Appendix 12-C

Winter Raptor Survey Report

Chateaugay Wind Repowering Project
Matter No. 23-03031

REDACTED

WINTERING GRASSLAND RAPTOR SURVEY

CHATEAUGAY WIND REPOWERING PROJECT TOWN OF CHATEAUGAY, FRANKLIN COUNTY, NEW YORK

AES CLEAN ENERGY INC.

PROJECT NO.: US-WSP-31403295.029-B6151
DATE: JUNE 2024

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TABLE OF CONTENTS

TABLE OF CONTENTS

TABLES

FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
mph	miles per hour
NYSDEC	New York State Department of Environmental Conservation
ORES	Office of Renewable Energy Siting
Project	Chateaugay Wind Repowering Project
WGR	Wintering Grassland Raptor
WSP	WSP USA Inc.

1 INTRODUCTION

1.1 BACKGROUND

AES Clean Energy, Inc. (AES) is proposing to repower and operate the Chateaugay Wind Repowering Project (Project) in Chateaugay, Franklin County, New York. Figure 1-1 presents the proposed Project Boundary at the time of the wintering grassland raptor (WGR) surveys. Throughout this document, "Study Area" refers to project parcels that form a general boundary around the site, while "Project Boundary" refers to the specific areas of the project construction limit of disturbance with a surrounding 100-foot buffer, according to the current construction plan.

WSP USA Inc. (WSP) conducted WGR surveys at the Study Area from November 27, 2023, to April 12, 2024. An avian study plan was submitted to the Office of Renewables Energy Siting (ORES) in compliance with 19 New York Codes, Rules and Regulations § 900-1.3(g) on December 11, 2023 (WSP 2023). ORES reviewed the avian study plan, which was prepared according to the New York State Department of Environmental Conservation (NYSDEC) *Survey Protocol for State-Listed Wintering Grassland Raptor Species* (2021). ORES provided comments on December 21, 2023. WSP responded to comments via email on January 9, 2024. The objectives of the WGR surveys were as follows:

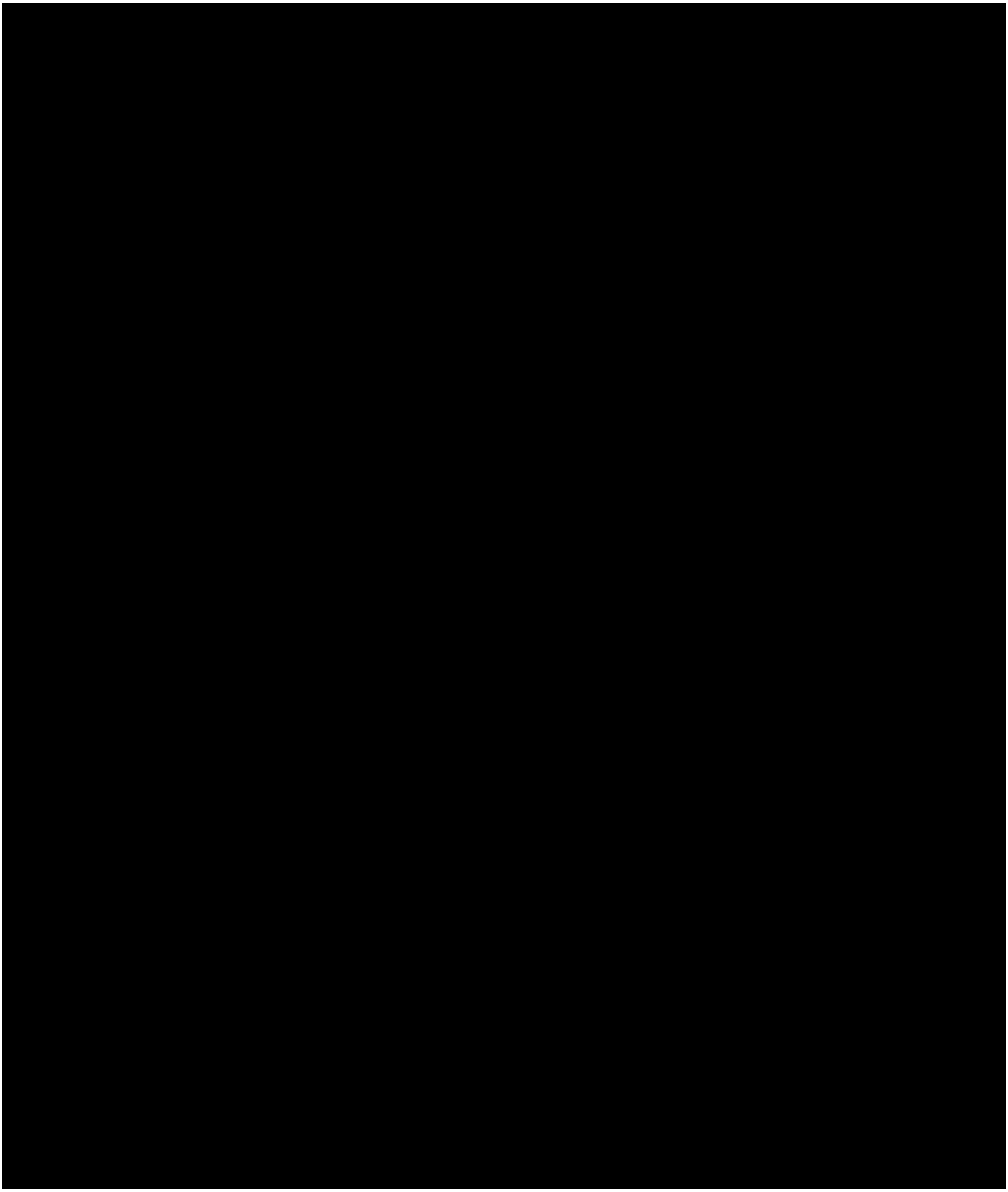
1. Collect information on the presence of state-listed WGR species within the Study Area.
2. Document particular areas used by state-listed WGR species, such as foraging areas or roost sites, within the Study Area.
3. Report the baseline data resulting from surveys.

Data collected during the surveys will also be used to review whether suitable or occupied habitat for bird species listed as threatened or endangered by New York State or the U.S. Fish and Wildlife Service is identified within the Study Area as part of the New York Public Service Law Article VIII application process.

The methodology and results of the 2023/2024 WGR survey effort are summarized in this report.

1.2 STUDY AREA

The Study Area comprises project parcels that contain the proposed Project Boundary. The Study Area encompasses approximately 5,423 acres in Franklin County, New York. Figure 1-1 depicts the boundaries of the Project Boundary, Study Area, and the land cover types within these areas. The elevation at the Study Area is approximately 1,260 feet (384 meters) above sea level. Based on data from the 2021 National Land Cover Database, most of the land cover within the parcels are made of cultivated crops or deciduous forest (each approximately 28 percent) (USGS 2021). Other dominant land cover types throughout the Study Area include hay/pasture (19 percent), woody wetlands (8 percent), mixed forest (7 percent), and evergreen forest (5 percent). The remaining habitat types (e.g., open water, developed spaces, scrub/shrub, herbaceous, and emergent herbaceous wetlands) each consist of less than 3 percent of the Study Area acreage. Site reconnaissance is consistent with the 2021 National Land Cover Database dataset.



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2 METHODS

2.1 STUDY DESIGN

The primary focus of the WGR surveys was to collect information on the occurrence and distribution of WGR species within the Study Area, with special attention given to New York State-listed raptor species, such as the [redacted]. Survey methods to assess winter raptor use and distribution in the Study Area were established in accordance with the study plan (WSP 2023).

Per NYSDEC guidance, both stationary evening surveys and daytime driving route surveys were employed to assess winter raptor use of the Study Area and their distribution (NYSDEC 2021). The number of survey points selected provided full visual coverage of all open habitats greater than 25 acres in size in which new turbines and disturbance areas are proposed. Fields that are not proposed for new construction were not included in the study. Stationary and driving route survey locations were selected to be situated in potential open habitat within the Study Area available for [redacted]For these surveys, open habitat refers to all fields, including those in pasture, row crop, hay, alfalfa, or other field crop grown during the previous growing season; grasslands; fallow fields; early successional fields or shrubland with sparce woody growth; and wet meadows or marsh land. Stationary and driving survey locations were placed in or near open habitat at vantage points with clear visibility of the open habitat and adjusted as necessary for the surveyor's safety.

In consultation with ORES, WSP identified 17 stationary evening survey locations in open habitat that provided a wide field of view in areas with new turbines and disturbance areas. The location of each stationary evening survey point, along with a field visibility analysis for each stationary evening survey point, is presented in Figure 2-1. A description of the habitat within a 1,000-meter radius of each stationary evening survey location is provided in Table 2-1. Photos taken from each stationary point are provided in Appendix A.

