Appendix 12-C

Winter Raptor Survey Report

REDACTED

Ellenburg Wind Repowering Project

Matter No. 23-03033

WINTERING GRASSLAND RAPTOR SURVEY

ELLENBURG WIND REPOWERING PROJECT TOWN OF CLINTON, CLINTON COUNTY, NEW YORK

AES CLEAN ENERGY INC.

PROJECT NO.: US-WSP-31403295.031-B6153
DATE: MAY 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	Ellenburg 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 Ellenburg Wind Repowering Project (Project), which is located in the Town of Ellenburg, in Clinton 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 20, 2023, to March 30, 2024. An avian study plan was prepared and submitted to the Office of Renewables Energy Siting (ORES) consistent with the New York State Department of Environmental Conservation (NYSDEC) *Survey Protocol for State-Listed Wintering Grassland Raptor Species* (2021) 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 and provided comments on December 21, 2023.

The objectives of the wintering grassland raptor (WGR) surveys were as follows:

1. Collect information on the presence of state-listed WGR species at 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.

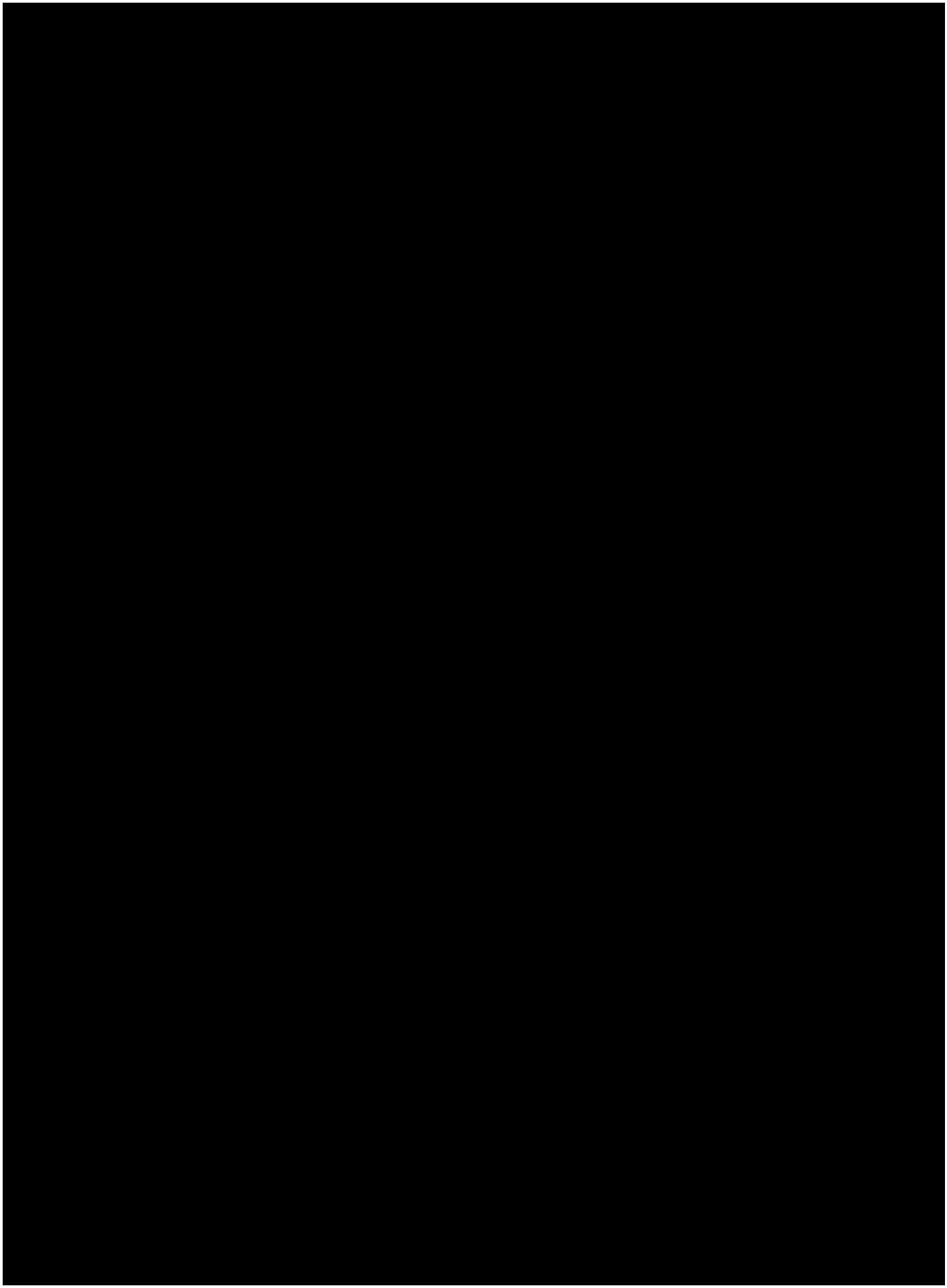
Data collected during the surveys will also be used to review whether suitable or occupied habitat for bird species listed as threatened or endangered by New York State or the U.S. Fish and Wildlife Service is identified within the Study Area as part New York Public Service Law Article VIII application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

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

1.2 STUDY AREA

The Study Area is composed of project parcels that contain the proposed Project Boundary. The Study Area encompass approximately 4,110 acres in Clinton 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 1,500 feet (457.2 meters) above sea level. Based on data from the 2021 National Land Cover Database, most of the land cover within the Study Area is composed of hay/pasture and deciduous forest (both approximately 26 percent) (USGS 2021). Other dominant land cover types throughout the Study Area include cultivated crops (22 percent), evergreen forest (10 percent), mixed forest (7 percent). The remaining habitat types (e.g., barren land, shrub/scrub, developed spaces, woody wetland, emergent herbaceous

wetlands, and herbaceous) each consist of three percent or less 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 at the Study Area, with special attention given to [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 (2021). The number of survey points selected provided full visual coverage of all open habitats greater than 25 acres in size in areas where 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 wintering [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 nine 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.

