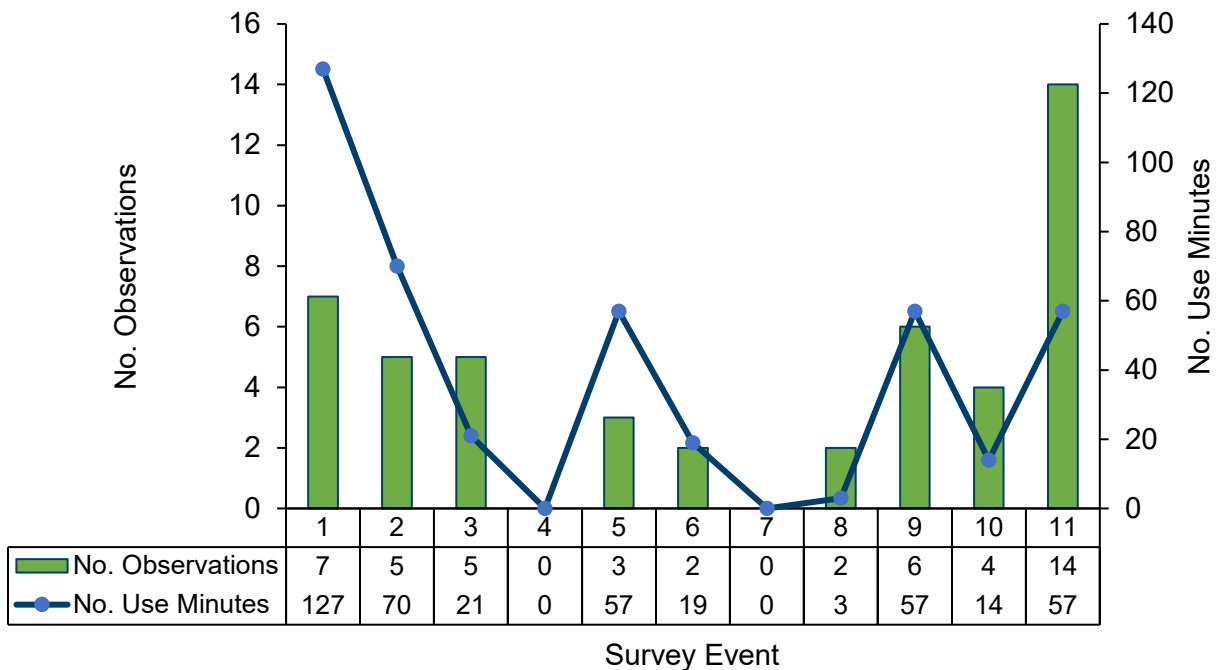
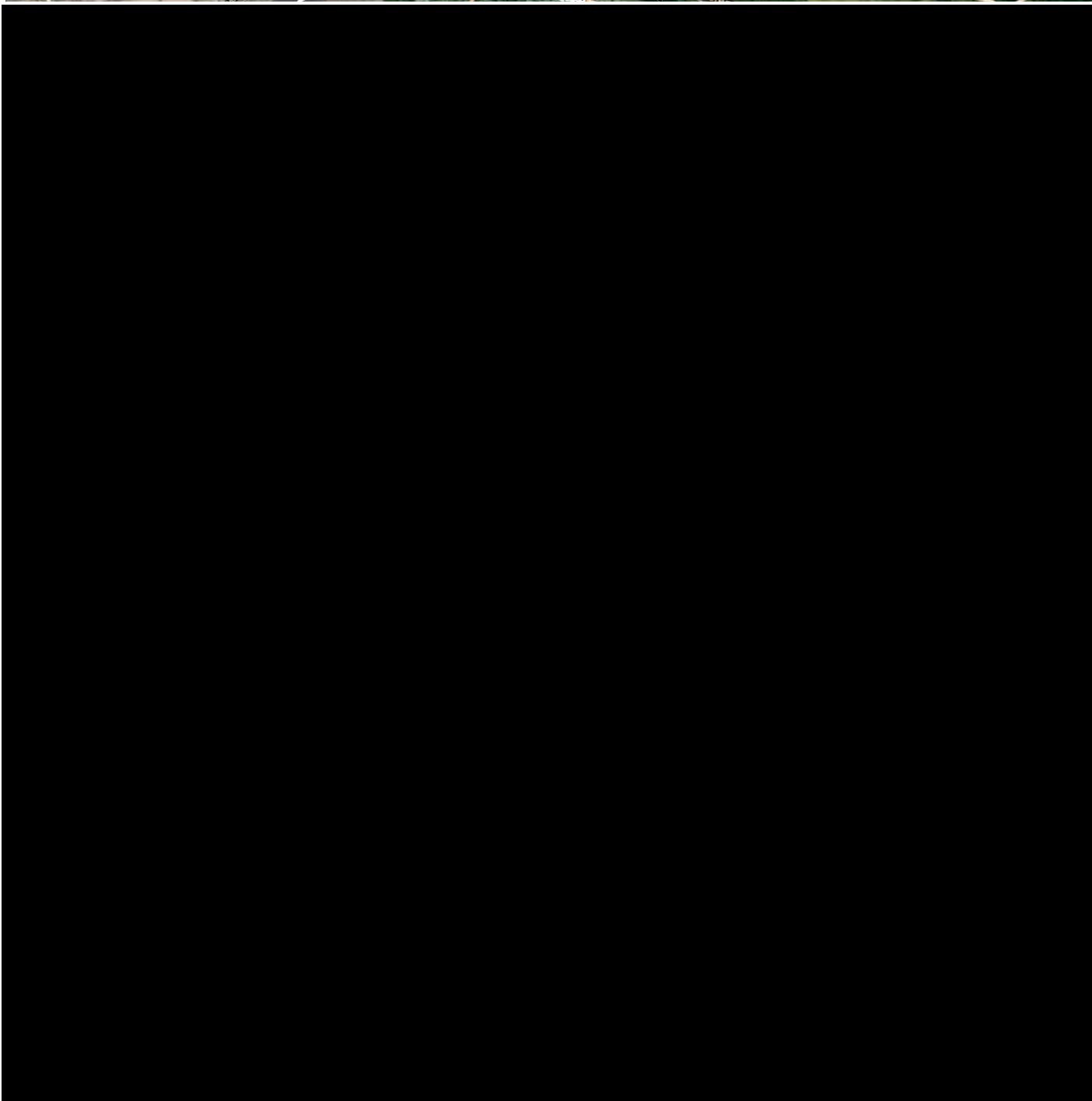


