Iris Bloom Solor Project, LLC

Iris Bloom Solar Energy Center

Wintering Grassland Raptor Survey

May 2025

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LIST OF ABBREVIATIONS AND ACRONYMS

Iris Bloom	Iris Bloom Solar Project, LLC
agl	above ground level
°F	degrees Fahrenheit
Project	Iris Bloom Solar Energy Center
mph	miles per hour
NYSDEC	New York State Department of Environmental Conservation
ORES	Office of Renewable Energy Siting and Electrical Transmission
T&E	Threatened and Endangered Species
WGR	Wintering Grassland Raptor
WSP	WSP USA Inc.

1 INTRODUCTION

1.1 BACKGROUND

Iris Bloom Solar Project, LLC (Iris Bloom) is proposing to construct and operate the Iris Bloom Solar Energy Center (Project), which is located within the Towns of Charlotte and Stockton, Chautauqua County, New York. Throughout this document, "Study Area" refers to project parcels that form the outer Project Boundary around the site. Figure 1-1 presents the proposed Project Boundary at the time of the wintering grassland raptor (WGR) surveys. Infrastructure proposed within the Project includes solar panels and racking, pad-mounted inverter/transformers, an interconnection area, perimeter security fences, and access roads.

WSP USA Inc. (WSP) conducted WGR surveys at the Project from November 25, 2024, to April 9, 2025. An avian study plan was submitted to the Office of Renewables Energy Siting and Energy Transmission (ORES) in compliance with 19 New York Codes, Rules and Regulations § 1100-1.3(g) on October 15, 2024 (WSP 2024a). ORES reviewed the avian study plan, which was prepared consistent with the New York State Department of Environmental Conservation (NYSDEC) *Survey Protocol for State-Listed Wintering Grassland Raptor Species* (2021). ORES provided comments on October 30, 2024. WSP did not provide a response but made the change in point location as suggested.

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.

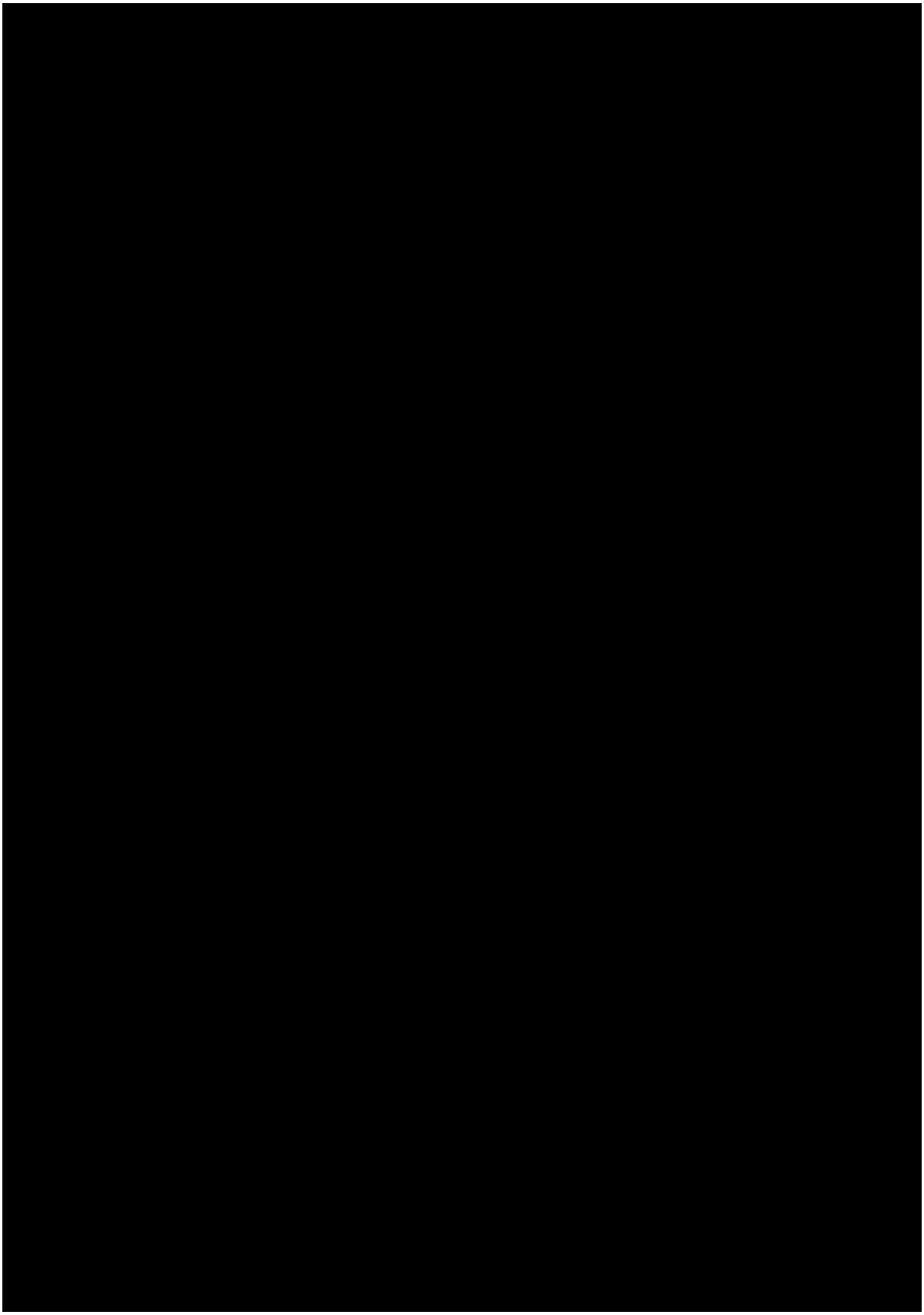
Data collected during the surveys will also be used to review whether suitable or occupied habitat for bird species listed as threatened or endangered by New York State or the U.S. Fish and Wildlife Service is identified within the Study Area as part of the Article VIII application process.