Stationary evening surveys were conducted at the stationary points once per survey period from November 27, 2023, through April 12, 2024. WSP was unable to survey in period 1 because of land access constraints for all survey point locations. Per NYSDEC protocol, the surveys would continue into April 2024 if any [redacted] were documented in the second half of March (NYSDEC 2021). WSP field biologists recorded [redacted]; thus, an additional survey was conducted in April. Ten of the stationary points had 18 survey visits, including the visit in April 2024. Five of the stationary point surveys began in period 3 due to land access constraints. These points had 17 survey visits, including during the April survey period. Stationary points SP16 and SP17 were added January 2, 2024, in response to comments from ORES, and schedules were adjusted to allow 17 visits on a shorter timeline.

Based on the selection criteria outlined in NYSDEC's guidelines (NYSDEC 2021), the daytime driving route survey involved stopping at 18 designated roadside points either during a one-day

survey, or the driving route was divided and completed over two days. The survey locations were selected throughout the Study Area with preference given to locations from which open habitat can be easily viewed (see Figure 2-1). Table 2-1 provides a description of the habitat within a 1,000-meter radius of each daytime driving route survey location. A driving route survey was performed each survey period (18 surveys total, conducted approximately weekly) from late November 2023 through early April 2024.

Table 2-1 Habitat Description within a 1,000-meter Radius of Stationary Survey Locations (S) and Driving Survey Locations (D) at the Chateaugay Wind Repowering Project.

Point ID	Habitat Description
SP1	Cornfields to the north, hayfields to the south, fragmented woods along the outskirts with some residential properties interspersed along the highway and the north, and a fenced facility to the southeast.
SP2	Hayfields fields to the north and east intermixed with patches of overgrown grasses in the deeper narrow valleys. Hayfields to the west and a cornfield to northwest. Fragmented woods bordering the outer edges of the viewshed.
SP3	Predominately hayfield habitat in surrounding fields with windbreaks to the southwest and southeast. Woods surrounding the outer edges of the viewshed.
SP4	Hayfield to the north and southeast and southwest. Hedgerows/berms to the north and south with overgrown areas along the edges. Fragmented woods bordering the outer edges of the radius.
SP5	Two small cornfields separated by windbreaks and surrounded by woods. The western cornfield obscured by the windbreak/berm.
SP6	Mostly cornfields surrounding the immediate vicinity of point. Residential properties and a metal barn to the northeast. Hayfields further east past the highway and woods surrounding the cornfields.
SP7	Fields of corn stubble in the nearby vicinity with windbreaks separating cornfields. Old farming equipment to northeast with scrub-shrub habitat. Woods further to the north and south past the cornfields.
SP8	Cornfields to the north and southwest, and an overgrown field or wet meadow to the immediate southeast. Some scrub-shrub habitat is barely visible through the northwest windbreak. Windbreaks and fragmented woods surrounding the outer edge of the radius.
SP9	Corn stubble in the surrounding fields, intermixed with windbreaks or hedgerows. Woods to the southwest and east. Residential and rural properties to the north and south.
SP10	Hayfields in the eastern field with windbreaks to the east and north. Fragmented woods to the west.
SP11	Multiple fields of corn stubble from north to southeast. Past the southern windbreak, a field of hay. Wooded areas north, southeast, and southwest.
SP12	Large fields of corn stubble to the south with woods to the north, east, and west.
SP13	A large field of corn stubble to the south. A rural building and barn to the north, with woods to the east and a windbreak to the west.

Table 2-1 Habitat Description within a 1,000-meter Radius of Stationary Survey Locations (S) and Driving Survey Locations (D) at the Chateaugay Wind Repowering Project.

Point ID	Habitat Description
SP14	Multiple fields with corn stubble surrounding the point. Fragmented woods and windbreaks within and surrounding the cornfields. A residential property to the south.
SP15	Corn stubble fields dominate east and west with fragmented woods and windbreaks separating fields. Residential properties to the south.
SP16	A small field with corn stubble dominates the view with several windbreaks separating other cornfields. To the north is a wooded area.
SP17	Some large cornfields separated by a windbreak to the north. A large hayfield to the south with a metal barn. Further southwest is a sparse patch of scrub-shrub habitat with old farmer berms. Larger patches of woods border the edges of the viewshed.
DP1	Cornfields to the north, hayfields to the south, fragmented woods along the outskirts with some residential properties interspersed along the highway and to the north, and an old reform school to the southeast.
DP2	Hayfield and a residential lawn to the north; fragmented woods and a residential property to the south.
DP3	Hayfields to the north and east intermixed with patches of overgrown grasses in the deeper narrow valleys. Hayfields to the west and a cornfield to northwest. Fragmented woods bordering the outer edges of the viewshed.
DP4	Predominately hayfield habitat with windbreaks to the southwest and southeast. Woods surrounding the outer edges of the viewshed.
DP5	Multiple fields with corn stubble surrounding the point. Fragmented woods and windbreaks within and surrounding the cornfields. A residential property to the north.
DP6	Cornfields to the immediate west of point. Residential properties and a metal barn to the northeast. Hayfields with a windbreak to the east past the highway and woods surrounding the cornfields and to the north.
DP7	Corn stubble fields to the east and west with fragmented woods and windbreaks separating fields. Residential properties to the south.
DP8	Corn stubble in the surrounding fields, intermixed with windbreaks or hedgerows. Woods to the southwest and east. Residential and rural properties to the north and south.
DP9	Hayfields to the east with windbreaks to the east and north. Fragmented woods to the west.
DP10	Hayfields to the north and south. Patches of woods and windbreaks to the east and west.
DP11	Cornfields, separated by windbreaks, dominate this point with some woods to the south.
DP12	Corn stubble to the south, with woods nearby to the southeast, and a fallow field/wet meadow to the north.
DP13	Large fields of corn stubble to the south with woods to the north, east, and west.
DP14	Hayfield to the immediate east and corn stubble to the west, with other crop fields farther away in those directions surrounded by windbreaks. Woods to the northwest.

Table 2-1 Habitat Description within a 1,000-meter Radius of Stationary Survey Locations (S) and Driving Survey Locations (D) at the Chateaugay Wind Repowering Project.

Point ID	Habitat Description
DP15	A couple of large cornfields, separated by a windbreak to the north. A large hayfield to the south with a metal barn. Larger patches of woods border the edges of the viewshed.
DP16	A large cornfield to the north, patchy scrub-shrub habitat to the south with old farmer berms and hayfields to southwest and southeast.
DP17	Predominantly hayfields to the south with some patchy unmanaged valleys. To the north and northwest, there are several rural buildings and properties. To the east, a patch of woods.
DP18	Predominantly cornfield intermixed with windbreaks and surrounded by fragmented woods. To the south, there are several rural buildings.

2.2 FIELD METHODS

2.2.1 STATIONARY EVENING SURVEYS

Ten stationary points were surveyed 18 times, from survey periods 2 through 19 (no surveys were conducted during period 1 due to land access constraints). Five of the stationary points were surveyed 17 times from period 3 through 19 due to land access constraints early in the season. Two stationary points were added later in response to comments from ORES and schedules were adjusted to allow 17 visits on a shorter timeline. During a stationary evening survey, the avian surveyor scanned the open habitat with binoculars or a spotting scope to look for and identify raptors using the Study Area. Stationary surveys were conducted from 1 hour before sunset to 0.5 hours after sunset, which could be [redacted] or favorable visibility conditions were present. During the survey, the avian surveyors paid particular attention to birds perching on fence posts, utility poles, and hay bales; coursing low over the ground; or perching on the ground. Observers were familiar with and listened for the [redacted]

2.2.2 DAYTIME DRIVING ROUTE SURVEYS

One driving survey was conducted for each of the 19 survey periods (excluding period 1), approximately one week apart. Each driving survey involving stops at 18 roadside points. At each driving point, a WSP avian surveyor exited their vehicle and scanned the surrounding open areas for a 5-minute period before recording the data and proceeding to the next roadside point. Additional time was spent at a point if one of the target species was observed, to the extent practicable. The surveyor stopped to document the incidental occurrence of any raptors observed during transit between points. The location of the sighting was noted; for analysis, these individuals were categorized to the nearest driving survey point. Driving surveys were conducted during the

afternoon and took place on the same days as a stationary survey. The driving route surveys started in the early afternoon with a duration of approximately 3 hours. Due to the duration of the driving survey, some surveys were split into a northern half and southern half, and two surveyors each completed half of the route. This allowed sufficient time to complete the driving survey before beginning the stationary survey on the same day.

2.2.3 DATA COLLECTION

Data recorded during the stationary and driving surveys included weather conditions, local snow depth, and detailed avian observation data including:

- Species, number of individuals observed, age, and sex
- Direction of the individual(s) from the observer
- Behaviors observed
- Flight direction and flight height (if applicable)
- The probability of whether the individual had been observed previously
- Habitat where the individual was observed
- Notes detailing potential roosting, migration, or breeding behaviors
- Additional details for any federally and state-listed threatened or endangered bird species encountered

Flight paths of state-listed species were sketched on aerial imagery in the field. Flight directions were noted when raptors were observed flying into or out of an area of visibility. [redacted] were noted to the best extent practicable. Non-raptor bird species encountered during the surveys were recorded as incidental observations. Additional details were noted for any federally and state-listed threatened or endangered bird species encountered as well as other grassland bird species (e.g., Horned Lark [*Eremophila alpestris*], Snow Bunting [*Plectrophenax nivalis*], and Lapland Longspur [*Calcarius lapponicus*]), provided such observations did not detract from the detection of winter raptors.