Figure 3. Number of Observations and Raptor Use by Survey Event for Stationary Surveys






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 Layout Name: Mill_Point_WinterRaptor_Survey.aprx

<p> PROPOSED PROJECT AREA</p> <p> DRIVING ROUTES</p> <p>OBSERVATIONS</p> <p> 0</p> <p> 0 - 1</p> <p> 1 - 2</p> <p> 2 - 10</p> <p>BASE MAP: ESRI WORLD IMAGERY MAP SERVICE DATA SOURCES: ESRI, TRC</p>	<p></p> <p>0 2,000 4,000</p> <p>FEET 1:48,000 1" = 4,000'</p> <p>New York Overview</p> <p>SITE LOCATION</p>	<p>PROJECT: CONNECTGEN - MILL POINT SOLAR PROJECT TOWN OF GLEN, MONTGOMERY COUNTY, NY</p> <p>TITLE: DISTRIBUTION AND FREQUENCY OF RAPTOR OBSERVATIONS DURING DAYTIME DRIVING SURVEYS</p> <table border="1"> <tr> <td>DRAWN BY: D. SWEENEY</td> <td>PROJ. NO.: 411360</td> </tr> <tr> <td>CHECKED BY: R. MONROE</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">FIGURE 4</td> </tr> <tr> <td>APPROVED BY: K. BARNSTEAD</td> </tr> <tr> <td>DATE: APRIL 2021</td> </tr> </table> <p></p> <p>10 MAXWELL DRIVE CLIFTON PARK, NY 12065 PHONE: 518-348-1190</p> <p>FILE: Mill_Point_WinterRaptor_Survey</p>	DRAWN BY: D. SWEENEY	PROJ. NO.: 411360	CHECKED BY: R. MONROE	FIGURE 4	APPROVED BY: K. BARNSTEAD	DATE: APRIL 2021
DRAWN BY: D. SWEENEY	PROJ. NO.: 411360							
CHECKED BY: R. MONROE	FIGURE 4							
APPROVED BY: K. BARNSTEAD								
DATE: APRIL 2021								



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	TITLE: WINTER RAPTOR SURVEY FLIGHT PATHS MAP	
New York Overview  SITE LOCATION	DRAWN BY: D. SWEENEY	PROJ. NO.: 411360
	CHECKED BY: R. MONROE	FIGURE 5
	APPROVED BY: K. BARNSTEAD	
	DATE: APRIL 2021	
		10 MAXWELL DRIVE CLIFTON PARK, NY 12065 PHONE: 518-348-1190
FILE:		Mill_Point_WinterRaptor_Survey

APPENDIX A

State-listed Wintering Grassland Raptor Survey Study Plan for Mill Point Solar Project

**State-listed Wintering Grassland Raptor Survey
Study Plan
for
Mill Point Solar Project
Town of Glen
Montgomery County, NY**

Prepared for:

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December 2020

REVISED 12.4.2020

TABLE OF CONTENTS

1.0 INTRODUCTION..... 1

 1.1 Project Description 1

 1.2 Purpose and Objectives 1

2.0 STUDY PROTOCOL..... 2

 2.1 Survey Site Selection 2

 2.2 Survey Protocol..... 2

 2.2.1 Number and Timing of Surveys..... 3

 2.2.2 Surveyor Preparedness..... 3

 2.2.3 Data Collection 4

 2.3 Data Entry and Analysis 6

 2.3.1 Data Entry 6

 2.3.2 Data Analysis 6

3.0 REFERENCES..... 8

FIGURES

Figure 1: Project Area Location

Figure 2: Proposed Winter Raptor Survey Locations

APPENDICES

Appendix A NYSDEC Survey Protocol for State-listed Wintering Grassland Raptor Species
Draft 2015

Appendix B Example Data Form

1.0 INTRODUCTION

1.1 Project Description

ConnectGen Montgomery County LLC, a subsidiary of ConnectGen LLC (the “Applicant”) is proposing to build the Mill Point Solar Project (the Project), an approximately 250-megawatt (MW) utility-scale solar energy generating facility located in the Town of Glen, Montgomery County, New York (Figure 1). The proposed Project will consist of photovoltaic panels and associated racking systems, a battery energy storage system, and associated infrastructure and facilities. The Project Area encompasses approximately 3,500 acres containing a mix of agricultural fields and forested areas within a rural residential area; however, Project Components will not require the full extent of lands within the Project Area.

Preliminary review of the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper (ERM), NYSDEC Environmental Assessment Form (EAF) mapper, and a project review from the New York Natural Heritage Program (NYNHP) did not indicate any known occurrences of state-listed wintering raptors within vicinity of the Project. However, portions of the Project Area may contain potential habitat for overwintering state-listed short-eared owl (*Asio flammeus*) (endangered) and northern harrier (*Circus hudsonius*) (threatened), specifically [REDACTED].

In order to characterize the over-wintering raptor community present within the Project Area, the Applicant is proposing to conduct winter raptor surveys following the *NYSDEC Survey Protocol for State-listed Wintering Grassland Raptor Species (Protocol)* (Appendix A). The following proposed Study Plan is modified from the *Protocol*.

1.2 Purpose and Objectives

The purpose of the winter raptor survey is to determine the presence and Project Area use by state-listed threatened/endangered grassland-obligate raptor species during the winter season. The two species targeted by these surveys are the state-listed short-eared owl (endangered) and northern harrier (threatened). Data will be used to assess presence and general patterns of habitat use by those species and other raptors identified within the footprint of the proposed Project.

The main objectives of this winter raptor survey are to:

- document and map presence and use of the Project Area by state-listed species;
- document presence and use of the Project Area by any non-listed raptor species observed during surveys; and
- document presence and use of the Project Area by any other state-listed species.

Information obtained from these surveys will help determine the need for additional comprehensive studies, regulatory review, and if necessary, avoidance, minimization, and/or mitigation strategies pursuant to 6 New York Codes, Rules, and Regulations (NYCRR) Part 182.