The NYSDEC protocol calls for 18 survey visits between November 15 and March 31 (2021). A stationary evening survey was conducted at each of the nine stationary points once per survey period from November 20, 2023, through March 30, 2024. Three of the stationary points located on or near the public roads had 18 survey visits, and four of the stationary points, located in fields or turbine access roads, had 16 survey visits due to land access constraints. Stationary point SP8 and SP9 were added January 2, 2024, in response to recommendations from ORES, and backfilled so they had 16 visits each. Per NYSDEC protocol, the surveys would continue into April 2024 if any [redacted] were documented in the second half of March; however, none were observed.

Based on the selection criteria outlined in NYSDEC guidelines (2021), the daytime driving route survey involved stopping at eight 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 November 2023 through March 2024.

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

Point ID	Habitat Description
SP1	Grass hayfields to the north and northwest. Corn stubble to the south, bordered by hedgerows.
SP2	Grass hayfields to the south and east, bordered by woods. Grass hayfields and scrub-shrub habitat to the north, bordered by woods.
SP3	Row crop fields (corn stubble) to the north, south, and west, bordered by woods. Row crop and a residence to the east.
SP4	Grass hayfields in all directions, bordered by woods.
SP5	Grass hayfields in all directions, bordered by woods in the south and west.
SP6	Row crop (corn stubble) to the northwest and south. Scrub-shrub habitat farther south, with bordered woods. Pasture to the east and northeast.
SP7	Grass hayfields to the east and northwest. Row crop (corn stubble) to the southwest, bordered by woods.
SP8	Grass hayfields in all directions, bordered by woods to the west and east.
SP9	Grass hayfield to the east and west, bordered by hedgerows. Residence to the south 100 meters and west 250 meters. Row crop (corn stubble) to the northeast.
DP1	Row crop (corn stubble) fields to the west and grass hayfield to the east and south, with bordered woods to the north.
DP2	Grass hayfields in all directions, with woods bordering the southwest and a portion of the north.
DP3	Grass hayfields to the northwest and southeast. Woods located to the northeast. Row crop (corn stubble) dominated the southwest.
DP4	Grass hayfields in all directions, bordered by woods to the north, south, and east.
DP5	Grass hayfields were to the west, while corn stubble was to the east. Hedgerows bordered the fields.
DP6	Grass hayfields to the northwest and southeast. Row crop (corn stubble) to the southwest. A barn was adjacent to the point.
DP7	Grass hayfields to the east and northwest. Row crop (corn stubble) to the southwest.
DP8	Grass hayfields to the south, bordered by woods. Grass hayfields and hay bales to the north, with a residence to the northeast.

2.2 FIELD METHODS

2.2.1 STATIONARY EVENING SURVEYS

Three evening stationary survey points were conducted for each of the 18 survey periods. Four stationary survey points began during period 2 due to land access constraints, spanning mid-November 2023 through late March 2024. Per ORES's request, two stationary survey points (SP8 and SP9) were added during period 7, with backfilling conducted, for a total of 16 survey visits. During a stationary evening survey, the avian surveyor scanned the open habitat with binoculars or a spotting scope to identify raptors utilizing the Study Area. Stationary surveys were conducted from 1 hour before sunset to at least 0.5 hours after sunset, which could be extended up to 1 hour after sunset if [redacted] were detected, 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; birds coursing low over the ground; or birds perching on the ground. [redacted]

2.2.2 DAYTIME DRIVING ROUTE SURVEYS

One driving survey was conducted for each of the 18 survey periods, approximately one week apart. Each driving survey involving stops at eight roadside points. At each driving point, a WSP avian surveyor exited their vehicle and scanned the surrounding open areas for 5 minutes before recording the data and proceeding to the next roadside point. To the extent practicable, additional time was spent at a point if one of the target species was observed. 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 early afternoon on the same days as a stationary survey and took approximately 1.5 hours. Occasionally, the driving survey was divided into two separate days to allow for 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 the following:

- Species and number of individuals observed
- 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
- 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 to fly into or out of an area of visibility. Foraging and any possible roost areas for [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 listed or state-listed as threatened or endangered bird species that were encountered, as well as other grassland bird species [redacted], 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 five minutes; however, the unit of sighting rate (sightings per hour) was used for both 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 as threatened or 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 is otherwise consistent as described in Section 2.2.3. Shapefiles of point count survey locations and any sightings of all federally and state-listed as threatened or 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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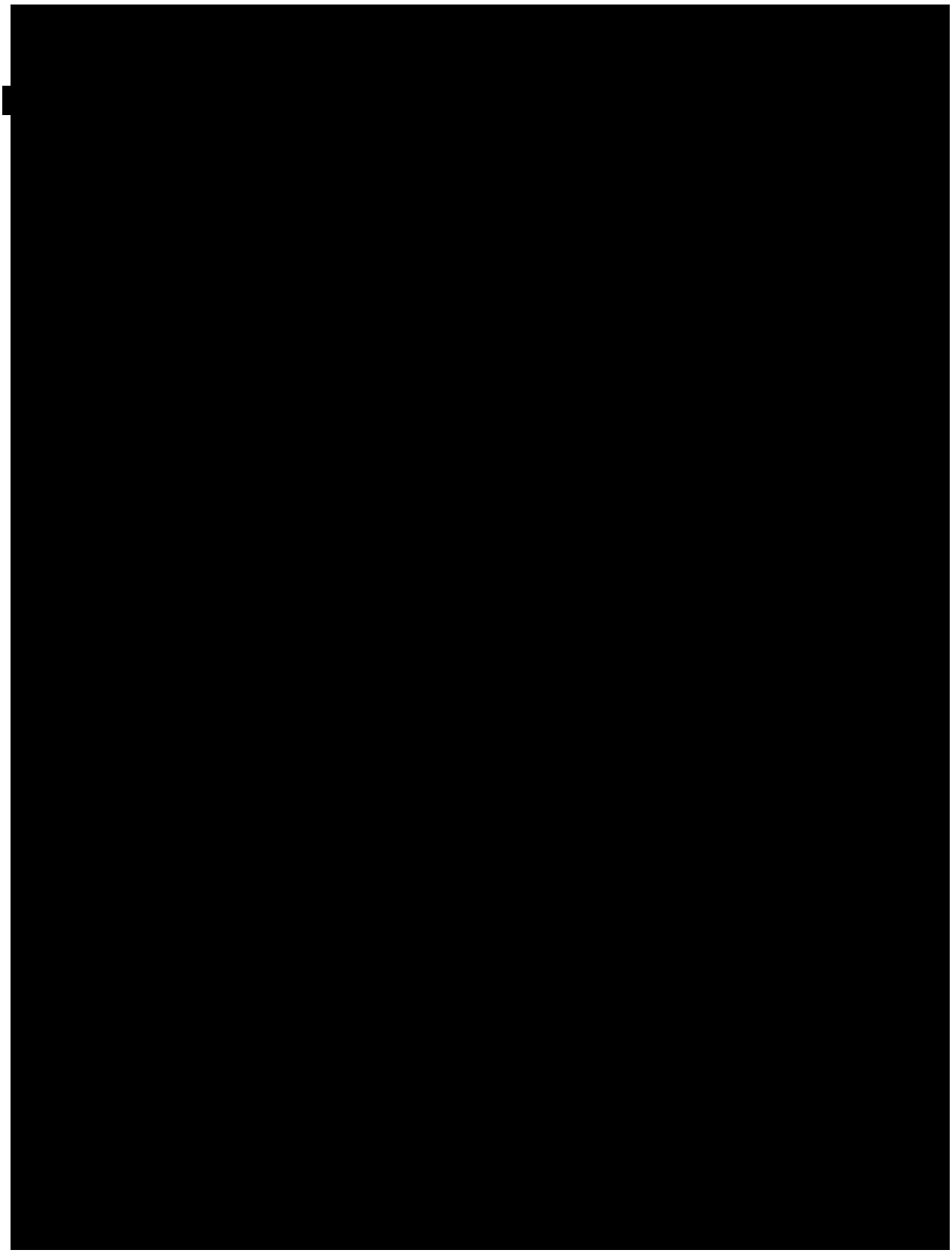

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3 RESULTS

3.1 SURVEY OVERVIEW

WSP conducted a total of 150 stationary surveys (239.2 hours of survey effort) and 18 driving surveys (144 driving stops; 12.0 hours of survey effort) from November 20, 2023, through March 30, 2024 (see Table 3-1). Stationary survey points SP4, SP5, and SP7 were each surveyed 18 times, and points SP1, SP2, SP3, SP6, SP8, and SP9 were each surveyed 16 times.

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

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

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

Survey Point	November	December	January	February	March	Total Surveys
Driving (DP1 through DP8)	11/20, 11/21, 11/27, 11/29	12/7, 12/12, 12/13, 12/20, 12/27	1/4, 1/9, 1/22, 1/30	2/5, 2/11, 2/21, 2/27	3/4, 3/12, 3/21, 3/27	18
Note: Some driving surveys were conducted in a single day, and some were 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, 22 sightings of four raptor species were recorded (see Tables 3-2 and 3-3). There were two observations of threatened and endangered species recorded during the surveys: [redacted] Appendix B presents the full results of the surveys.

Stationary Evening Surveys. WSP surveyors recorded 16 sightings of four raptor species during stationary surveys (see Table 3-2). Abundance ranged from one to 13 raptor sightings per species. The most commonly observed species during stationary surveys was Red-tailed Hawk (*Buteo jamaicensis*; 13 sightings, 81 percent of all raptor sightings). The next most commonly observed species were [redacted] and Rough-legged Hawk (*Buteo lagopus*; one sighting, 6 percent of all sightings).

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 SP5 (seven sightings; 0.2 sightings per hour), followed by points SP7 (five sightings; 0.2 sightings per hour), and SP3 (two sightings; 0.1 sightings per hour). Points SP2, SP4, and SP6 did not have any raptor sightings for the duration of the study.

Driving Surveys. WSP surveyors recorded six sightings of three raptor species during driving surveys (see Table 3-3). Abundance ranged from one to four raptor sightings per species. The species observed most during driving surveys was the Red-tailed Hawk (four sightings; comprising 67 percent of all raptor sightings). The next most commonly observed species were the [redacted] and the Rough-legged Hawk (one sighting; 17 percent of all sightings).

The overall sighting rate for the driving surveys was 0.5 raptor sightings per hour. The survey location with the highest sighting rate and raptor frequency recorded was survey point DP7 (four sightings; 2.7 sightings per hour), followed by DP1 and DP6 (each had one sighting at 0.7 sightings per hour). Survey points DP2, DP3, DP4, DP5, and DP8 did not have any raptor sightings for the duration of the study.