2.3 DATA ANALYSIS

Following each survey day, data sheets were scanned and uploaded to a secure server, and data were entered into a Microsoft Excel spreadsheet. Flight path sketches were drawn in Google Earth. Prior to any analysis, the data were checked for accuracy and completeness.

Data were analyzed from each survey location using raptor abundance and species richness as baseline measures. Abundance was calculated as the number of sightings for each raptor species at each survey point for stationary and driving surveys over the entire survey period. Species composition was generated as a list of all raptor species observed, while species diversity was the number of species observed at each stationary or driving survey point over the entire survey period. Sighting rate was calculated as the total number of sightings divided by hours of effort. The duration of each visit to a stationary point was a minimum of 1.5 hours, while the duration of each visit to a driving survey point was a minimum of 5 minutes; however, the unit of sighting

rate (sightings per hour) was used for stationary and driving surveys for consistency and ease of comparison. Sighting rate was used to calculate raptors per hour by survey point and by survey period for both stationary and driving surveys.

Relative abundance was calculated as the proportion of the number of each species relative to the total sightings for the entire survey period. Species frequency was calculated as the percentage of stationary or driving surveys in which a raptor species was observed.

2.4 SPECIES OF CONCERN

All federally and state-listed threatened and endangered species and species of special concern were identified and recorded, along with the number observed, survey point, approximate location and/or flight path, behavior, and date and time observed. The data recorded for target species are otherwise consistent as described in Section 2.2.3. Shapefiles of point count survey locations and any sightings of all federally or state-listed threatened and endangered species were provided to ORES separately.

2.5 INCIDENTAL OBSERVATIONS

Incidental observations included non-raptor bird species that were identified during stationary and driving surveys. The surveyor recorded the species and number for these incidental observations, provided such observations did not detract from the detection of winter raptors. Given the relatively brief amount of time spent at each driving survey point, incidental observations during driving surveys were rarely recorded. The incidental data were not used in the final quantitative analysis.

2.6 WEATHER CONDITIONS

Surveys were completed during appropriate weather conditions to allow target species to be detected. Surveys were generally not conducted during periods of precipitation, fog, or moderate to strong winds (i.e., sustained wind speeds greater than 12 miles per hour [mph], or Beaufort Scale 3), although some stationary surveys experienced periods of precipitation or maximum winds greater than 12 mph. If a survey location experienced sub-optimal weather conditions during one visit, surveyors made a point to time the next survey at that location during optimal weather conditions.

Weather data, including temperature, cloud cover, and wind speed and direction, were recorded at the start of each stationary survey and driving survey. Temperature, wind speed, and wind direction were obtained using the Wunderground or Weather Channel mobile application and verified by the surveyor’s observations in the field. The surveyor also estimated cloud cover.

2.7 QUALITY ASSURANCE AND QUALITY CONTROL

Field staff were responsible for reviewing their data forms for completeness, accuracy, and legibility at the end of each survey date. The data were reviewed by the project manager for quality assurance. Irregular or potentially questionable data were flagged and discussed with field personnel.

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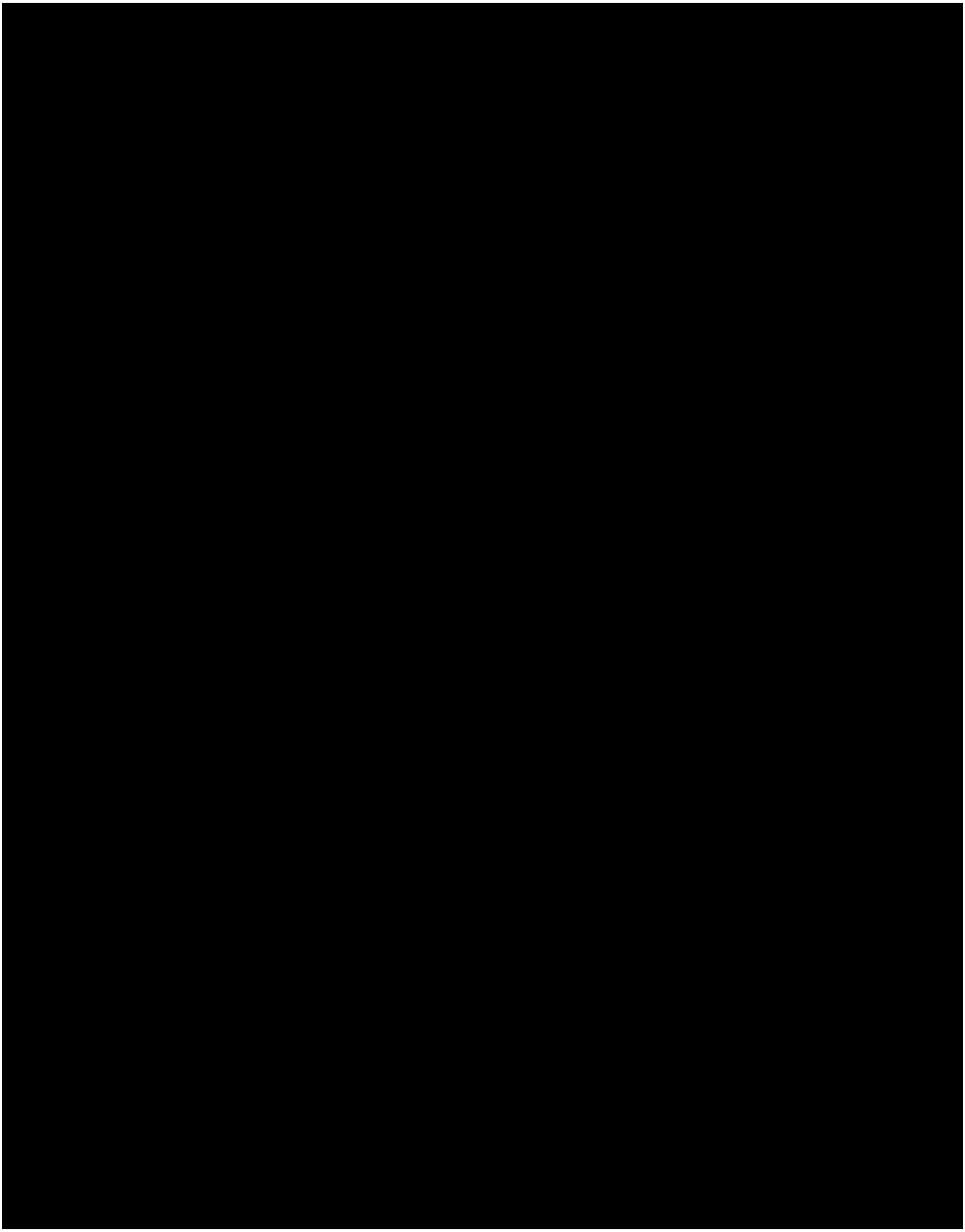

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3 RESULTS

3.1 SURVEY OVERVIEW

WSP conducted a total of 299 stationary surveys (475.5 hours of survey effort) and 18 driving surveys (324 driving stops; 27.0 hours of survey effort) from November 27, 2023, through April 12, 2024 (see Table 3-1). Occasionally, inappropriate weather conditions prevented some stationary points from being surveyed during the correct period. In all cases, missed stationary points were surveyed as soon as weather conditions allowed.

[redacted] Full survey results are presented in Appendix B.

Table 3-1 Summary of Survey Dates per Stationary Point and the Driving Route, Chateaugay Wind Repowering Project, November 2023 through April 2024

Survey Point	November	December	January	February	March	April	Total Surveys
SP1	11/27	12/7, 12/13, 12/21, 12/28	1/5, 1/14, 1/19, 1/24	2/1, 2/10, 2/18, 2/26	3/5, 3/17, 3/21, 3/27	4/7	18
SP2	11/27	12/2, 12/14, 12/18, 12/23	1/3, 1/11, 1/17, 1/23	2/2, 2/12, 2/20, 2/29	3/8, 3/13, 3/19, 3/23	4/9	18
SP3	11/28	12/4, 12/14, 12/22, 12/27	1/5, 1/10, 1/15, 1/19	2/1, 2/11, 2/22, 2/27	3/5, 3/11, 3/20, 3/27	4/5	18
SP4	–	12/5, 12/13, 12/18, 12/23	1/5, 1/12, 1/19, 1/24	2/1, 2/10, 2/17, 2/24	3/6, 3/12, 3/19, 3/26	4/8	17
SP5	–	12/6, 12/16, 12/20, 12/29	1/8, 1/15, 1/22, 1/31	2/3, 2/8, 2/16, 2/25	¾, 3/13, 3/18, 3/25	4/2	17
SP6	11/30	12/9, 12/13, 12/20, 12/30	1/6, 1/16, 1/22, 1/30	2/7, 2/14, 2/20, 2/26	3/5, 3/11, 3/19, 3/24	4/10	18
SP7	–	12/5, 12/12, 12/19, 12/29	1/6, 1/16, 1/21, 1/30	2/7, 2/15, 2/21, 2/28	3/6, 3/14, 3/21, 3/28	4/9	17
SP8	–	12/6, 12/15, 12/22	1/1, 1/9, 1/15, 1/21, 1/27	2/6, 2/11, 2/17, 2/27	3/7, 3/12, 3/18, 3/24	4/8	17
SP9	11/29	12/8, 12/15, 12/20, 12/31	1/6, 1/10, 1/15, 1/22, 1/27	2/6, 2/12, 2/24	¾, 3/16, 3/21, 3/28	4/5	18
SP10	11/30	12/12, 12/14, 12/22, 12/28,	1/5, 1/13, 1/21, 1/28	2/2, 2/13, 2/19	3/1, 3/7, 3/13, 3/20, 3/26	4/6	18