2.0 STUDY PROTOCOL

2.1 Survey Site Selection

Aerial imagery was used to determine potential habitat and locations for stationary points and driving routes with consideration of site-specific topographical conditions and visual obstructions. Eleven stationary survey points were selected which maximize visibility of potential habitat within the Project Area (Figure 2). Locations were sited where opportunities to view multiple fields from a single location could be maximized. Additionally, locations were sited at high points within the Project Area to ensure adequate visibility to 1,000 meters. Locations are depicted in Figure 2.

All survey locations are situated within potential habitat for over-wintering raptors (e.g., grasslands and open fields) at vantage points with clear visibility into the fields. Survey locations are situated along public rights-of-way or in participating parcels. Survey locations within parcels were placed along hedgerows or wooded areas to conceal surveyors from raptors flying overhead. Additionally, surveys may be conducted within or next to vehicles to conceal surveyors from raptors. All locations are no more than 1,000 meters apart where habitat occurs within the Project Area in compliance with the *Protocol*. Several locations also provide views of reference areas (e.g., grassland or open field habitat not located within the proposed Project Area or area to be developed), including S1, S3, S4, and S11 (Figure 2). Additionally, survey location S7 is located in non-participating parcels and will serve as a control site.

A driving survey route has been established along roads traversing the Project Area. Short-duration point counts will be conducted at pre-determined locations along the route which provide visibility of potential habitat for grassland wintering raptors from the public road.

Potential habitat was identified throughout the Project Area with visibility from Ingersoll Rd (County Highway [Co Hwy] 117), Auriesville Rd (Co Hwy 112), Logtown Rd (Co Hwy 110), Hyney Hill Rd (Co Hwy 123), Hall Rd, Fisher Road (Co Hwy 118), Van Epps Rd (Co Hwy 116), NY-30A, and Maple Avenue. One driving survey route consisting of 21 stops was selected along the above roadways. Driving stop locations have been established along the driving route where habitat is visible and within the Project Area, with stops placed approximately 0.5 miles apart where habitat occurs. Additionally, multiple driving route locations are outside of the proposed Project Area, and therefore will provide reference data for post-construction studies. Routes and survey stops are depicted on Figure 2. The survey route will generally be traversed in a circular pattern, starting in the east and heading south, before cutting across to the west, heading north, and then back to the southeast across the Project Area. Survey locations may be slightly adjusted in the field if necessary, to maximize visibility, safety, and accessibility.

2.2 Survey Protocol

The survey protocol for state-listed wintering grassland raptor surveys at the Project follows the *Protocol*. Surveys will be completed by rotating visits to the stationary survey points and completing the driving survey along public roads in areas of potential habitat, as depicted in Figure 2. Biologists will conduct visual scans with the naked eye and through binoculars and/or spotting scopes. In addition, biologists will listen for the identifying calls of the two target raptor species.

2.2.1 Number and Timing of Surveys

Surveys will be performed during the winter of 2020-2021 and conducted between November 15, 2020, and March 31, 2021, hereafter the “study period,” the primary time period during which short-eared owls and northern harriers typically occur at winter concentration areas. If short-eared owl, northern harrier, or any other state-listed threatened or endangered species are observed during the last two survey weeks in March, surveys can be extended through April 15, 2021, at the request of NYSDEC.

A total of ten complete surveys will occur during the study period. One complete survey encompasses stationary surveys at all 11 stations and one daytime driving survey along the driving route. Two complete surveys will occur every month during the study period, with each location and the driving route surveyed once during a two-week period. Given the timing constraints of the surveys, one biologist can only conduct one stationary survey per survey night. Surveys will be conducted individually, though multiple surveyors may be on site simultaneously. Approximately half of the stationary survey locations will be surveyed each week in order to maintain a weekly presence at the Project Area. Surveys will not be conducted during inclement weather that may interfere with either visibility or use of sites by raptors. This may include precipitation, fog, or moderate to strong winds (i.e., wind greater than 12 mph, or Beaufort Scale 3 or 4).

Stationary surveys will begin one hour before sunset and conclude when it is too dark to see flying birds, typically one-half hour after sunset or up to one hour after sunset if conditions such as snow cover and a full moon allow for observing flying birds after dark. This timing targets the time of day when overwintering raptors will be hunting and leaving/returning to their roosts.

The driving route will be surveyed once bi-weekly immediately prior to stationary surveys on the selected survey day, resulting in ten daytime driving surveys throughout the study. Surveys will be scheduled approximately 14 days apart; however, variable intervals may occur due to weather conditions. The driving survey is estimated to require up to two and a half hours to complete. On the day a driving route is to be driven, surveyors will commence the driving survey at least two and a half hours prior to the start time for stationary surveys to allow for the completion of the driving route survey and time to get into position for stationary surveys. Surveyors will follow a set route as depicted in Figure 2 and described in Section 2.1 of this Plan. Short observations of five minutes will be made at predetermined locations where habitat is visible from the road and safety is not compromised. In efforts to adhere to Centers for Disease Control (CDC) social distancing guidelines, driving surveys will be performed by a single observer. Where raptors are noted in between intended stopping locations, the driver will pull over as needed to confirm identification.

2.2.2 Surveyor Preparedness

Field biologists with experience conducting natural resource assessments, including rare, threatened, and endangered species assessments, will be selected for this study. Biologists will receive specialized training in bird observation and species identification, as well as the survey *Protocol*. Training will highlight the importance of concealing oneself next to a parked vehicle or hedgerow vegetation to lessen behavioral avoidance by northern harrier or short-eared owl during the stationary surveys. Biologists will be outfitted with Nikon Monarch 7 10x42 or binoculars of similar or higher quality.

In addition, surveyors will receive site-specific information prior to initiating field work to familiarize themselves with survey locations, driving routes, and the Project Area as a whole. Field staff will perform a desktop review to identify site-specific features that raptors may use for perching such as stacked hay bales, trees stumps, fence posts, utility poles, etc.

2.2.3 Data Collection

Detailed weather and bird observation data will be collected during each survey. All data will be entered into the cloud-based data management program Fulcrum® application which can be accessed by smart phone or tablet. An example data sheet is provided in Appendix B. Data will be collected for any raptor or owl species observed at the Project Area, as well as any listed bird species.