3.2.2 RAPTOR DETECTIONS BY SURVEY PERIOD

Three evening stationary survey points were visited for each of the 18 survey periods. Four stationary survey points began during period 2 due to land access constraints, spanning mid-November 2023 through late March 2024. Two points (SP8 and SP9) were added during period 7, with backfilling conducted, for a total of 16 survey visits. Occasionally, inappropriate weather conditions prevented some stationary points from being surveyed during the correct period. In all cases, missed stationary points were backfilled by conducting surveys as soon as weather conditions allowed. As a result, survey periods did not have an equal amount of surveys throughout the survey season from November 2023 through March 2024.

For stationary surveys, the highest raptor sighting rate occurred in period 6 (0.7 sightings per hour; see Table 3-4). Periods 2, 7, 9, 12, 13, 14, 15, 17 and 18 did not have any raptor sightings.

One daytime driving survey was conducted for each of the 18 survey periods. For driving surveys, the highest raptor sighting rate occurred in periods 2, 7, 9, 10, 12, and 15 (1.5 sightings per hour for each; see Table 3-5).

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

Species	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	Total
[redacted]										
Red-tailed Hawk	1	0	2	0	5	0	5	0	0	**13**
Rough-legged Hawk	0	0	0	0	0	0	0	1	0	**1**
Total Raptors	**1**	**0**	**2**	**0**	**7**	**0**	**5**	**1**	**0**	**16**
Species Diversity	**1**	**0**	**1**	**0**	**3**	**0**	**1**	**1**	**0**	**4**
Frequency of Raptor Occurrence (%)	**6.3**	**0.0**	**12.5**	**0.0**	**27.8**	**0.0**	**16.7**	**6.3**	**0.0**	**8.0**
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**
Total No. of Surveys	**16**	**16**	**16**	**18**	**18**	**16**	**18**	**16**	**16**	**150**
Total Survey Hours	**25.57**	**25.33**	**25.37**	**28.83**	**28.86**	**25.20**	**28.92**	**25.93**	**25.15**	**239.2**
Sighting Rate (No. per Hour)	**0.0**	**0.0**	**0.1**	**0.0**	**0.2**	**0.0**	**0.2**	**0.0**	**0.0**	**0.1**

Key: T/E = Threatened or endangered

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

Species	DP1	DP2	DP3	DP4	DP5	DP6	DP7	DP8	Total
[redacted]									
Red-tailed Hawk	1	0	0	0	0	0	3	0	**4**
Rough-legged Hawk	0	0	0	0	0	0	1	0	**1**
Total Raptors	**1**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**6**
Species Diversity	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**3**
Frequency of Raptor Occurrence (%)	**5.6**	**0.0**	**0.0**	**0.0**	**0.0**	**5.6**	**22.2**	**0.0**	**4.2**
Frequency of Focal T/E Occurrence (%)	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**5.6**	**0.0**	**0.0**	**0.7**
Total No. of Surveys	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**18**	**144**
Total Survey Hours	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**1.50**	**12.0**
Sighting Rate (No. per Hour)	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**	**2.7**	**0.0**	**0.5**

Key: T/E = Threatened or endangered

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

	November		December				January				February				March				
	Period 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	Total
[redacted]																			
[redacted]																			
Red-tailed Hawk	1	0	1	1	1	6	0	1	0	1	1	0	0	0	0	0	0	0	**13**
Rough-legged Hawk	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
Total	**1**	**0**	**1**	**1**	**1**	**6**	**0**	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**16**
Species Diversity	**1**	**0**	**1**	**1**	**1**	**1**	**0**	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**
Total No. of Surveys	**2**	**3**	**6**	**4**	**12**	**5**	**11**	**11**	**12**	**11**	**8**	**7**	**11**	**10**	**8**	**10**	**10**	**9**	**150**
Total Survey Hours	**3.15**	**4.57**	**9.90**	**6.62**	**19.68**	**8.17**	**17.55**	**17.58**	**19.40**	**17.82**	**12.47**	**10.97**	**17.29**	**15.58**	**12.47**	**16.16**	**15.62**	**14.17**	**239.2**
Sighting Rate (No. per Hour)	**0.3**	**0.0**	**0.1**	**0.2**	**0.1**	**0.7**	**0.0**	**0.1**	**0.0**	**0.1**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**

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

	November		December				January				February				March				
	Period 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	Total
[redacted]																			
Red-tailed Hawk	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	**4**
Rough-legged Hawk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Total	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**6**
Species Diversity	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**3**
Total No. of Surveys	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**144**
Total Survey Hours	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**0.67**	**12.0**
Sighting Rate (No. per Hour)	**0.0**	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1.5**	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**	**1.5**	**0.0**	**0.0**	**0.0**	**0.5**

3.3 THREATENED AND ENDANGERED SPECIES

No federally listed threatened or endangered species were observed during the stationary or driving surveys. Sightings of New York state-listed threatened or endangered species ( ) are detailed in this section.