Table 3-1 Summary of Survey Dates per Stationary Point and the Driving Route, Chateaugay Wind Repowering Project, November 2023 through April 2024

Survey Point	November	December	January	February	March	April	Total Surveys
SP11	–	12/7, 12/13, 12/18, 12/30	½, 1/11, 1/18, 1/23, 1/31	2/11, 2/21, 2/27	3/6, 3/13, 3/20, 3/26	4/11	17
SP12	–	12/1, 12/12, 12/16, 12/19, 12/29	½, 1/13, 1/17, 1/29	2/7, 2/15, 2/19, 2/28	3/8, 3/15, 3/23, 3/29	4/12	18
SP13	–	12/1, 12/8, 12/14, 12/22, 12/30	¼, 1/11, 1/18, 1/30,	2/3, 2/13, 2/19, 2/26	3/6, 3/16, 3/20, 3/29	4/10	18
SP14	11/28	12/2, 12/16, 12/21, 12/30	1/9, 1/13, 1/19, 1/24	2/5, 2/14, 2/22, 2/28	3/8, 3/15, 3/19, 3/24	4/10	18
SP15	11/29	12/4, 12/15, 12/19, 12/26	1/5, 1/10, 1/18, 1/23, 1/31	2/9, 2/19, 2/25	¾, 3/11, 3/18, 3/26	4/11	18
SP16	–	–	1/3, 1/9, 1/14, 1/20, 1/23, 1/26, 1/31	2/8, 2/16, 2/22, 2/26	3/2, 3/12, 3/18, 3/22, 3/27	4/9	17
SP17	–	–	1/3, 1/8, 1/13, 1/19, 1/22, 1/26	2/2, 2/11, 2/16, 2/23	3/3, 3/10, 3/14, 3/18, 3/21, 3/25	4/7	17
Driving (DP1 through DP18)	11/30	12/6, 12/14, 12/20, 12/30	1/6, 1/11, 1/19, 1/26	2/6, 2/11, 2/19, 2/27	3/7, 3/12, 3/21, 3/22, 3/28	4/9	18

Note: Some driving surveys were conducted in a single day, and some over two consecutive days. Thus, more than 18 dates are shown in the table for driving surveys.

3.2 RAPTOR ABUNDANCE, SPECIES DIVERSITY, RELATIVE ABUNDANCE, AND FREQUENCY

3.2.1 RAPTOR DETECTIONS BY SURVEY POINT

Across the two survey types, 57 sightings of nine raptor species were recorded (see Tables 3-2 and 3-3). There were 17 observations of threatened and endangered species during the surveys (plus one incidental sighting) comprising three species: [redacted]

[redacted]

Stationary Evening Surveys. WSP surveyors recorded 27 sightings of eight raptor species during stationary surveys (see Table 3-2). Abundance ranged from one to nine raptor sightings per species. [redacted] The next most commonly observed species were Red-tailed Hawk (*Buteo jamaicensis*; eight sightings; 30 percent of all sightings) and [redacted]

The overall sighting rate for the stationary surveys was 0.1 raptor sightings per survey hour (see Table 3-2). The highest raptor sighting rate and raptor frequency occurred at point SP4 (seven sightings; 0.25 sightings per hour), followed by point SP2 (4 sightings; 0.14 sightings per hour), and points SP3 and SP15 (three sightings each; 0.11 sightings per hour). There were no raptor sightings at points SP1, SP5, SP11, and SP12.

Driving Surveys. WSP surveyors recorded 30 sightings of five raptor species during driving surveys (see Table 3-3). Abundance ranged from 1 to 18 raptor sightings per species. The most observed species during driving surveys was Red-tailed Hawk (18 sightings; 60 percent of all raptor sightings). The next most observed species were Turkey Vulture (*Cathartes aura;* six sightings; 20 percent of all sightings) and [redacted]).

The overall sighting rate for the driving surveys was 1.1 raptor sightings per hour. The survey location with the highest sighting rate and raptor frequency recorded was survey point DP8 (5 sightings; 3.3 sightings per hour), followed by DP15 and DP17 (four sightings each; 2.7 sightings per hour). There were no raptor sightings at driving points DP2, DP4, DP5, DP6, DP9, DP11, and DP14 (0 sightings each; 0 sightings per hour).

3.2.2 RAPTOR DETECTIONS BY SURVEY PERIOD

Eighteen evening stationary surveys were conducted for points SP1, SP2, SP3, SP6, SP9, SP10, SP12, SP13, SP14, and SP15 for the survey periods spanning late November 2023 through early April 2024. Seventeen evening stationary surveys were conducted for points SP4, SP5, SP7, SP8, SP11, SP16, and SP17 due to land access constraints or were added later in the survey season, per ORES comments. For stationary surveys, the highest raptor sighting rate occurred in period 19 (0.3 sightings per hour; see Table 3-4). No raptor sightings were recorded in periods 5, 6, 8, 13, and 17.

Eighteen daytime driving surveys were conducted from late November 2023 through early April 2024. For driving surveys, the highest raptor sighting rate occurred in period 19 (4.0 sightings per hour; see Table 3-5). No raptor sightings were recorded in periods 8, 10, and 12.

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Table 3-2 Total Sightings by Stationary Point during Wintering Grassland Raptor Stationary Surveys, Chateaugay Wind Repowering Project, November 2023 through April 2024

Species	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10	SP11	SP12	SP13	SP14	SP15	SP16	SP17	Total
[redacted]																		
Red-tailed Hawk	0	0	0	4	0	0	0	0	1	1	0	0	0	0	1	0	1	**8**
Rough-legged Hawk	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Barred Owl	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	**1**
[redacted]																		
American Kestrel	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total Raptors	**0**	**4**	**3**	**7**	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**3**	**2**	**1**	**27**
Species Diversity	**0**	**4**	**2**	**4**	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**1**	**2**	**1**	**1**	**8**
Frequency of Raptor Occurrence (%)	**0.0**	**22.2**	**11.1**	**41.2**	**0.0**	**5.6**	**5.9**	**5.9**	**5.6**	**5.6**	**0.0**	**0.0**	**5.6**	**5.6**	**11.1**	**11.8**	**5.9**	**8.4**
Frequency of Focal T/E Occurrence (%)	**0.0**	**11.1**	**5.6**	**5.9**	**0.0**	**0.0**	**0.0**	**5.9**	**0.0**	**0.0**	**0.0**	**0.0**	**5.6**	**0.0**	**5.6**	**11.8**	**0.0**	**3.0**
Total No. of Surveys	**18**	**18**	**18**	**17**	**17**	**18**	**17**	**17**	**18**	**18**	**17**	**18**	**18**	**18**	**18**	**17**	**17**	**299**
Total Survey Hours	**28.33**	**29.25**	**27.40**	**28.33**	**28.57**	**28.75**	**28.93**	**27.32**	**26.82**	**29.38**	**27.75**	**28.03**	**26.50**	**28.58**	**26.90**	**26.80**	**27.88**	**475.5**
Sighting Rate (No. per Hour)	**0.00**	**0.14**	**0.11**	**0.25**	**0.00**	**0.03**	**0.04**	**0.04**	**0.04**	**0.03**	**0.00**	**0.00**	**0.04**	**0.03**	**0.10**	**0.07**	**0.04**	**0.1**

Key: T/E = Threatened or endangered species

Table 3-3 Total Sightings by Driving Point during Wintering Grassland Raptor Driving Surveys, Chateaugay Wind Repowering Project, November 2023 through April 2024