A data form will be completed for each survey, regardless of anything observed. General information that will be recorded on forms includes:

- client;
- project name;
- survey type (driving or stationary);
- survey location;
- visit number;
- date;
- observer name(s);
- survey start and end time;
- duration of survey (minutes); and
- sunset time.

2.2.3.1 Weather Observations

Weather conditions known to influence detectability of raptor species will be noted at the beginning of each survey and as conditions change significantly throughout the survey.

Parameters that will be recorded are:

- wind speed (recorded based on the Beaufort scale);
- wind direction (compass direction from which the wind is coming, or “variable”);
- temperature (degrees Fahrenheit);
- relative humidity (percent relative);
- barometric pressure (in mmHg);
- percent cloud cover;

- visibility (approximate distance in miles [mi]);
- precipitation; and
- snow depth (inches [in]) and condition (i.e., powder, crust, slush, etc).

2.2.3.2 Individual Bird Observations

Observations of any raptor or owl will be recorded continuously throughout each survey. When collecting data, surveyors will perform continuous scanning with the naked eye and with binoculars. The following data will be recorded for each bird observed:

- species (if possible);
- whether the raptor observation was an incidental sighting or not;
- count of individuals;
- first and last time observed;
- duration of observation (rounded to the nearest minute);
- age class (if possible);
- sex (if possible);
- behavior (such as circling, flapping, gliding, hunting, perching, soaring, or other);
- general compass bearing flight direction (S, SSW, NE, etc.);
- flight height (in feet);
- digital map of flight paths(s)/roost site(s)/etc. (as applicable); and
- any additional notes about the observation.

In the event a bird cannot be identified to the species level, it will be described to the greatest extent possible. For example, unknown raptors may be further described as “buteo” versus “accipiter,” or “large” versus “small”.

If short-eared owls or northern harriers are observed, documentation of behavioral observations will be as specific as possible, particularly when attempting to identify potential roost locations. Roost sites of short-eared owl and northern harrier will be identified by observing species-specific behaviors consistent with leaving or returning to roosts. For northern harriers, roost sites will be identified by observations of individuals dropping down to the ground and not taking flight again as it gets dark. Roost sites for short-eared owls will be located through observation of one or more short-eared owls taking flight from the ground in the evening. Additionally, any concentrated activity in an area at or near dusk, interactions between short-eared owls and northern harriers, and individuals coming and going or appearing from a hedgerow, swale, tall grasses, or other protected locations, will be noted as potential roost locations. Locations of these sites, and number of individuals using the roost, will be recorded in addition to the standard information recorded for all observations, if applicable. Additionally, perching locations and substrate will be recorded for northern harriers and short-eared owls. Any observed roost sites, foraging paths, or flight paths will be documented digitally, overlain on photos of the Project Map, and then attached

to the digital data sheet. This will allow the information to be depicted on a Project map in real time.

2.2.3.3 Additional and Incidental Observations

When it does not detract from the detection of target species, observations of non-raptor species, such as arctic songbirds and other wintering grassland residents (i.e., snow buntings (*Plectrophenax nivalis*), horned larks (*Eremophila alpestris*), and longspurs (*Calcarius spp.*)), and/or other animals will be recorded as “Additional Observations” on the digital data form. The time of the observation and a brief description of the observation will be recorded.

Raptor species, where observed outside of a regular survey period will be recorded as incidental observations and appended to the stationary survey data form for the survey being conducted on the evening of the observation. During driving route surveys, individuals observed between driving stops will not be considered incidental. These observations will be appended to the survey data form at the next driving route stop.

2.2.3.4 Field Quality Assurance and Quality Control

Digital data sheets will be reviewed for completeness and accuracy prior to leaving the survey site. Any problems noted will be rectified at that time. Forms will be further reviewed and verified by staff following each survey event.

Data will be analyzed concurrently with on-going field work to determine if the survey objectives are being met or will be met with the types of data and method of data being collected. Since similar protocols have been successfully utilized in other areas, only minor, if any, modifications should be needed during the course of the study, but since every Project Area is biologically and physically different, data will be frequently evaluated relative to the objectives. Any proposed changes to the protocols will be discussed with the NYSDEC prior to implementation, when possible.

2.3 Data Entry and Analysis

2.3.1 Data Entry

Data will be synced to Fulcrum® after every survey is complete to ensure no data is stored solely on the devices they are collected on. Flight paths and locations for listed and target species will be digitized over aerial maps of the Project and appended to data sheets within the Fulcrum® app. An overview map will be provided with the Survey Summary Report.

2.3.2 Data Analysis

The following summaries and statistics will be generated within the Winter Raptor Survey Summary Report, to address the objectives and goals of this study:

- species list;
- raptor use patterns;
- roost/foraging site locations of state-listed species; and

- flight paths and heights, by species and season for state-listed species.

Summaries of observations of state-listed species will be provided in the Winter Raptor Survey Summary Report and will include a description of duration of observation, sex and age of individual observed, behaviors recorded, flight paths (where applicable), and characteristics which were used to determine the identification to species level, if applicable.

The Winter Raptor Survey Summary Report will include tables and maps depicting information on all short-eared owls and northern harriers observed, particularly the dates and locations of individual observations and the survey type for each observation (stationary vs. driving points), as well as any potential/suspected roost locations.

Additionally, GIS shapefiles (.shp) depicting the following, will be submitted to the NYSDEC, when available:

- Project Area;
- parcels under control;
- panel locations;
- all other project components, as available;
- winter raptor stationary points and driving route/stops; and
- state-listed and special concern species observations for all wildlife surveys (not just the point observed from, but the location of the individual on the landscape, including dates, species, flight paths, behaviors, and survey type documented during (stationary vs driving)).