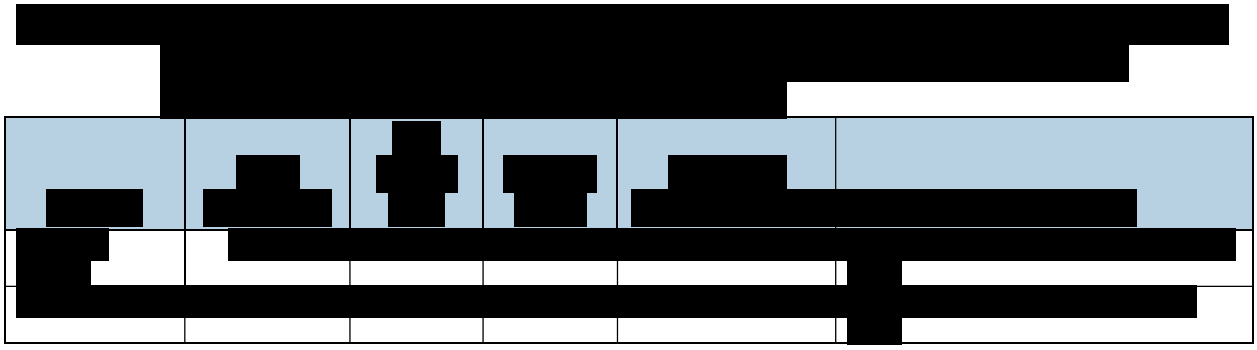
There were two observations of state-listed threated and endangered species recorded during the survey season, comprised of

Northern Harrier

WSP recorded

Bald Eagle

WSP recorded



3.4 STATE-LISTED SPECIES OF SPECIAL CONCERN

Two species that are listed as New York State Species of Special Concern were identified during the surveys:

are presented in Figure 3-1.

3.5 INCIDENTAL OBSERVATIONS

A total of 36 non-raptor bird species were recorded incidentally during the stationary surveys and driving surveys (see Table 3-7). [redacted], was the only non-raptor state-listed species identified during the surveys (see Section 3.4). In addition to these sightings, multiple sightings of Snow Buntings were observed throughout the study. Northern Shrike individuals were observed on six occasions at points SP2, SP4, SP6, and SP7 between January 12 and March 20, 2024.

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

Common Name	Scientific Name
Snow Goose	*Chen caerulescens*
Canada Goose	*Branta canadensis*
Wood Duck	*Aix sponsa*
Mallard	*Anas platyrhynchos*
American Black Duck	*Anas rubripes*
Wild Turkey	*Meleagris gallopavo*
Rock Pigeon	*Columba livia*
Mourning Dove	*Zenaida macroura*
American Woodcock	*Scolopax minor*
Great Blue Heron	*Ardea herodias*
Downy Woodpecker	*Dryobates pubescens*
Hairy Woodpecker	*Dryobates villosus*
Pileated Woodpecker	*Dryocopus pileatus*
Northern Shrike	*Lanius excubitor*
Blue Jay	*Cyanocitta cristata*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*
Black-capped Chickadee	*Poecile atricapillus*
[redacted]	
Red-breasted Nuthatch	*Sitta canadensis*
White-breasted Nuthatch	*Sitta carolinensis*
European Starling	*Sturnus vulgaris*
Northern Mockingbird	*Mimus polyglottos*
Eastern Bluebird	*Sialia sialis*
American Robin	*Turdus migratorius*
Bohemian Waxwing	*Bombycilla garrulus*
Cedar Waxwing	*Bombycilla cedrorum*
House Sparrow	*Passer domesticus*
American Goldfinch	*Spinus tristis*

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

Common Name	Scientific Name
Snow Bunting	*Plectrophenax nivalis*
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*
Unidentified Songbird	Unidentified songbird

3.6 WEATHER CONDITIONS AND DISTURBANCES

Weather conditions were generally conducive to surveying. Temperatures for the stationary surveys had an average of 30 degrees Fahrenheit (°F), ranging from 0°F to 56°F. Starting temperatures for the driving surveys had an average of 36°F, ranging from 16°F to 64°F. Sustained winds for 36 stationary surveys experienced maximum sustained winds exceeding 12 mph for a portion of the survey (24 percent of stationary surveys); five of the driving survey dates at times exceeded 12 mph. Winds were variable in direction. One of the driving survey dates had periods of light rain or snow. A total of 48 stationary surveys had periods of precipitation (32 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 (e.g., interaction with a landowner or passer-by) were resolved by the surveyor waiting for the disturbance to pass before starting the next 5-minute survey. Any interactions with landowners or passers-by during stationary surveys were kept brief, and the surveyor continued to scan for raptors during the interaction.