Species	DP1	DP2	DP3	DP4	DP5	DP6	DP7	DP8	DP9	DP10	DP11	DP12	DP13	DP14	DP15	DP16	DP17	DP18	Total
Turkey Vulture	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	6
[redacted]																			
[redacted]																			
Red-tailed Hawk	0	0	1	0	0	0	1	5	0	0	0	3	0	0	4	0	3	1	18
Rough-legged Hawk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Total Raptors	**2**	**0**	**3**	**0**	**0**	**0**	**1**	**5**	**0**	**1**	**0**	**3**	**1**	**0**	**4**	**3**	**4**	**3**	**30**
Species Diversity	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**1**	**2**	**2**	**3**	**5**
Frequency of Raptor Occurrence (%)	**5.6**	**0.0**	**11.1**	**0.0**	**0.0**	**0.0**	**5.6**	**22.2**	**0.0**	**5.6**	**0.0**	**16.7**	**5.6**	**0.0**	**16.7**	**11.1**	**16.7**	**16.7**	**7.4**
Frequency of Focal T/E Occurrence (%)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Total No. of Surveys	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**324**
Total Survey Hours	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**27.0**
Sighting Rate (No. per Hour)	**1.3**	**0.0**	**2.0**	**0.0**	**0.0**	**0.0**	**0.7**	**3.3**	**0.0**	**0.7**	**0.0**	**2.0**	**0.7**	**0.0**	**2.7**	**2.0**	**2.7**	**2.0**	**1.1**

Key: T/E = Threatened or endangered

Table 3-4 Total Sightings by Survey Period during Wintering Grassland Raptor Stationary Surveys, Chateaugay Wind Repowering Project, November 2023 through April 2024

Species	November		December				January				February				March				April	Total
	Period 1[1]	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	Period 14	Period 15	Period 16	Period 17	Period 18	Period 19	
[redacted]																				
Red-tailed Hawk	-	1	1	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	2	8
Rough-legged Hawk	-	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Barred Owl	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
[redacted]																				
American Kestrel	-	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Total	**-**	**1**	**1**	**2**	**0**	**0**	**2**	**0**	**1**	**1**	**1**	**1**	**0**	**2**	**2**	**2**	**0**	**3**	**8**	**27**
Species Diversity	**-**	**1**	**1**	**2**	**0**	**0**	**2**	**0**	**1**	**1**	**1**	**1**	**0**	**2**	**1**	**2**	**0**	**2**	**2**	**8**
Total Survey Hours	**-**	**8**	**14**	**15**	**20**	**12**	**17**	**20**	**24**	**16**	**14**	**17**	**14**	**19**	**18**	**17**	**21**	**16**	**17**	**299**
Total No. of Surveys	**-**	**12.63**	**22.87**	**24.78**	**32.57**	**19.20**	**27.73**	**31.38**	**38.73**	**25.57**	**21.82**	**23.37**	**25.30**	**29.95**	**26.35**	**28.57**	**32.17**	**25.45**	**27.10**	**475.5**
Sighting Rate (No. per Hour)	**-**	**0.06**	**0.04**	**0.07**	**0.00**	**0.00**	**0.07**	**0.00**	**0.03**	**0.04**	**0.04**	**0.04**	**0.00**	**0.07**	**0.08**	**0.07**	**0.00**	**0.11**	**0.30**	**0.06**

[1] Period 1 was not surveyed due to land access issues.

Table 3-5 Total Sightings by Survey Period during Wintering Grassland Raptor Driving Surveys, Chateaugay Wind Repowering Project, November 2023 through April 2024

	November		December				January				February				March				April	
	Period 1[1]	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12	Period 13	Period 14	Period 15	Period 16	Period 17	Period 18	Period 19	Total
Turkey Vulture	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	**6**
[redacted]																				
[redacted]																				
Red-tailed Hawk	-	1	0	1	1	1	2	0	2	0	1	0	2	1	1	4	0	1	0	**18**
Rough-legged Hawk	-	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total Raptors	**-**	**1**	**1**	**1**	**3**	**1**	**2**	**0**	**2**	**0**	**1**	**0**	**3**	**1**	**1**	**4**	**2**	**1**	**6**	**30**
Species Diversity	**-**	**1**	**1**	**1**	**3**	**1**	**1**	**0**	**1**	**0**	**1**	**0**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**5**
Total No. of Surveys	**-**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**324**
Total Survey Hours	**-**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.73**	**1.57**	**1.50**	**1.50**	**1.50**	**27.0**
Sighting Rate (No. per Hour)	**-**	**0.67**	**0.67**	**0.67**	**2.00**	**0.67**	**1.33**	**0.00**	**1.33**	**0.00**	**0.67**	**0.00**	**2.00**	**0.67**	**0.58**	**2.55**	**1.33**	**0.67**	**4.00**	**1.1**

[1] Period 1 was not surveyed due to land access issues.

3.3 THREATENED AND ENDANGERED SPECIES

No federally listed threatened or endangered species were observed during the stationary or driving surveys. [redacted] are detailed in this section.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]				
[redacted]	[redacted]				
[redacted]	[redacted]				
[redacted]	[redacted]				

Table 3-6 New York State-Listed Threatened and Endangered Species Identified during Wintering Grassland Raptor Surveys for Chateaugay Wind Repowering Project, Franklin County, New York, November 2023 through April 2024

[redacted]

Key:
agl = above ground level

3.4 STATE-LISTED SPECIES OF SPECIAL CONCERN

[redacted]

3.5 INCIDENTAL OBSERVATIONS

[redacted]In addition to these sightings, multiple sightings of Snow Buntings (*Plectrophenax nivalis*) and Northern Shrikes (*Lanius borealis*) were observed throughout the survey period.

Table 3-7 Incidental Bird Species Identified during Wintering Raptor Surveys, Chateaugay Wind Repowering Project, November 2023 through April 2024

Common Name	Scientific Name
Snow Goose	*Chen caerulescens*
Canada Goose	*Branta canadensis*
Wood Duck	*Aix sponsa*
American Wigeon	*Anas americana*
Mallard	*Anas platyrhynchos*
American Black Duck	*Anas rubripes*
Green-winged Teal	*Anas crecca*
Ring-necked Duck	*Aythya collaris*
Bufflehead	*Bucephala albeola*
Common Merganser	*Mergus merganser*
Ruffed Grouse	*Bonasa umbellus*
Wild Turkey	*Meleagris gallopavo*
Rock Pigeon	*Columba livia*
Mourning Dove	*Zenaida macroura*
Killdeer	*Charadrius vociferus*
American Woodcock	*Scolopax minor*
Wilson's Snipe	*Gallinago delicata*
Ring-billed Gull	*Larus delawarensis*
Herring Gull	*Larus argentatus*
Great Blue Heron	*Ardea herodias*
Downy Woodpecker	*Dryobates pubescens*
Hairy Woodpecker	*Dryobates villosus*
Pileated Woodpecker	*Dryocopus pileatus*
Eastern Phoebe	*Sayornis phoebe*
Northern Shrike	*Lanius excubitor*
Blue Jay	*Cyanocitta cristata*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Black-capped Chickadee	*Poecile atricapillus*
Horned Lark	*Eremophila alpestris*
Red-breasted Nuthatch	*Sitta canadensis*
White-breasted Nuthatch	*Sitta carolinensis*
Brown Creeper	*Certhia americana*
European Starling	*Sturnus vulgaris*
Eastern Bluebird	*Sialia sialis*
Hermit Thrush	*Catharus guttatus*
American Robin	*Turdus migratorius*
Cedar Waxwing	*Bombycilla cedrorum*
Purple Finch	*Haemorhous purpureus*