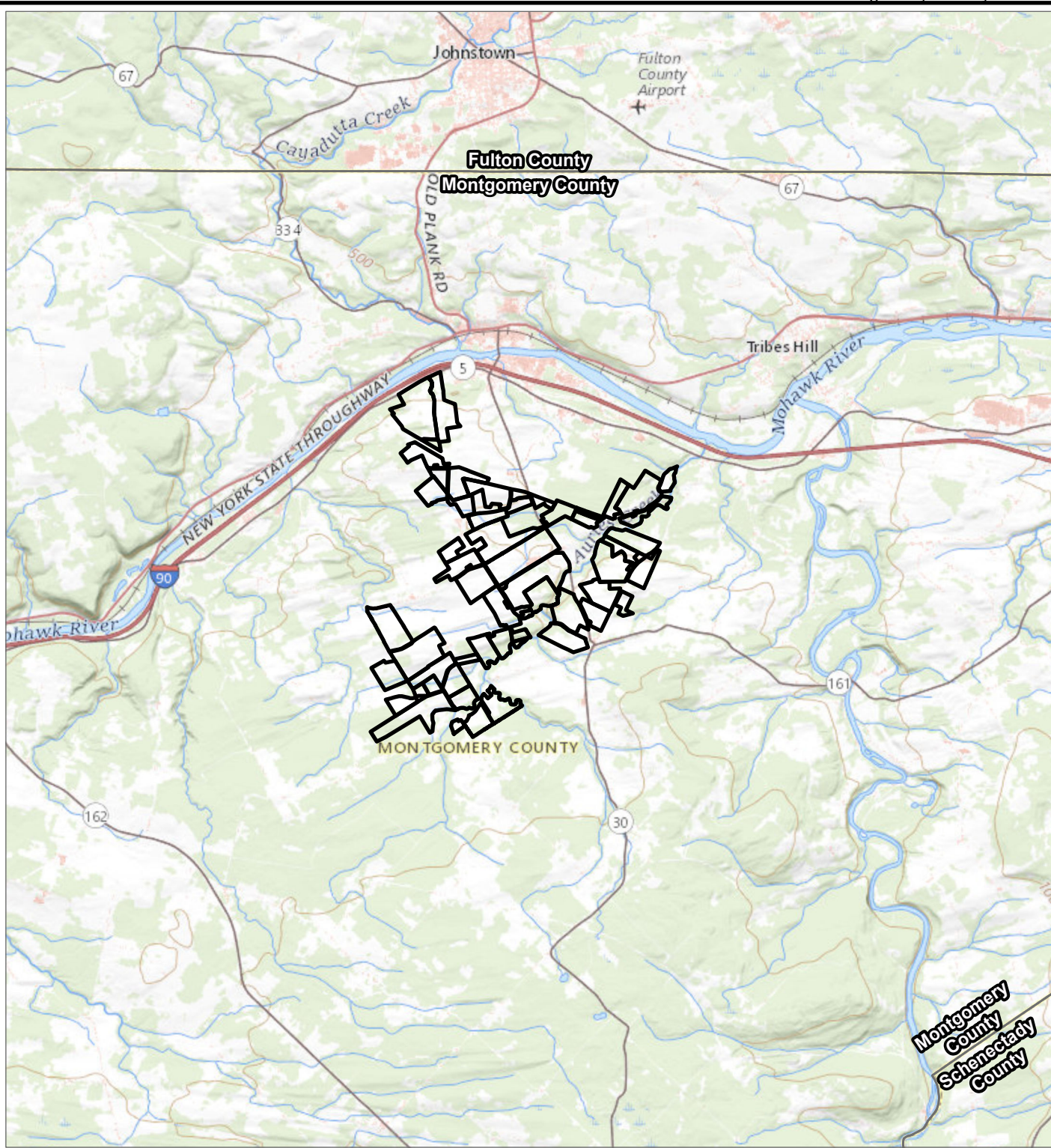
The Winter Raptor Survey Summary Report will also provide a conclusion as to whether more comprehensive studies may be necessary to assess the potential for the Project to negatively affect endangered or threatened wintering grassland raptor species.

3.0 REFERENCES

- NYSDEC. 2015. New York State Department of Environmental Conservation Survey Protocol for State -listed Wintering Grassland Raptor Species Draft 2015.
- Smith, K. G., S. R. Wittenberg, R. B. Macwhirter, and K. L. Bildstein (2011). Hen/Northern Harrier (*Circus cyaneus/hudsonius*), version 2.0. In *The Birds of North America* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.210>
- Wiggins, D. A., D. W. Holt, and S. M. Leasure (2006). Short-eared Owl (*Asio flammeus*), version 2.0. In *The Birds of North America* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.62>

FIGURE 1

PROJECT AREA LOCATION



PROPOSED PROJECT PARCELS
COUNTY BOUNDARY

BASE MAP: USGS NATIONAL MAP
 DATA SOURCES: TRC

0 5,000 10,000
 FEET
 1:120,000 1" = 10,000'

New York Overview

SITE LOCATION

PROJECT:
CONNECTGEN - MILL POINT SOLAR PROJECT
 TOWN OF GLEN
 MONTGOMERY COUNTY, NY

TITLE:
PROJECT AREA LOCATION

DRAWN BY:	R. BARBER	PROJ. NO.:	411360
CHECKED BY:	R. JORDAN	FIGURE 1	
APPROVED BY:	V. MITCHELL		
DATE:	NOVEMBER 2020		

TRC

10 Maxwell Drive
 Clifton Park, NY 12065
 Phone: 518-348-1190

FILE: Mill_Point_WinterRaptor_Survey

Coordinate System: NAD 1983 StatePlane New York East FIPS 3101 Feet; Map Rotation: 0
 - Saved By: RBARBER on 11/20/2020, 08:35:43 AM; File Path: T:\PROJECTS\ConnectGEN\411360-Mill_Point_Solar\2-APPX\Mill_Point_WinterRaptor_Survey.aprx; Layout Name: WRS_USGS_8x11

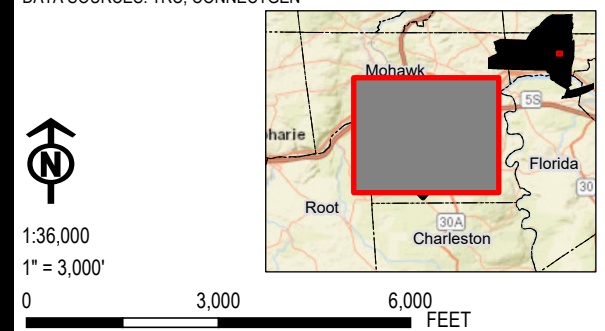
FIGURE 2

PROPOSED WINTER RAPTOR SURVEY LOCATIONS

Coordinate System: NAD 1983 StatePlane New York East FIPS 3101 Feet, Map Rotation: 0
 -- Saved By: R.BARBER on 12/4/2020, 07:09:59 AM, File Path: T:\PROJECTS\ConnectGen\411360\Mill_Point_Solar2\4PRX\Mill_Point_WinterRaptor_Survey.aprx, Layout Name: WRS_Aerial_11x17L