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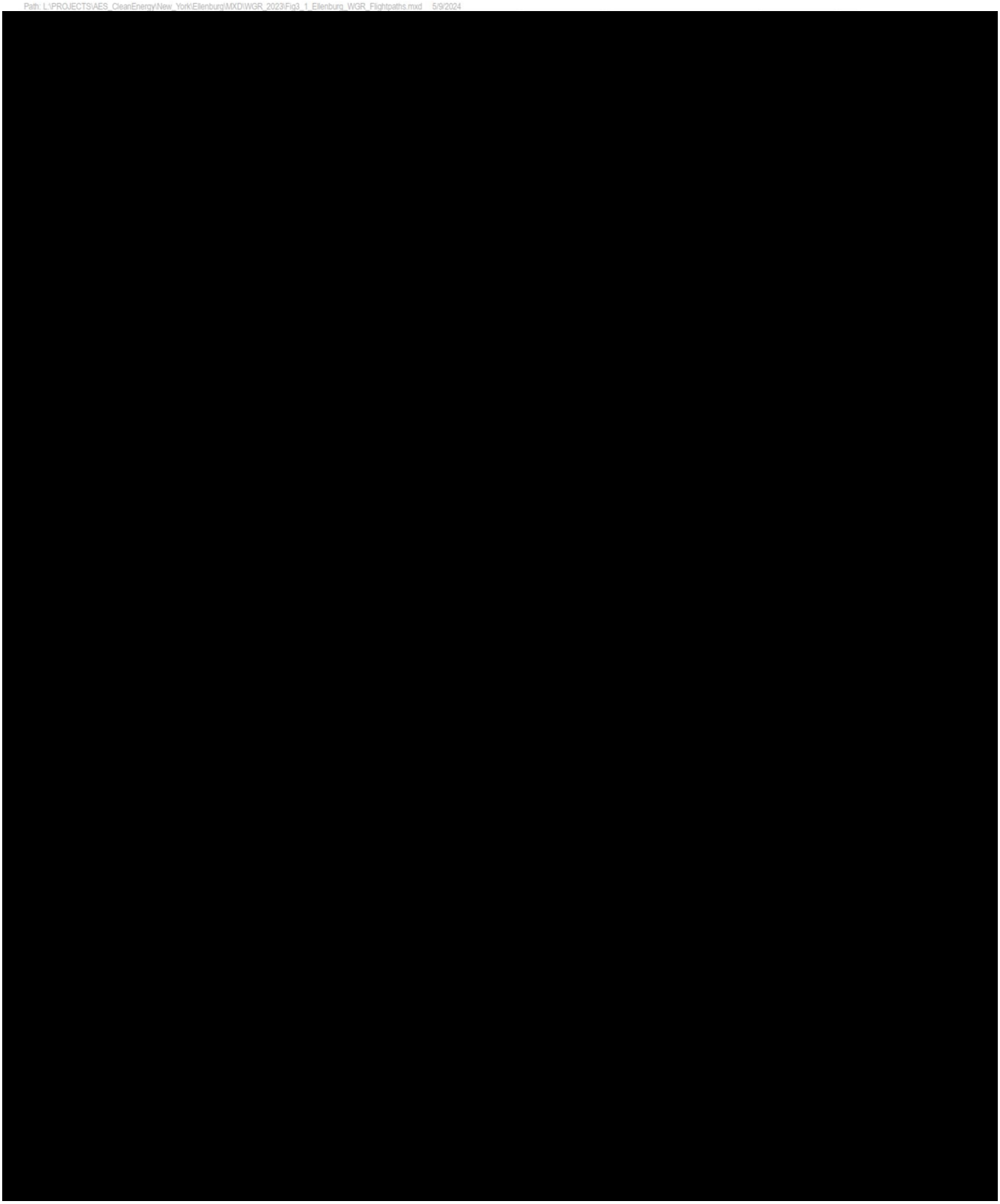

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4 SUMMARY

During the survey season, [redacted] detected during WGR surveys are presented in Figure 3-1.

AES received a draft *Pre-application Wildlife Site Characterization Consultation* letter from ORES in April 2024 (ORES 2024) in response to the Wildlife Site Characterization Report submitted. ORES recommended field surveys for wintering raptors be conducted in all fields greater than 25 acres within the Study Area boundary. WSP conducted WGR surveys in accordance with the NYSDEC *Survey Protocol for State-Listed Wintering Grassland Raptor Species* (2021). The surveys conducted at nine stationary survey points and eight driving survey points from November 20, 2024, through March 30, 2024, provided thorough coverage for the 2023/2024 wintering season as indicated in the study plan comments received from ORES on December 11, 2023 (WSP 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 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.

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APPENDIX

A Photos of Stationary Survey Points

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A. Photos of Stationary Survey Points

Photograph 1 – Point SP1 facing west.

Photograph 2 – Point SP1 facing east.

A. Photos of Stationary Survey Points

Photograph 3 – Point SP2 facing east.

Photograph 4 – Point SP2 facing northwest.

Photograph 5 – Point SP3 facing southwest.

Photograph 6 – Point SP3 facing northeast.

Photograph 7 – Point SP4 facing south.

Photograph 8 – Point SP4 facing east.

Photograph 9 – Point SP5 facing south.

Photograph 10 – Point SP5 facing northwest.

Photograph 11 – Point SP6 facing southeast.

Photograph 12 – Point SP6 facing west.

Photograph 13 – Point SP7 facing east.

Photograph 14 - Point SP7 facing south.

Photograph 15 – Point SP8 facing east.

Photograph 16 - Point SP8 facing west.

APPENDIX

B Full Survey Results

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Table B-1 Stationary Survey Point Data, Clinton Wind Repowering Project, November 2023 through March 2024.

Date	Point #	Sighting Start Time	Sighting End Time	Species	Number	Age1	Sex2	Direction from Observer	Behavior3	Flight Height4	Flight Direction	Re-sight?5	Habitat6	Sighting Notes (e.g., details for potential/confirmed foraging or roosting for target species)
12/16/2023	SP2	15:52	15:52	Red-tailed Hawk	1	Ad	U	N	DF	L	NW	N	PA	
12/16/2023	SP2	16:08	16:20	Red-tailed Hawk	1	Ad	U	N	DF/P	L	NE	Y	PA	Resight from earlier sighting.
12/20/2023	SP4	15:24	15:24	Red-tailed Hawk	1	Ad	U	SE	DF	M	NW	N	AG	Slow and steady DF over AG, to NW. Did not interect with field area.
1/27/2024	SP4	15:48	17:30	Red-tailed Hawk	1	Ad	U	E	DF	M	N	N	AG	
2/10/2024	SP1	16:22	16:28	Red-tailed Hawk	1	Ad	U	NW	P/DF	L	S	N	PA/WO	First observed perched on edge of woods 500m NW of point. Flew south across hayfield, disappeared behind trees to the SW of point.
2/17/2024	SP2	16:54	16:57	Red-tailed Hawk	1	Ad	U	S	FF/P/FF/P/FF	L	S	N	H/PA/WO	
3/3/2024	SP4	17:00	17:01	Red-tailed Hawk	1	Ad	U	E	P/FF/P/FF	L	NE	N	Ag/H	
3/11/2024	SP2	17:51	17:52	Red-tailed Hawk	1	Ad	U	SE	S	M	SW	N	WO	Observed briefly soaring in circle across road near turbine on that side. Few down to woods on side of road and disappeared.
3/22/2024	SP3	18:15	18:27	Red-tailed Hawk	1	Ad	U	W	P/DF	L	S	N	WO	Perched about 200m west of survey point, along woods edge. At 18:27, flew south into woods and out of sight.
3/22/2024	SP3	18:53	18:54	Red-tailed Hawk	1	Ad	U	SW	DF	L	E	Y	AG	Observed flying from woods across corn stubble field. Flew into woods on east side of field and out of sight.
2/28/2024	SP7	16:29	18:12	Rough-legged Hawk	1	Ad	U	SE	FF/DF	M	NE	N	WO/H	Kiting, dark morphology.
12/2/2023	SP1	16:46	16:46	Barred Owl	1	U	U	NE	C	NA	NA	N	WO	Heard single who-cooks-for-you series from woods to NE.
2/10/2024	SP1	17:02	17:01	Barred Owl	2	U	F/M	NW	P	NA	NA	N	WO	Female called 5x from the woods to NW. Then male started counter-calling as both dueted for a couple minutes.