The methodology and results of the 2024/2025 WGR survey effort are summarized in this report.

1.2 STUDY AREA

The Study Area comprises the Project parcels within the proposed Project Boundary. The proposed Project encompasses approximately 762 acres in Chautauqua County, New York. Figure 1-1 depicts the Project Boundary (which is also the boundary of the Study Area) and the land cover types within that area. The elevation within the Study Area is approximately 1600 feet (488 meters) above sea level on average. Based on data from the 2021 National Land Cover Database and site reconnaissance, most of the land cover within the Survey Area is composed of deciduous forest (approximately 36 percent) (USGS 2021). Other dominant land cover types throughout the Study Area include hay/pasture (approximately 34 percent) and mixed forest

(approximately 15.5 percent). The remaining habitat types (e.g., evergreen forest, cultivated crops, woody wetlands, open space, and developed spaces) each consist of less than 5 percent of the Study Area acreage (Figure 1-1).



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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, with special attention given to New York state-listed raptor species, such as the [redacted] use and distribution in the Study Area were established in accordance with the study plan (WSP 2024a).

As 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). [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. The number of survey points selected were to provide full visual coverage of all open habitats greater than 25 acres in size in which Project components and construction activities are proposed.

WSP identified six stationary evening survey locations in the study plan in open habitat that provided a wide field of view. The location of each stationary evening survey point is presented in Figure 2-1, along with a field visibility analysis for each stationary evening survey point. Table 2-1 provides a description of the habitat within a 1,000-meter radius of each stationary evening survey location. Photos taken from each stationary point are provided in Appendix A.

[redacted]

Based on the selection criteria outlined in NYSDEC's guidelines (NYSDEC 2021), the daytime driving route survey involved stopping at nine designated roadside points during a one-day survey that includes driving all roads within the Study Area. 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 stationary and driving route survey location.

A driving route survey was performed in each survey period (19 surveys total, conducted approximately weekly) from mid-November 2024 through early-April 2025. As with the extension

of stationary surveys in response to detections of focal grassland raptor species, one driving survey was conducted during the nineteenth survey period in April 2025.

Table 2-1 Habitat Description within a 1,000-meter Radius of Stationary Survey Locations (S) and Driving Survey Locations (D) at the Iris Bloom Solar Energy Center