- PROPOSED DRIVING SURVEY LOCATION
- PROPOSED WRS LOCATION
- PROPOSED DRIVING ROUTE
- PROPOSED PROJECT PARCELS
- REFERENCE AREA
- MUNICIPAL BOUNDARY

BASE MAP: ESRI WORLD IMAGERY (NYS ITS GIS ORTHOS 4/24/2017)
 DATA SOURCES: TRC, CONNECTGEN



PROJECT: CONNECTGEN - MILL POINT SOLAR PROJECT TOWN OF GLEN MONTGOMERY COUNTY, NY	
TITLE: PROPOSED WINTER RAPTOR SURVEY LOCATIONS	
DRAWN BY: R. BARBER	PROJ. NO.: 411360
CHECKED BY: R. JORDAN	FIGURE 2
APPROVED BY: T. KONDAK	
DATE: DECEMBER 2020	
10 MAXWELL DRIVE CLIFTON PARK, NY 12065 PHONE: 518-348-1190	
FILE:	Mill_Point_WinterRaptor_Survey

APPENDIX A

**NYSDEC SURVEY PROTOCOL FOR STATE-LISTED
WINTERING GRASSLAND RAPTOR SPECIES DRAFT 2015**

New York State Department of Environmental Conservation
Survey Protocol for State-listed Wintering Grassland Raptor Species
DRAFT- 2015

These protocols describe requirements for determining presence and site use by state-listed threatened/endangered grassland raptor species during the winter season as part of the NYSDEC permit review process for a project application. These protocols specifically target the New York state listed Short-eared Owl (Endangered) and Northern Harrier (Threatened). Information obtained from surveys will be considered in determining the possible need for additional comprehensive studies (e.g., using radio-telemetry and/or night-vision optics), regulatory review and, if necessary, avoidance, minimization, and/or mitigation strategies pursuant to 6 NYCRR Part 182.9.

Survey Periods

Surveys should be conducted during the winter season, here defined as November 15-March 31, the primary time period during which Short-eared Owl and Northern Harrier often occur at winter concentration areas. At a minimum, surveys will be conducted every other week between November 15 and March 31, for a total of nine survey periods during the course of the winter season. Additional surveys may be required in April should Short-eared Owls and/or Northern Harrier be present at the project site during the second March survey period. When that occurs, applicants should discuss the possible need for April and/or breeding season surveys with NYSDEC.

Establishing Survey Points and Driving Routes

The primary survey method for wintering Short-eared Owl and Northern Harrier should consist of a regimented series of visual scans and observations with binoculars from one or more stationary points or “stations” within a given project area. A spotting scope may also be necessary to aid in making positive species identifications for birds perched far from a survey station. The total number of stations will depend on the size of the project area, the amount of grassland habitat within the project area, and the visibility of that grassland habitat from selected survey station(s). Survey stations should be situated in or near grassland habitat at vantage points with clear visibility in all directions, or most directions if stations are from roadside locations or edges of grasslands. Actual observations should be made from within or next to a vehicle or blind if the station is within an open grassland habitat. When the station is at the edge of grassland habitat, the observer(s) should be backed up to a hedgerow or other background feature at the edge of a grassland habitat, or within or next to a vehicle. Stations should not be located further than 1,000 meters from one another (observations have shown that birds seen at distances greater than 1,000 meters are less likely to be correctly identified to species), and the total number of stations need to provide full coverage of the grassland habitat within the entire project site.

Driving routes, where an observer drives between a series of roadside stops and conducts observations of a short duration from multiple stationary, roadside locations may serve as

an additional survey method for Northern Harrier. However, due to the short time period during which Short-eared Owls are active and visible before dark, driving surveys **cannot** be the sole survey method at a project site. Driving route(s) for a site should include all roads within the project site from which grassland habitat can be easily viewed. The number and distribution of roadside stops will be dictated by the length and distribution of roads in the project area, and what areas may be viewed from various roadside stops. Stops located approximately a half mile apart will typically allow for sufficient coverage.

Timing of Surveys

Because of the late afternoon/evening activity period of Short-Eared Owls, surveys for State-listed wintering grassland raptor species **must** be conducted during the 1 hour before sunset to ½ hour (or up to 1 hour) after sunset period described below. Daytime surveys and/or driving route surveys can be added as an additional survey method, but cannot replace the evening surveys.

Short-eared owls are crepuscular and nocturnal hunters and while they may occasionally, and at some sites, be active in the late afternoon, winter surveys conducted throughout New York State from 2008-2013 indicate that at many sites, they often do not leave their daytime roost to begin hunting until sunset or later, and sometimes just 5 or 10 minutes before full dark. Northern Harriers are diurnal and crepuscular raptors and may be seen hunting throughout the day, but are most active in the morning and late afternoon right up until sunset, when they can be observed landing at their nighttime roost site. In order to observe both species, surveys **must** be conducted from one hour before sunset until it is too dark to observe flying birds (up to one hour after sunset). On many nights, especially those with clear, moonlit skies, and on days with complete snow cover, birds can frequently be seen well after the official time of sunset. Therefore, the entire length of the survey will typically be 1.5 hours, but on some nights could be as long as 2.5 hours, depending on conditions and bird activity.

Conducting Surveys

These required surveys have two primary purposes: (1) documenting the presence (occupied habitat) or apparent absence of the target species, and (2) recording particular areas used by the target species, such as roost sites or foraging areas, within a project site. Both Short-eared Owls and Northern Harriers typically roost on the ground, though Short-eared owls may roost in conifers or thick hedgerows when snow becomes deeper than roughly 6 inches. At times, these two species may roost in close proximity to one another and Northern Harriers may be observed dropping to the ground at their nighttime roost just before dark at the same time that Short-eared Owls are leaving their daytime roost to begin foraging for the evening. The period surrounding sunset is particularly critical for the identification of likely roost locations and determining the number of individuals using them.