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, C: Calling

[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

Table B-2 Driving Survey Point Data, Clinton Wind Repowering Project, November 2023 through March 2024.

Date	Point #	Sighting Start Time	Sighting End Time	Species	Number	Age1	Sex2	Direction from Observer	Behavior3	Flight Height4	Flight Direction	Re-sight?5	Habitat6	Sighting Notes (e.g., details for potential/confirmed foraging or roosting for target species)
2 [redacted]														
[redacted]														
1/22/2024	DP6	14:58	15:00	Red-tailed Hawk	1	Ad	U	W	DF	M	S	N	AG	
2/29/2024	DP6	16:12	16:17	Red-tailed Hawk	1	Ad	U	S	P/S	M/H	S	N	AG	
3/7/2024	DP4	16:10	16:15	Red-tailed Hawk	1	U	U	N	DF	M	S	N	WO	
12/20/2023	DP8	13:12	13:17	Rough-legged Hawk	1	Ad	U	NE	DF	M	W/E	N	PA	Observed to northeast of point, heading west, flew steadily until it reach the road, did a wide sweeping turn, and then flew back east again.
2/12/2024	DP1	15:47	15:49	Rough-legged Hawk	1	Ad	F	W	P/DF	M	N	N	AG/WO	Female of light morphology was initially perched along western edge of forest, and then flew off north into woods.
3/14/2024	DP9	17:30	17:35	American Kestrel	1	Ad	U	NW	P	NA	NA	N	SS	

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

APPENDIX

C Weather Conditions

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Table C-1: Winter Grassland Raptor Survey Weather Summary, Ellenburg Wind Repowering Project, Clinton County, New York, November 2023 to March 2024.

Survey Period	Date	Temp. (F°)	Wind Direction	Wind mph (min-max)	Cloud Cover (%)	Precipitation (Y/N)	Snow Depth (inches)
Day Prior	11/19/2023	38	NW	6-8	75	N	N/A
1	11/20/2023	25	WNW	0-6	0	N	<1
1	11/21/2023	31	SE	0-9	100	N	0
Day Prior	11/26/2023	22	S	14-15	25	N	N/A
1	11/27/2023	35	WSW	10-14	75	N	0
2	11/28/2023	21	WNW	15-16	95	Y	<1
2	11/29/2023	27	SW	8-10	90	Y	<1
Day Prior	11/30/2023	26	S	12-14	25	N	N/A
2	12/1/2023	40	SSE	3-7	100	Y	0
3	12/2/2023	35	NNE	3-4	100	N	0
Day Prior	12/4/2023	32	N	9-12	100	Y	N/A
3	12/5/2023	25	NNE	0-3	100	Y	4
3	12/6/2023	19	NW	5-6	100	Y	3
3	12/7/2023	24	NE	0-2	81	Y	3
3	12/8/2023	31	ESE	5-6	70	N	3
3	12/9/2023	46	SSE	5-9	95	N	0
3	12/10/2023	41	N	8-10	95	Y	0
Day Prior	12/11/2023	32	W	0-3	100	Y	N/A
4	12/12/2023	35	SW	13-14	90	N	3
4	12/13/2023	27	WNW	13-14	46	N	3
4	12/14/2023	29	WSW	5-11	80	N	5
Day Prior	12/15/2023	36	W	3-6	25	N	N/A
4	12/16/2023	35	SE	5-9	80	N	Patchy
4	12/17/2023	45	SE	3-15	100	Y	Patchy
5	12/18/2023	32	W	10-18	100	Y	Patchy
5	12/19/2023	23	W	11-15	100	N	<1
5	12/20/2023	29	WNW	4-6	100	N	1
5	12/21/2023	22	N	6-10	15	N	<1
5	12/22/2023	32	NW	2-6	0	N	0
6	12/23/2023	31	NW	0-1	100	N	0