Point ID	Habitat Description
S1	The point is surrounded by hay/pasture fields and forest. A field with young, planted trees stretches approximately 410 meters to the south, transitioning into a forested habitat that continues to the edge of the 1,000-meter radius. Forested areas are located within 1,000 meters of the point in all directions, with patches of cultivated agricultural and hay/pasture fields primarily to the north, east, and west. Directly north of the point, a small open field extends 110 meters. A small electric power station is located roughly 75 meters to the northeast, with a larger electric power station located roughly 230 meters beyond that in the north/northeast.
S2	Within the 1000-meter radius, a matrix of hay/pasture, forest, cultivated agriculture, and developed areas surround the point. Approximately 345 meters to the north/northwest begins a large recycling center. The same larger electric power station to the north/northeast of stationary point S1 is located approximately 275 meters from stationary point S2 to the southeast. Hay fields and pasture span the majority of viewable area to the east and west of the point, intersected by New York State Route 60.
S3	Hay/pasture fields surround the point, extending to the edge of the 1,000-meter radius to the north and south, approximately 500 meters to the west, and approximately 700 meters to the northeast. Directly east of the point, a thin hedgerow starts at roughly 60 meters and forms into a forested habitat that continues to the edge of the 1,000-meter radius. To the west, forested habitat begins, following the 500 meters of hay/pasture, and continues to the edge of the 1,000-meter radius as well.
S4	The point is surrounded by hay/pasture fields and forest in all directions within the 1,000-meter radius. Open fields continue 730 meters to the northwest, divided by a hedgerow starting at approximately 400 meters that separates the fields for stationary point S3 and stationary point S4. Hay/pasture fields span the entire 1,000 meter distance to the south of the point, with one hedgerow occurring at 180 meters. Forested habitat start roughly 310 meters to the west and 290 meters to the east of the point, and continue to the edge of the 1,000-meter radius in both directions.
S5	The point is in a hay field and is primarily surrounded by hay/pasture and cultivated agriculture fields on all sides. Deciduous forest starts at roughly 370 meters to the north, 590 meters to the west, 450 meters to the east, and beyond the 1,000-meter radius to the south. The hay field that the point is located within transitions to planted cornfield at roughly 290 meters to the west and continues down approximately 520 meters from the point to the south/southwest.
S6	A patchwork of hay/pasture, agriculture, and forested habitats make up the 1,000-meter radius around the point. A privately owned residential home/farm is located approximately 370 meters to the southwest, and a deciduous forest starts roughly 900 meters to the north. Pasture is located on the eastern side of the point until forest starts at approximately 280 meters, and cornfield makes up the area to the west until forest starts at roughly 320 meters.
D1	Directly to the east of the point, a forested habitat starts at approximately 30 meters and continues 900 meters to the northeast. To the west, open fields make up the area with a few hedgerows, turning into forest at roughly 950 meters. Open hay/pasture

Table 2-1 Habitat Description within a 1,000-meter Radius of Stationary Survey Locations (S) and Driving Survey Locations (D) at the Iris Bloom Solar Energy Center

Point ID	Habitat Description
	fields make up the area all the way to the 1,000-meter radius to the south, and a matrix of fields, forest, and residential properties make up the area up to the 1,000-meter radius edge in the north.
D2	The point is surrounded by hay/pasture fields and forest in all directions within the 1,000-meter radius. Hay/pasture fields span the entire 1,000-meter distance to the south of the point. Forested habitats start roughly 310 meters to the west and 290 meters to the east of the point and continue to the edge of the 1,000-meter radius in both directions. Open field transitions into forest roughly 760 meters to the northwest. The point is at roughly the same location as stationary point S4.
D3	Hay/pasture fields surround the point, extending to the edge of the 1,000-meter radius to the north and south, approximately 500 meters to the west, and approximately 700 meters to the northeast. Directly east of the point, a thin hedgerow starts at roughly 60 meters and forms into a forested habitat that continues to the edge of the 1,000-meter radius. To the west, forested habitat begins, following the 500 meters of hay/pasture, and continues to the edge of the 1,000-meter radius as well. The point is at roughly the same location as stationary point S3.
D4	Residential properties are near the point in the north, northwest, and northeast, with the closest property approximately 30 meters from the point. A combination of open hay/pasture fields and forests are found in all directions, with the majority of forested habitat on the west side. Hay and pasture fields are located all the way to the southern edge of the 1,000-meter radius, with a few hedgerows dividing fields.
D5	Within the 1,000-meter radius, a matrix of hay/pasture, forest, cultivated agriculture, and developed areas surround the point. Open fields are on the east and west sides, intersected by New York State Route 60. Residential properties fall within the 1,000-meter radius to the north and south. The same large electric power station that is found to the northwest of stationary point S1 and driving point S9 is located roughly 260 meters to the southwest of the point. The point is at roughly the same location as stationary point S2.
D6	Open hay fields and forest surround the point. A small electric power station is located approximately 60 meters to the northwest, followed by a larger electric power station roughly 295 meters away in the same direction. Open field spans 95 meters to the north and transitions into a combination of open field and forest up to the 1,000-meter radius edge. To the south, an open field with planted saplings is visible up to 410 meters and transitions to forest. A matrix of hay fields, agriculture fields, and forests make up the area to the east and west. The point is at roughly the same location as stationary point S1.
D7	The point is surrounded by hay/pasture fields and forest. A field with young, planted trees stretches approximately 410 meters to the south, transitioning into a forested habitat that continues to the edge of the 1,000-meter radius. Forested areas are located within 1,000 meters of the point in all directions, with patches of cultivated agricultural and hay/pasture fields primarily to the north, east, and west. Directly north of the point, a small open field extends 110 meters. A small electric power station is located roughly 75 meters to the northeast, with a larger electric power station found around 230 meters beyond that in the north/northeast.