Surveys should not be conducted during inclement weather, including precipitation, fog, or moderate to strong winds (i.e. wind greater than 12 mph, or Beaufort Scale 3). Multiple

observers at different stations and/or multiple evenings will be needed to sufficiently cover most project sites for a given stationary survey period because the survey time constraints dictate that an observer can only cover one station per evening. Repeated trips on additional evenings may be necessary to adequately confirm species presence or suspected absence and to adequately document foraging and roost areas. For example, Short-eared Owls may fly considerable distances from roost sites to foraging areas. Appropriately stationing observers on subsequent nights farther out along these flight paths may be necessary to identify important foraging areas.

Observers conducting stationary surveys should scan the available grassland habitat throughout the course of the survey period. Particular attention should be paid to birds perching on fence posts, on utility poles, on hay bales, coursing low over the ground, or perched on the ground. Observers should also listen for the bark-like call of the Short-eared Owl and rapid series of *kek* calls of the Northern Harrier.

While one observer is sufficient for conducting stationary surveys at a given station, two observers are recommended if driving routes are conducted. As noted above, survey stops will typically be spaced approximately a half mile apart. Roadside surveys for other established bird monitoring programs vary from 3-5 minutes per survey stop and this should be considered a minimum time for the purposes of these winter grassland raptor surveys, though there would be no restriction regarding a longer observation time period. The length of the driving route and the number of points to be included would dictate whether stops last longer than 3-5 minutes. At each stop, the observer(s) should get out of the vehicle and scan the surrounding suitable open-country habitat in all directions for the 3-minute (or longer) observation period. For each raptor seen, record the time that each raptor is first observed and mark its location on a map. Behavior or activity notes must also be recorded. If a raptor is observed while driving between stops, the observation location and data should be recorded upon reaching the next stationary point.

Observations of other species during the stationary and driving surveys, as well as incidentally while on the project area (not necessarily during the survey period), should also be recorded on data sheets. Other species of interest include all state-listed endangered, threatened, and special concern species, all raptors (owls, hawks, falcons, eagles, osprey), shrikes, and arctic-breeding songbirds such as snow buntings, larkspurs, and pipits.

Recording Data

Data recorded for each survey must include: date; observer name(s); survey location (i.e. stationary survey locations and driving route stops, if any); start and end time of observation period; weather information (including temperature, wind speed, wind direction, snow depth, and cloud cover); number and identification of each species observed; individual behavior; and the location of target species relative to observer. Record Northern Harriers as male or female/juvenile. Observations of all raptors should also be documented, and birds identified to species, where possible. When species identification is uncertain, record "unidentified raptor", although "unidentified buteo" or

“unidentified accipiter” would be preferable where possible. Location coordinates for all Short-eared Owls and Northern Harriers must be provided or locations indicated on an aerial photograph or map of the survey area. Where raptors fly into or out of an area of visibility, indicate direction of flight on the maps. Foraging and roost areas should be clearly shown on the maps.

Specific behaviors to be noted for Short-Eared Owl and Northern Harrier include foraging (defined as flying low over vegetation, over in a back and forth pattern, and dropping to or toward the ground in an attempt to capture prey, at least once during the observation period), perching (as on elevated perches such as fence posts, utility poles, hay bales, on the ground, etc.), fly-through (i.e., straight-line flight such as when relocating between roosting and foraging areas), and roosting. Flight height and direction should be recorded for all raptors observed at proposed wind energy projects.

Any likely roost areas should also be noted on aerial photographs, maps, and data sheets. Roost areas would be suspected in cases where one or more Short-eared owls are observed arising from the ground or conifers in the evening and then begin flying and foraging activities, or where one or more Northern Harriers are active in an area near dusk and are then observed dropping to the ground, but not coming back up as it gets dark. Late winter surveys (late March and April) should specifically document any breeding behavior observed.

Reporting Requirements

A detailed, site specific work plan, including stationary survey locations and driving route stops, if they are to be used, should be developed and submitted to NYSDEC for review and written approval prior to the start of field work. A final report should be submitted to NYSDEC at the conclusion of each year of surveys. Final reports should include data sheets; maps (ideally recent aerial photographs); summaries of all observations of Short-eared Owls, Northern Harriers, and any other state-listed species; and a conclusion whether more comprehensive studies may be necessary to assess the potential for the project to negatively affect endangered or threatened winter raptor species.

APPENDIX B

EXAMPLE DATA FORM

[EXAMPLE SITE NAME], YYYY-MM-DD

Created YYYY-MM-DD [TIME] by [AUTHOR]

Updated YYYY-MM-DD [TIME] by [EDITOR]

Location [LATITUDE], [LONGITUDE]

Lead Observer

Additional Observers

Date YYYY-MM-DD

Client

Project Name

Survey Location

Survey Round

Survey Type *(Stationary or Driving)*

Survey Overview

Survey Start Time

Survey End Time

Duration of survey (minutes)

Sunset Time

Count of eagles observed

Count of owls observed

Count of raptors observed

Were any Northern Harrier observed today? Y/N

Were any Short-eared Owl observed today? Y/N

Survey Summary Comments

Weather Summary

Wind Speed *(select from the following choices: 0-Calm; 1-Light air; 2-Light breeze; 3-Gentle breeze; 4-Moderate breeze; 5-Fresh breeze; 6-strong breeze; 7-high wind, moderate gale, near gale; 8-gale, fresh gale; 9-strong/severe gale; 10-storm, whole gale; 11-violent storm, 12-hurricane force)*

Wind Direction

Temperature (F)

Relative Humidity

Barometric Pressure (inches)

Cloud Cover (percent)

Visibility (km)

Precipitation *(select from the following choices: 0-none; 1-Haze or Fog; 2-Drizzle; 3-Rain; 4-Thunderstorm; 5-snow; 6-wind driven dust, sand, or snow; other)*

Snow Condition *(select from the following choices: powder, crust, ice layer, granular, slush, and/or other)*

Snow Depth (inches)

Weather Comment

Weather Update

Time of weather observation

Wind Speed *(same choices as above)*

Wind Direction

Temperature (F)

Relative Humidity

Barometric Pressure (inches)

Cloud Cover (percent)

Visibility (km)

Precipitation *(same choices as above)*

Notes

**[RAPTOR OR OWL SPECIES OBSERVED,
NUMBER OF OBSERVATION]**

Survey Location

Observation Date

Species

Observation number

Count of individuals in group

Time first observed

Time last observed

Duration of observation (minutes)