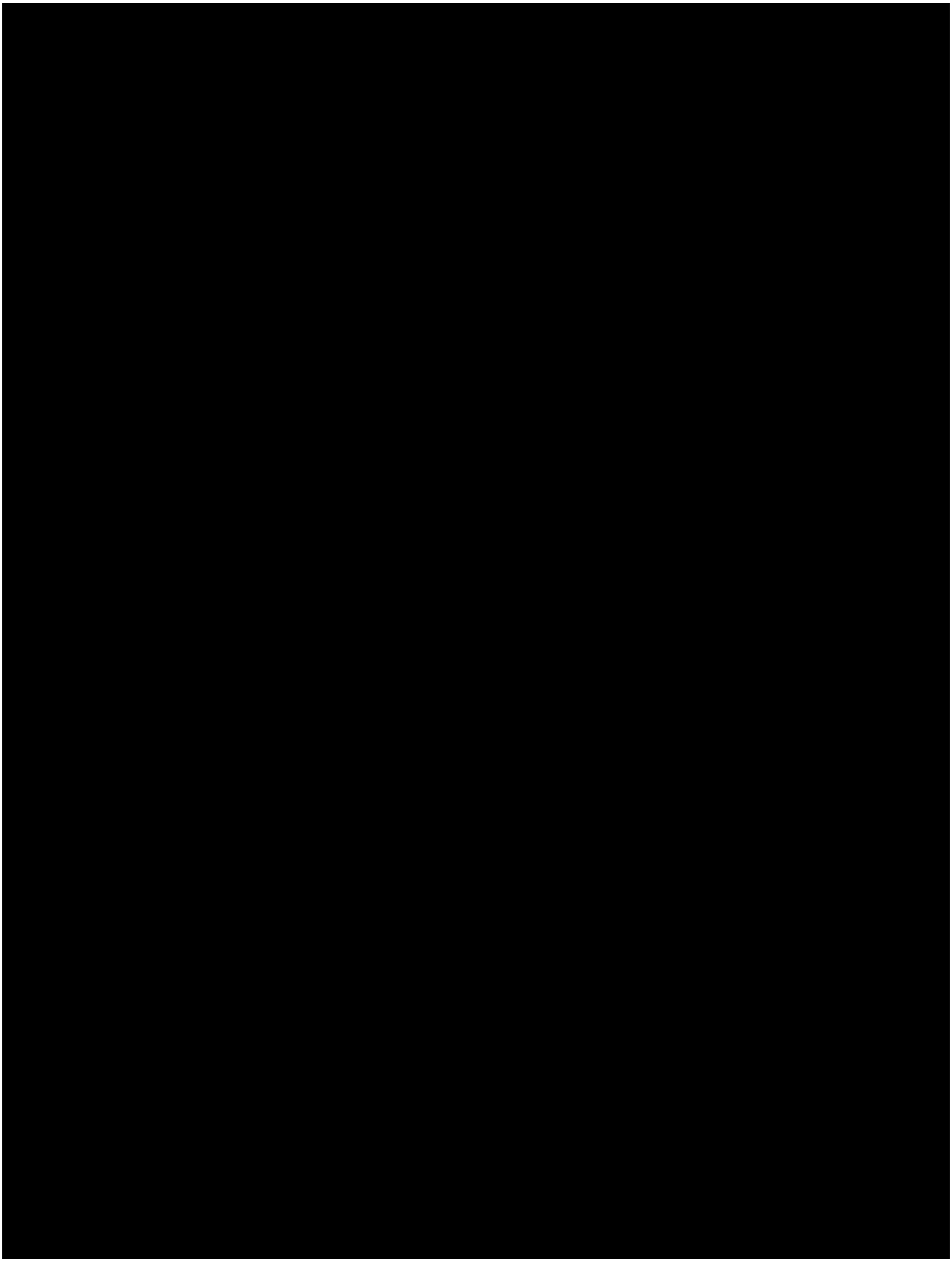
Table 3-7 Incidental Bird Species Identified during Wintering Raptor Surveys, Chateaugay Wind Repowering Project, November 2023 through April 2024

Common Name	Scientific Name
Snow Bunting	*Plectrophenax nivalis*
American Tree Sparrow	*Spizella arborea*
Chipping Sparrow	*Spizella passerina*
Dark-eyed Junco	*Junco hyemalis*
White-throated Sparrow	*Zonotrichia albicollis*
Song Sparrow	*Melospiza melodia*
Eastern Meadowlark	*Sturnella magna*
Red-winged Blackbird	*Agelaius phoeniceus*
Common Grackle	*Quiscalus quiscula*
Northern Cardinal	*Cardinalis cardinalis*

3.6 WEATHER CONDITIONS AND DISTURBANCES

Weather conditions were generally conducive to surveying. Temperatures for the stationary surveys had an average of 32 degrees Fahrenheit (°F), ranging from 4°F to 64°F. Starting temperatures for the driving surveys had an average of 32°F, ranging from 6°F to 64°F. Sustained winds for 89 stationary surveys experienced maximum sustained winds exceeding 12 mph for a portion of the survey (30 percent of stationary surveys); seven of the driving survey dates at times exceeded 12 mph. Winds were variable in direction. Five of the driving survey dates had periods of light rain or snow. A total of 100 stationary surveys had periods of precipitation (33 percent of stationary surveys), typically light snow/flurries or drizzle/light rain or occasionally heavier snow or rain. Visibility was typically not severely impacted during periods of precipitation. Weather conditions during the WGR survey period are noted in Appendix C.

Distraction or disturbance events did not compromise any of the stationary or driving surveys. Potential instances during driving surveys were resolved by the surveyor waiting for the disturbance (e.g., interaction with a landowner or passerby) to pass before starting the next 5-minute survey. Any interactions with landowners or passersby during stationary surveys were kept brief, and the surveyor continued to scan for raptors during the interaction.



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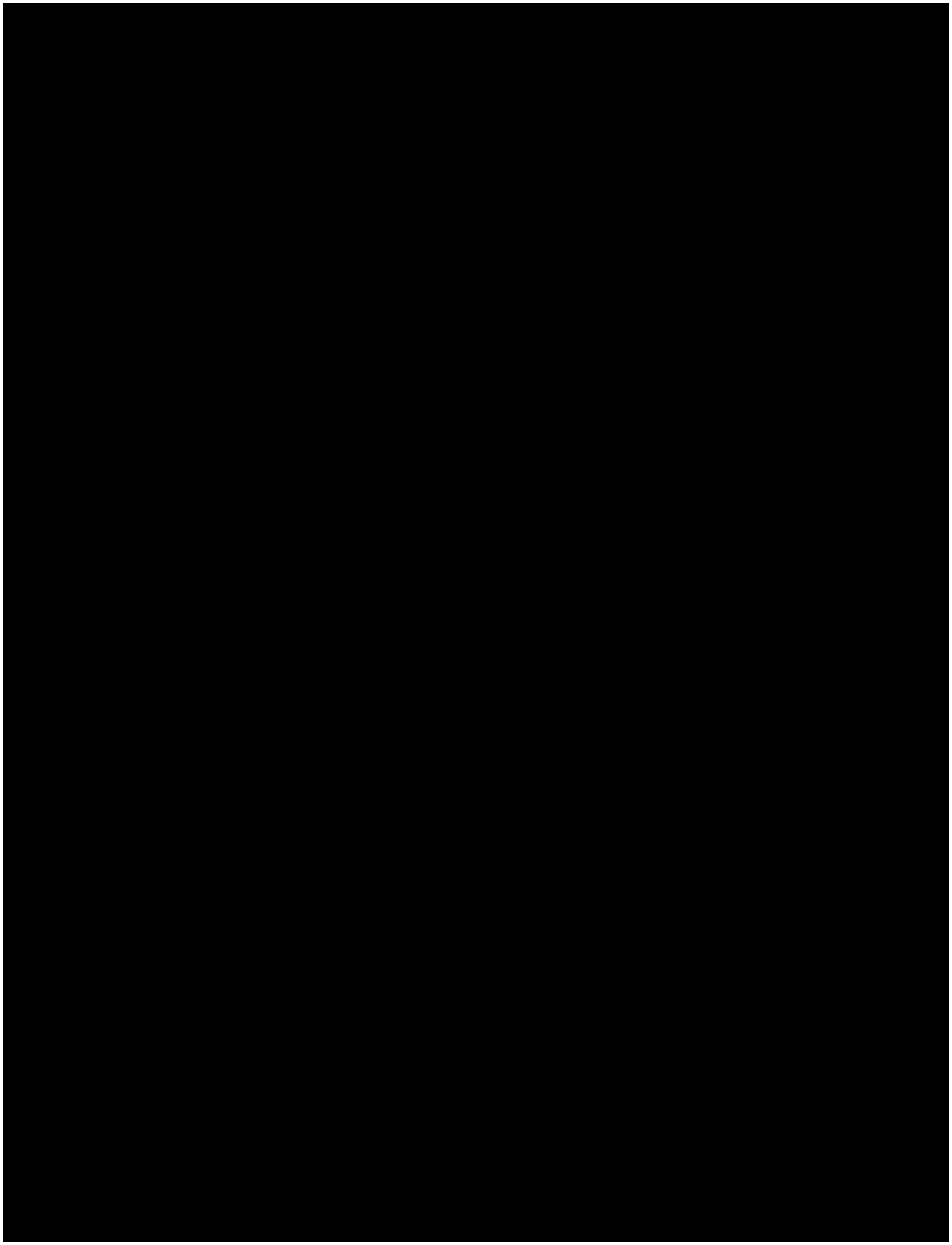

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4 SUMMARY

[redacted]

[redacted]

WSP conducted WGR surveys in accordance with the NYSDEC *Survey Protocol for State-Listed Wintering Grassland Raptor Species* (2021). The 17 to 18 surveys conducted at 17 stationary survey points and 18 driving survey points from November 27, 2023, through April 12, 2024, provided thorough coverage for the 2023/2024 wintering season as indicated in the study plan comments received from ORES on December 21, 2023. The results of the survey effort suggest that more comprehensive studies are not necessary to adequately assess the potential for the Project to affect endangered or threatened WGR species in these areas with proposed new turbines and disturbance areas.

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5 REFERENCES

New York State Department of Environmental Conservation (NYSDEC). 2021. *Survey Protocol for State-listed Wintering Grassland Raptor Species.* Prepared by NYSDEC, Division of Fish, Wildlife, and Marine Resources. August 2021.

[redacted]

U.S. Geological Survey (USGS). 2021. Dataset - NLCD 2021 Land Cover Conterminous United States [Raster geospatial data]. Updated May 2021. Accessed online at: https://www.mrlc.gov/data.

WSP USA Inc. (WSP). 2023. *Wintering Grassland Raptor Study Plan for the Proposed Chateaugay Wind Repowering Project*, Town of Chateaugay, Franklin County, New York. November 2023.