Table 2-1 Habitat Description within a 1,000-meter Radius of Stationary Survey Locations (S) and Driving Survey Locations (D) at the Iris Bloom Solar Energy Center

Point ID	Habitat Description
D8	Within the 1,000-meter radius, a matrix of hay/pasture, forest, cultivated agriculture, and developed areas surround the point. Approximately 345 meters to the north/northwest begins a large recycling center. The same larger electric power station to the north/northeast of stationary point S1 is located approximately 275 meters from stationary point S2 to the southeast. Hay fields and pasture span most of the viewable area to the east and west of the point, intersected by New York State Route 60.
D9	Hay/pasture fields surround the point, extending to the edge of the 1,000-meter radius to the north and south, approximately 500 meters to the west, and approximately 700 meters to the northeast. Directly east of the point, a thin hedgerow starts at roughly 60 meters and forms into a forested habitat that continues to the edge of the 1,000-meter radius. To the west, forested habitat begins, following the 500 meters of hay/pasture, and continues to the edge of the 1,000-meter radius as well.

2.2 FIELD METHODS

2.2.1 STATIONARY EVENING SURVEYS

Six stationary points were surveyed once during each of the 19 survey periods. During a stationary evening survey, the avian surveyor scanned the open habitat with binoculars and/or a spotting scope to look for and identify raptors utilizing the Study Area. Stationary surveys were conducted from at least one hour before sunset to one-half hour after sunset, which could be extended up to one hour after sunset [redacted]

2.2.2 DAYTIME DRIVING ROUTE SURVEYS

One driving survey was conducted for each of the 19 survey periods, approximately one week apart. Each driving survey involved stops at nine 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 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 took place in the afternoon with a duration of approximately an hour and a half.

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 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; and
- additional details for any federally and state-listed threatened or endangered bird species encountered.

Flight paths [redacted] 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. [redacted] Non-raptor bird species encountered during the surveys were recorded as incidental observations. Additional details were noted for any federal 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 both survey types 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/or 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 is otherwise consistent as described in Section 2.2.3. Shapefiles of point count survey locations and any sightings of all federally and/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 was not used in the final quantitative analysis.