Age *(select from "juvenile, adult, unknown, and/or other")*

Gender *(select from "male, female, unknown", and/or other")*

Behavior *(select from the following choices: circling, flapping, gliding, hunting, perching, soaring, and/or other")*

General Flight Direction

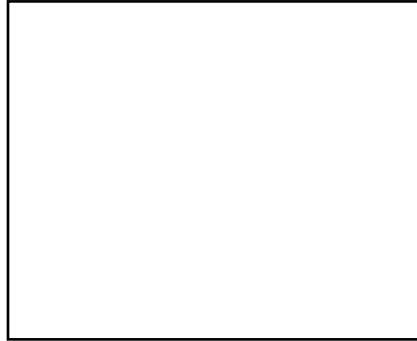
Flight Height (feet)

(select from the following choices: "1 to 25; 25 to 50; 50 to 100; 100 to 200; over 200, and/or other")

Notes

Map of Flight Path

(insert photo(s) of map with flight path or bird location drawn on it)



[Time of Additional Observation]

Time of observation

Describe observation

This is where you could write additional things you are seeing, for example "multiple geese flew overhead" or "chickadees and cardinals were observed". You can have multiple additional observations.

APPENDIX B

DATA FORM EXAMPLE

XX-S/D#-#, Project Name, YYYY-MM-DD

Created	YYYY-MM-DD [TIME] by [AUTHOR]
Updated	YYYY-MM-DD [TIME] by [EDITOR]
Location	[LATITUDE], [LONGITUDE]
Client	
Project Name	
Survey Type	(Stationary or Driving)
Survey Location	#
Visit Number	#
Survey ID	XX-S/D#-# (two letter code of Project Name- S for stationary or Driving -Survey Location # -Visit #)
Date	YYYY-MM-DD
Lead Observer	Name
Additional Observers	Name(s)

Survey Overview

Survey Start Time	
Survey End Time	
Duration of survey (minutes)	
Sunset Time	
Count of eagles observed	
Count of owls observed	
Count of raptors observed	
Were any Northern Harrier observed today?	Yes/No
Were any Short-eared Owl observed today?	Yes/No
Survey Summary Comments	

Weather Summary

For driving surveys fill out weather summary on first stop. Update weather if needed in the Weather Update fields

Wind Speed	(select from the following choices: 0-Calm; 1-Light air; 2-Light breeze; 3-Gentle breeze; 4-Moderate breeze; 5-Fresh breeze; 6-Strong breeze; 7-High wind, moderate gale, near gale; 8-Gale, fresh gale; 9-Strong/severe gale; 10-Storm, whole gale; 11-Violent storm, 12-Hurricane force)
Wind Direction	
Temperature (F)	
Relative Humidity	

Barometric Pressure (inches)

Cloud Cover (percent)

Visibility (km)

Precipitation *(select from the following choices: 0-none; 1-Haze or Fog; 2-Drizzle; 3-Rain; 4-Thunderstorm; 5-Snow; 6-Wind driven dust, sand, or snow; other)*

Snow Condition *(select from the following choices: powder, crust, ice layer, granular, slush, none, and/or other)*

Snow Depth (inches)

Weather Comment

Weather Update

Time of weather observation

Wind Speed *(same choices as above)*

Wind Direction

Temperature (F)

Relative Humidity

Barometric Pressure (inches)

Cloud Cover (percent)

Visibility (km)

Precipitation *(same choices as above)*

Notes

**[RAPTOR OR OWL SPECIES OBSERVED,
NUMBER OF OBSERVATION]**

Observation Site *(Survey ID)*

Observation Date *MM/DD/YY*

Species

Observation number

Incidental? *Yes/No*

Count of individuals in group

Time first observed

Time last observed

Duration of observation (minutes)

Age *(select from "juvenile, adult, unknown, and/or other")*

Gender *(select from "male, female, unknown", and/or other")*

Behavior *(select from the following choices: circling, flapping, gliding, hunting, perching, soaring, and/or other")*

General Flight Direction

Flight Height (feet) *(select from the following choices: "1 to 25; 25 to 50; 50 to 100; 100 to 200; over 200, and/or other")*

Notes

Map of Flight Path *(insert photo(s) of map with flight path or bird location drawn on it)*



[Time of Additional Observation]

Additional Observation Site *(Survey ID)*

Time of observation

Describe observation

APPENDIX C

List of Avian Species Observed

Common Name	Scientific Name	Listing Status ¹
American Crow	<i>Corvus brachyrhynchos</i>	-
American Kestrel	<i>Falco sparverius</i>	-
American Robin	<i>Turdus migratorius</i>	-
Black-capped Chickadee	<i>Poecile atricapillus</i>	-
Blue Jay	<i>Cyanocitta cristata</i>	-
[REDACTED]	[REDACTED]	[REDACTED]
Dark-eyed Junco	<i>Junco hyemalis</i>	-
Eastern Bluebird	<i>Sialia sialis</i>	-
Eastern Meadowlark	<i>Sturnella magna</i>	HPSGCN
European Starling	<i>Sturnus vulgaris</i>	-
[REDACTED]	[REDACTED]	[REDACTED]
Killdeer	<i>Charadrius vociferus</i>	-
Mallard	<i>Anas platyrhynchos</i>	-
Mourning Dove	<i>Zenaida macroura</i>	-
Northern Cardinal	<i>Cardinalis cardinalis</i>	-
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
Red-tailed Hawk	<i>Buteo jamaicensis</i>	-
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	-
[REDACTED]	[REDACTED]	[REDACTED]
Snow Bunting	<i>Plectrophenax nivalis</i>	-
Song Sparrow	<i>Melospiza melodia</i>	-
Turkey Vulture	<i>Cathartes aura</i>	-
Wild Turkey	<i>Meleagris gallopavo</i>	-
White-breasted Nuthatch	<i>Sitta carolinensis</i>	-

Notes:

1 SE = State Endangered

ST = State Threatened;

SSC = Species of Special Concern;

HPSGCN = High Priority Species of Greatest Conservation Need.

APPENDIX D

SURVEY DATA SHEETS *(provided as zipped file)*

APPENDIX E

GIS SHAPEFILES (*provided as zipped file*)