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A Photos of Stationary Survey Points

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A. Photos of Stationary Survey Points

Photograph 1 – Point SP1 facing south.

Photograph 2 – Point SP1 facing north.

Photograph 3 – Point SP2 facing east.

Photograph 4 – Point SP2 facing west.

Photograph 5 – Point SP3 facing west.

Photograph 6 – Point SP3 facing east.

Photograph 7 – Point SP4 facing northwest.

Photograph 8 – Point SP4 facing southwest.

Photograph 9 – Point SP5 facing east.

Photograph 10 – Point SP5 facing south.

Photograph 11 – Point SP6 facing east.

Photograph 12 – Point SP6 facing west.

Photograph 13 – Point SP7 facing south.

Photograph 14 – Point SP7 facing northeast.

Photograph 15 – Point SP8 facing southeast.

Photograph 16 – Point SP8 facing northwest.

Photograph 17 – Point SP9 facing east.

Photograph 18 – Point SP9 facing west.

Photograph 19 – Point SP10 facing northeast.

Photograph 20 – Point SP10 facing southeast.

Photograph 21 – Point SP11 facing east.

Photograph 22 – Point SP11 facing northwest.

Photograph 23 – Point SP12 facing southeast.

Photograph 24 – Point SP12 facing southwest.

Photograph 25 – Point SP13 facing southwest.

Photograph 26 – Point SP13 facing south.

Photograph 27 – Point SP14 facing northeast.

Photograph 28 – Point SP14 facing southeast.

Photograph 29 – Point SP15 facing east.

Photograph 30 – Point SP15 facing west.

Photograph 31 – Point SP16 facing southeast.

Photograph 32 – Point SP16 facing southwest.

Photograph 33 – Point SP17 facing north.

Photograph 34 – Point SP17 facing south.

B Full Survey Results

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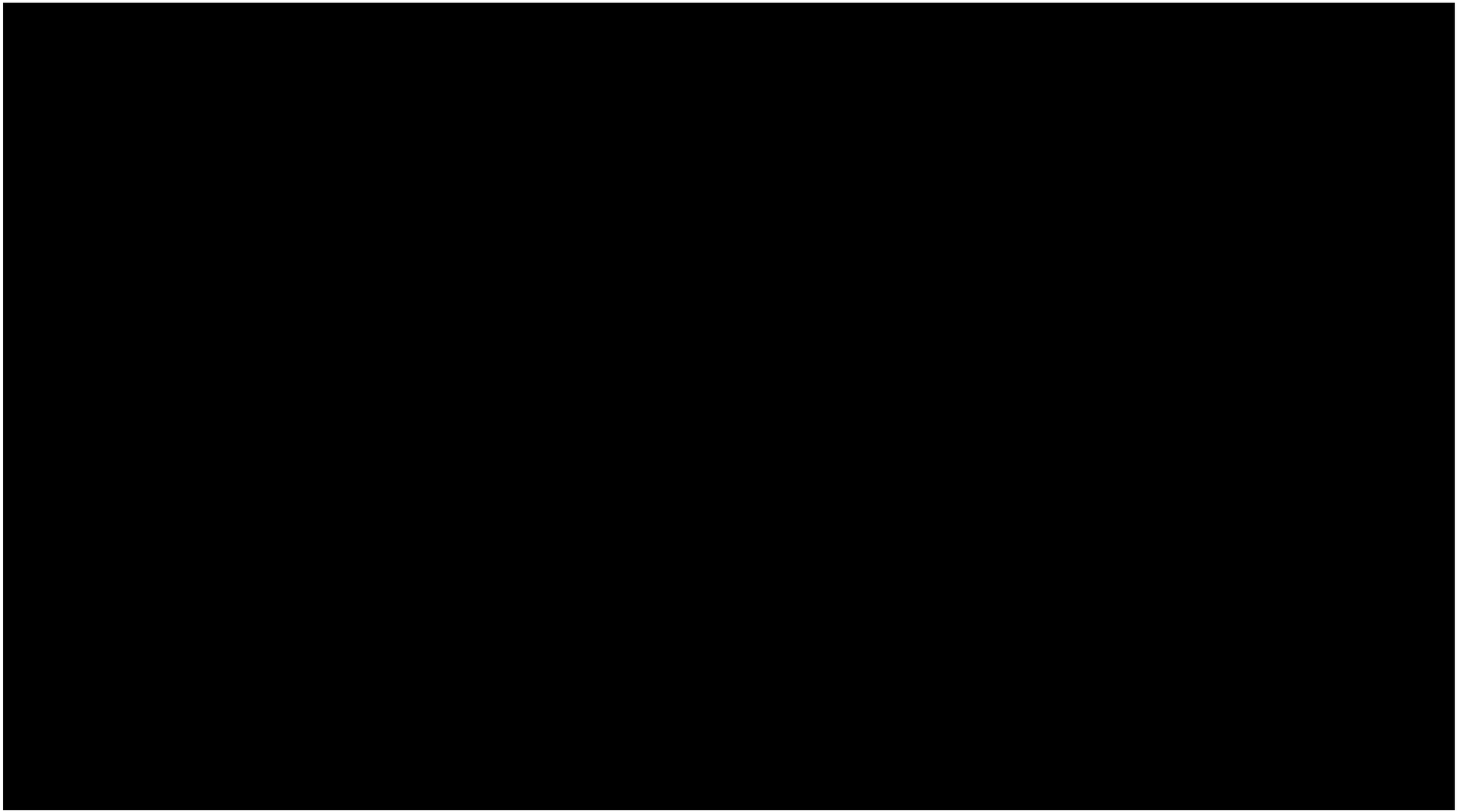

Table B-2 Driving Survey Point Data, Chateaugay Wind Repowering Project, November 2023 through April 2024

Date	Point #	Sighting Start Time	Sighting End Time	Species	Number	Age[1]	Sex[2]	Direction from Observer	Behavior[3]	Flight Height[4]	Flight Direction	Resight?[5]	Habitat[6]	Sighting Notes
[redacted]														
4/9/2024	DP1	16:35	16:40	Turkey Vulture	2	U	U	SW	S	H	SW	N	WO	
4/9/2024	DP17	16:43	16:44	Turkey Vulture	1	Ad	U	N	S	H	SW	N	AG	
4/9/2024	DP18	16:53	16:55	Turkey Vulture	1	Ad	U	SE	S	H	N	N	WO	
4/9/2024	DP3	17:06	17:11	Turkey Vulture	2	Ad	U	NW	S/P	M/H	Various	N	WO	
11/30/2023	DP17	12:40	12:45	Red-tailed Hawk	1	U	U	N	S	H	E	N	WO	
12/14/2023	DP8	13:42	13:47	Red-tailed Hawk	1	Ad	U	S	DF	H	S	N	AG	
12/20/2023	DP12	13:51	13:56	Red-tailed Hawk	1	Im	U	SW	P/DF	M/L	W	N	WO	
12/30/2023	DP8	13:41	13:46	Red-tailed Hawk	1	U	U	S	N/A	N/A	N/A	N	H	
1/6/2024	DP12	13:38	13:43	Red-tailed Hawk	1	Ad	U	SW	DF	M	W	N	AG	
1/6/2024	DP8	13:55	14:00	Red-tailed Hawk	1	Ad	U	SW	DF	L	SW	N	WO	
1/19/2024	DP15	13:21	13:26	Red-tailed Hawk	1	U	U	SW	S	M/H	SW	N	WO	
1/19/2024	DP12	14:17	14:22	Red-tailed Hawk	1	Ad	U	N	DF	H	NE	N	WO	
2/6/2024	DP15	15:25	15:30	Red-tailed Hawk	1	Im	U	SE	P	M	N/A	N	WO	
2/19/2024	DP15	14:10	14:15	Red-tailed Hawk	2	U	U	SW	S	H	E	N	WO	
2/27/2024	DP3	15:19	15:24	Red-tailed Hawk	1	U	U	NE	P	NA	NA	N	PA	
3/7/2024	DP7	16:18	16:23	Red-tailed Hawk	1	Ad	U	NE	P	NA	NA	N	AG/P	
3/12/2024	DP17	14:56	15:01	Red-tailed Hawk	2	U	U	SW	S	H	W	N	WO	
3/12/2024	DP8	16:44	16:50	Red-tailed Hawk	2	Ad	U	W	S/DF	H	NW	N	AG	
3/28/2024	DP18	15:37	15:42	Red-tailed Hawk	1	Ad	U	N	S	H	E	N	WO	
12/6/2023	DP16	13:36	13:41	Rough-legged Hawk	1	Ad	M	NW	DF	M	S	N	AG/WO	Male light morph heading NW over fields and woods.
12/20/2023	DP18	14:21	14:26	Rough-legged Hawk	1	Ad	M	E	P/DF	M	S	N	AG/WO	

Notes:

Detections of focal grassland raptor species are listed first in the table, then other state-listed endangered and threatened species, then species of special concern, then non-listed raptor species.