Day Prior	12/26/2023	39	SE	0-6	50	N	N/A
6	12/27/2023	40	SE	0-5	95	N	0
Day Prior	12/29/2023	38	NNE	3-7	100	Y	N/A
6	12/30/2023	26	ESE	3-7	100	Y	N/A
6, 7	12/31/2023	23	WNW	3-5	100	N	1
6	1/1/2024	20	W	0-5	100	Y	1
6	1/2/2024	29	WSW	9-12	73	N	1
6, 7	1/3/2024	32	SW	5-6	93	N	1.5
6, 7	1/4/2024	17	WNW	9-10	65	N	2
Day Prior	1/5/2024	28	WSW	0-5	100	N	N/A
7	1/6/2024	12	E	0-9	100	Y	2
Day Prior	1/7/2024	29	E	0-7	100	Y	N/A
7	1/8/2024	26	WNW	0-11	88	N	4
7, 8	1/9/2024	29	E	2-11	100	N	5
7, 8	1/10/2024	36	SW	5-16	84	Y	3
8	1/11/2024	22	W	0-4	96	Y	2
8	1/12/2024	23	SE	6-11	55	N	3
8	1/13/2024	28	E	2-20	100	Y	3
8	1/14/2024	21	WSW	16-17	100	Y	7
8	1/15/2024	20	SE	8-11	35	Y	3
Day Prior	1/16/2024	21	NNW	5-8	100	Y	N/A
9	1/17/2024	14	WSW	11-16	90	Y	5
9	1/18/2024	22	S	3-7	100	Y	4
9	1/19/2024	2	WNW	3-7	48	N	5
9	1/20/2024	6	W	4-10	95	Y	5
9	1/21/2024	9	W	7-11	5	N	5
5, 9	1/22/2024	31	SW	9-10	95	Y	4
10	1/23/2024	26	NE	5-6	100	Y	6
10	1/24/2024	35	SW	3-8	100	Y	4
10	1/25/2024	28	ESE	0-3	100	N	2.5
Day Prior	1/26/2024	36	ESE	5-9	100	Y	N/A
10	1/27/2024	31	NW	0-4	100	Y	3
10	1/28/2024	31	NE	1-5	100	N	4
4, 10	1/29/2024	26	N	4-6	100	Y	2.5
10	1/30/2024	21	E	3-8	100	N	1
11	1/31/2024	32	SW	3-6	100	N	2

11	2/1/2024	34	SW	4-7	100	Y	1
11	2/2/2024	23	N	0-7	100	N	1
11	2/3/2024	25	NW	0-4	90	N	3
11	2/4/2024	28	NE	1-3	0	N	2.5
11	2/5/2024	38	NNW	2-5	0	N	2
11	2/6/2024	28	NNW	4-10	0	N	4
Day Prior	2/7/2024	32	NNE	0-3	100	N	N/A
11	2/8/2024	38	ESE	0-4	35	N	4
Day Prior	2/9/2024	47	SSE	6-10	100	N	N/A
12	2/10/2024	43	W	4-8	100	N	0
12	2/11/2024	34	W	8-11	100	N	0
12	2/12/2024	33	W	3-6	85	Y	0
12	2/13/2024	31	NW	5-9	40	N	0
12	2/14/2024	28	WNW	0-4	15	N	0
12	2/15/2024	25	ESE	6-9	100	N	1.5
13	2/16/2024	21	W	8-10	80	N	3
13	2/17/2024	12	WNW	8-11	40	N	4.5
13	2/18/2024	22	SW	11-14	100	Y	4.5
Day Prior	2/19/2024	24	W	0-7	25	N	N/A
13	2/20/2024	18	SW	3-5	50	N	2
13	2/21/2024	39	SSE	7-9	27	N	5
Day Prior	2/22/2024	38	SSE	8-15	100	N	N/A
14	2/23/2024	38	W	6-7	99	Y	1
14	2/24/2024	11	NNW	8-11	0	N	Patchy
14	2/25/2024	36	SSE	3-13	30	N	1
14	2/26/2024	36	W	2-5	75	N	0
3, 14	2/27/2024	61	SSE	7-11	42	N	0
14	2/29/2024	10	WNW	10-16	0	N	<1
Day Prior	3/1/2024	38	SSE	12-14	25	N	N/A
15	3/2/2024	40	SE	0-1	100	Y	Patchy
15	3/3/2024	43	N	0-4	100	N	0
15	3/4/2024	56	SE	5-12	12	N	0
15	3/5/2024	51	S	5-6	85	N	0
15	3/6/2024	38	NE	0-7	100	Y	0
15	3/7/2024	41	NE	4-11	6	N	0
15	3/8/2024	44	NNE	0-6	100	N	0

15, 16	3/9/2024	40	SSE	15-20	100	Y	0
Day Prior	3/11/2024	39	NW	9-20	25	N	N/A
16	3/12/2024	45	WSW	6-11	1	N	1
16	3/13/2024	47	NNE	0-7	30	N	0
16	3/14/2024	47	N	1-3	99	N	Patchy
16	3/15/2024	44	S	3-5	5	N	Patchy
16	3/16/2024	40	WSW	4-6	95	N	0
17	3/17/2024	40	N	4-9	60	Y	0
17	3/18/2024	27	WNW	6-14	100	Y	0
17	3/19/2024	29	WSW	3-6	100	Y	2
17	3/20/2024	28	W	10-15	97	Y	2
3, 17	3/21/2024	19	W	14-19	47	N	2
17	3/22/2024	20	W	10-11	95	Y	2
Day Prior	3/23/2024	22	NNW	17-20	100	Y	N/A
18	3/24/2024	28	WSW	6-11	0	N	5
18	3/25/2024	42	E	5-8	0	N	<1
Day Prior	3/26/2024	51	E	0-6	100	N	N/A
18	3/27/2024	59	SSW	4-7	36	N	0
18	3/28/2024	40	W	3-9	95	N	0
18	3/29/2024	36	WNW	10-25	10	N	0
18	3/30/2024	36	W	5-7	8	N	0

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.