[1] Age: Ad: adult, Im: immature, U: unknown

[2] Sex: M: male, F: female, U: unknown

[3] Behavior: FF: foraging flight, DF: direct flight/fly-through, P: perched, S: soaring, I: interacting, R: roosting evidence

[4] Flight Height: L: <10 m AGL, M: 10-50 m AGL, H:>50 m AGL

[5] Resight: Y: observed earlier, U: poss. observed earlier, N: new individual

[6] Habitat: AG: agricultural, H: hedgerow, PA: pasture/hayfield, SS: scrub-shrub, WM: wet meadow/marsh, WO: woods/forest

C Weather Conditions

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Table C-1 Winter Grassland Raptor Survey Weather Summary, Chateaugay Wind Repowering Project, Franklin County, New York, November 2023 to April 2024

Survey Period	Date	Tempera-ture (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipita-tion (Y/N)
Day Prior	11/26/2023	35	S	0	14	10	N
2	11/27/2023	37	WSW	7	13	75	N
2	11/28/2023	26	W	5	20	100	Y
2	11/29/2023	27	SSW	4	18	95	Y
2	11/30/2023	41	WSW	6	10	50	N
2	12/1/2023	40	WSW	0	9	100	Y
3	12/2/2023	34	NE	0	4	100	N
Day Prior	12/3/2023	33	NW	0	3	100	Y
3	12/4/2023	25	NNW	2	6	100	Y
3	12/5/2023	24	NE	3	7	100	Y
3	12/6/2023	17	NNW	0	8	100	Y
3	12/7/2023	19	NNE	0	4	40	Y
3	12/8/2023	32	E	0	10	30	N
3	12/9/2023	44	S	1	9	95	N
Day Prior	12/11/2023	34	W	0	8	75	N
3, 4	12/12/2023	35	NE	0	14	100	N
4	12/13/2023	25	NW	11	17	25	N
4	12/14/2023	32	SW	10	12	75	N
4	12/15/2023	42	SW	0	10	50	N
4	12/16/2023	36	E	5	15	90	N
Day Prior	12/17/2023	42	SW	0	17	100	Y
5	12/18/2023	43	WSW	6	15	100	Y
5	12/19/2023	22	W	12	18	100	Y
5	12/20/2023	30	WNW	3	7	100	Y
5	12/21/2023	19	NW	0	4	25	N
5	12/22/2023	25	NE	0	3	0	N
6	12/23/2023	33	SE	0	2	100	N
Day Prior	12/25/2023	32	N	0	5	75	N
6	12/26/2023	47	ENE	1	3	95	N
6	12/27/2023	41	E	5	6	95	N
6	12/28/2023	38	N	2	8	100	N
6	12/29/2023	34	W	5	6	100	Y
6	12/30/2023	28	WNW	8	14	100	Y
6	12/31/2023	22	WNW	4	5	100	N
6	1/1/2024	20	W	2	10	100	N
7	1/2/2024	31	SW	5	11	99	N
7	1/3/2024	34	SW	6	14	100	N

Table C-1 Winter Grassland Raptor Survey Weather Summary, Chateaugay Wind Repowering Project, Franklin County, New York, November 2023 to April 2024

Survey Period	Date	Tempera-ture (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipita-tion (Y/N)
7	1/4/2024	15	NW	0	9	0	N
7	1/5/2024	24	WSW	5	15	100	Y
7	1/6/2024	15	ENE	5	9	100	Y
Day Prior	1/7/2024	29	NW	5	12	75	N
7	1/8/2024	26	W	4	8	95	N
7	1/9/2024	27	SE	13	18	100	N
8	1/10/2024	34	SW	6	15	90	Y
8	1/11/2024	23	W	4	8	100	Y
8	1/12/2024	24	ENE	0	10	50	N
8	1/13/2024	32	WSW	5	18	100	N
8	1/14/2024	23	SSW	10	17	100	N
8, 9	1/15/2024	20	S	0	7	10	N
8	1/16/2024	18	NNW	2	7	100	Y
9	1/17/2024	14	WSW	5	15	100	Y
9	1/18/2024	19	WSW	5	19	100	Y
9	1/19/2024	5	NE	2	10	25	N
9	1/20/2024	6	W	5	15	100	Y
9	1/21/2024	10	NW	1	7	5	N
9	1/22/2024	29	SW	7	13	100	N
10	1/23/2024	25	NE	0	10	100	N
10	1/24/2024	30	ENE	0	3	100	Y
Day Prior	1/25/2024	20	N	0	8	0	Y
10	1/26/2024	34	NE	0	5	100	N
10	1/27/2024	34	WNW	0	2	100	Y
10	1/28/2024	30	NE	4	4	100	N
10	1/29/2024	24	NNE	0	4	97	N
10	1/30/2024	21	E	1	4	100	N
10, 11	1/31/2024	33	SW	0	6	100	N
11	2/1/2024	34	SW	0	6	100	Y
11	2/2/2024	27	NE	0	6	100	N
11	2/3/2024	23	NNE	0	2	95	N
Day Prior	2/4/2024	0	S	0	7	0	N
11	2/5/2024	32	NNW	2	6	0	N
11, 12	2/6/2024	29	NNE	0	5	2	N
11	2/7/2024	30	NNE	0	2	85	N
12	2/8/2024	40	ESE	4	6	10	N
12	2/9/2024	43	SSE	5	17	80	N

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Survey Period	Date	Tempera-ture (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipita-tion (Y/N)
12	2/10/2024	43	W	8	9	100	N
12	2/11/2024	34	WSW	6	16	100	N
12	2/12/2024	28	WNW	2	4	100	Y
12	2/13/2024	33	NW	4	10	40	N
12	2/14/2024	24	NW	5	7	80	N
12	2/15/2024	27	ENE	5	10	100	N
13	2/16/2024	24	WNW	10	12	75	Y
13	2/17/2024	15	NW	8	10	15	N
13	2/18/2024	14	N	0	5	10	N
13	2/19/2024	14	WNW	8	12	5	N
13	2/20/2024	21	N	0	4	95	N
13	2/21/2024	42	SW	3	7	15	N
13, 14	2/22/2024	40	SW	5	6	100	N
14	2/23/2024	40	NNW	1	5	100	N
14	2/24/2024	11	WNW	8	9	0	N
14	2/25/2024	36	WNW	2	5	15	N
14	2/26/2024	37	W	3	5	2	N
14	2/27/2024	59	SSE	13	14	15	N
14	2/28/2024	64	S	6	17	10	Y
14	2/29/2024	17	WNW	7	10	10	N
14	3/1/2024	36	SSW	7	8	5	N
15	3/2/2024	43	SSW	0	4	100	Y
15	3/3/2024	41	NE	0	1	100	N
15	3/4/2024	56	SE	5	15	10	N
15	3/5/2024	55	SW	5	15	85	N
15	3/6/2024	42	N	5	13	100	Y
15	3/7/2024	42	NNE	5	11	5	N
15	3/8/2024	43	ENE	6	13	5	N
15	3/9/2024	43	E	0	8	8	N
16	3/10/2024	27	W	8	18	100	Y
16	3/11/2024	32	WNW	10	11	1	N
16	3/12/2024	44	WNW	4	8	10	N
16	3/13/2024	47	ESE	0	4	50	N
16	3/14/2024	48	E	0	2	100	N
16	3/15/2024	48	NNE	0	6	78	N
16	3/16/2024	38	SW	1	4	100	N
16	3/17/2024	33	W	7	13	70	Y

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Survey Period	Date	Tempera-ture (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipita-tion (Y/N)
17	3/18/2024	34	W	6	10	100	Y
17	3/19/2024	30	WSW	5	14	100	Y
17	3/20/2024	25	W	5	10	100	Y
17	3/21/2024	22	W	10	17	60	N
17	3/22/2024	20	ENE	5	10	40	N
17, 18	3/23/2024	19	NNE	5	10	100	Y
18	3/24/2024	31	NE	0	9	1	N
18	3/25/2024	41	ESE	8	15	0	N
18	3/26/2024	50	ESE	8	13	60	N
18	3/27/2024	59	WNW	0	8	60	N
18	3/28/2024	41	WSW	5	10	100	N
18	3/29/2024	38	WNW	5	17	80	N
Day Prior	4/1/2024	62	N	0	5	0	N
19	4/2/2024	46	ENE	9	10	75	N
Day Prior	4/4/2024	46	NNE	0	6	0	N
19	4/5/2024	36	N	6	7	100	Y
19	4/6/2024	35	N	5	6	90	N
19	4/7/2024	39	SSW	0	5	0	N
19	4/8/2024	51	WSW	0	12	50	N
19	4/9/2024	25	NE	0	3	0	N
19	4/10/2024	56	S	7	15	40	N
19	4/11/2024	59	SSE	10	12	85	N
19	4/12/2024	48	WSW	10	20	100	Y

Source: Wunderground.com

Notes: Weather data for prior days represents weather data from Plattsburgh, New York, for the hour prior to sunset. Weather data for survey days representative of survey hours collected in the field or using the Wunderground weather application.