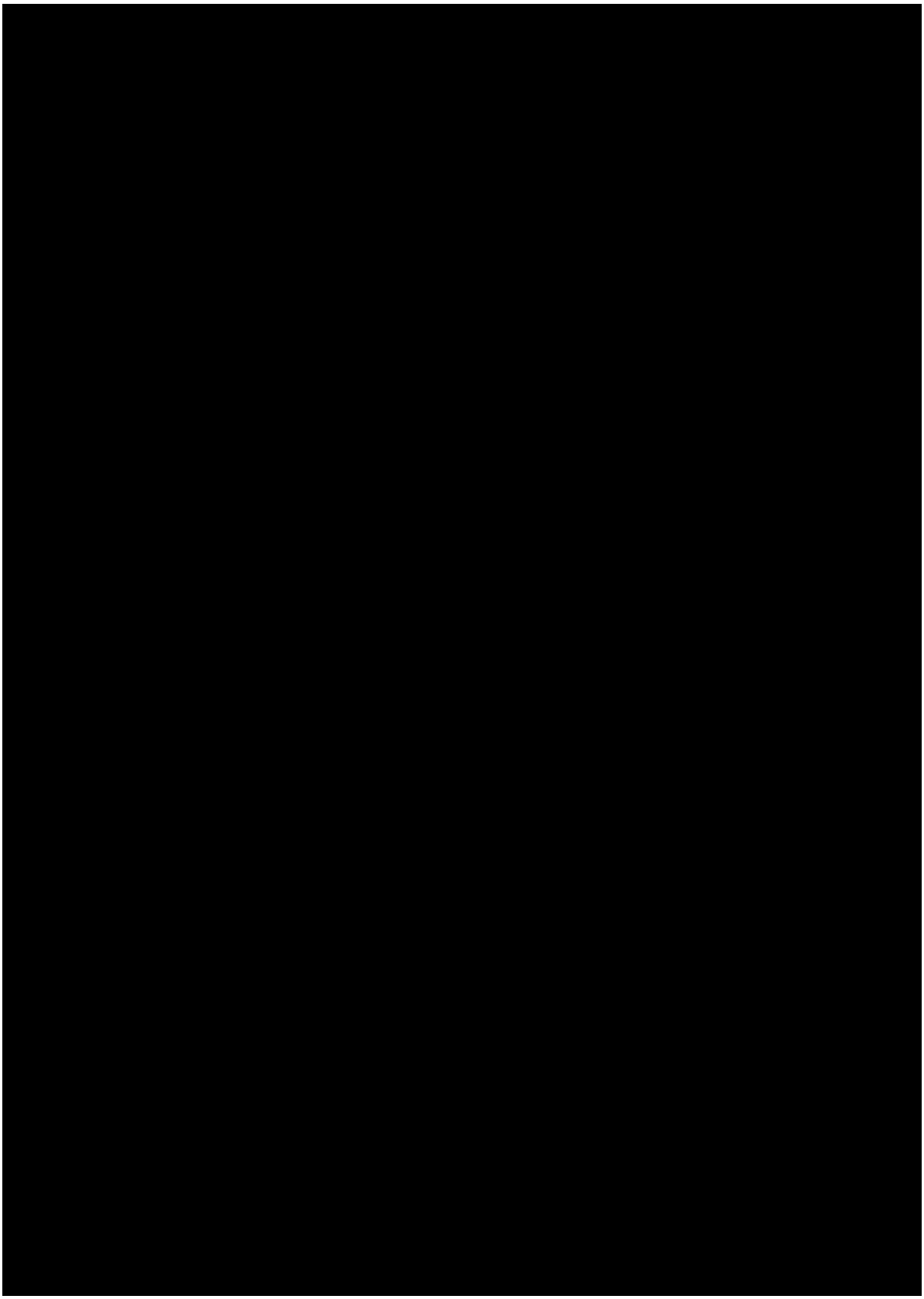
2.6 WEATHER CONDITIONS

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 light snow or maximum winds greater than 12 miles per hour. 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, cloud cover, and wind direction were obtained using the Wunderground or Weather Channel mobile application and verified by the surveyor’s observations in the field.

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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3 RESULTS

3.1 SURVEY OVERVIEW

WSP conducted 114 stationary surveys (171 hours of survey effort) and 19 driving surveys (171 driving stops; 14.25 hours of survey effort) from November 15, 2024, through April 9, 2024 (see Table 3-1). Each stationary survey point location (S1 through S6) was surveyed 19 times.

[redacted]

Table 3-1 Summary of Survey Dates per Stationary Point and the Driving Route, Iris Bloom Solar, November 2024 through April 2025

Survey Point	November	December	January	February	March	April	Total Surveys
S1	11/18, 11/24	12/3, 12/13, 12/19, 12/26	1/6, 1/17, 1/26, 1/30	2/5, 2/10, 2/21, 2/26	3/4, 3/12, 3/21, 3/25	4/9	19
S2	11/17, 11/24	12/8, 12/13, 12/19, 12/25	1/5, 1/9, 1/22, 1/28	2/1, 2/10, 2/19, 2/22	3/2, 3/9, 3/18, 3/26	4/4	19
S3	11/15, 11/21	12/7, 12/17, 12/23, 12/30	1/9, 1/16, 1/22, 1/30	2/4, 2/14, 2/21, 2/25	3/8, 3/14, 3/24, 3/27	4/9	19
S4	11/18, 11/27	12/3, 12/14, 12/19, 12/27	1/6, 1/12, 1/21, 1/28	2/1, 2/11, 2/19, 2/23	3/3, 3/11, 3/17, 3/25	4/1	19
S5	11/19, 11/25	12/7, 12/17, 12/23, 12/28	1/7, 1/17, 1/24, 1/30	2/4, 2/24, 2/21, 2/25	3/8, 3/13, 3/18, 3/27	4/9	19
S6	11/18, 11/27	12/8, 12/17, 12/22, 12/26	1/5, 1/10, 1/24, 1/30	2/7, 2/11, 2/19, 2/23	3/3, 3/10, 3/17, 3/25	4/6	19
Driving (D1 through D9)	11/18, 11/25	12/8, 12/14, 12/19, 12/26	1/6, 1/10, 1/22, 1/30	2/5, 2/11, 2/19, 2/23	3/3, 3/10, 3/18, 3/27	4/4	19

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

3.2.1 RAPTOR DETECTIONS BY SURVEY POINT

Stationary Evening Surveys. WSP surveyors recorded 135 detections of nine raptor species (see Table 3-2). Abundance ranged from one to 82 raptor detections per species. [redacted]

[redacted]

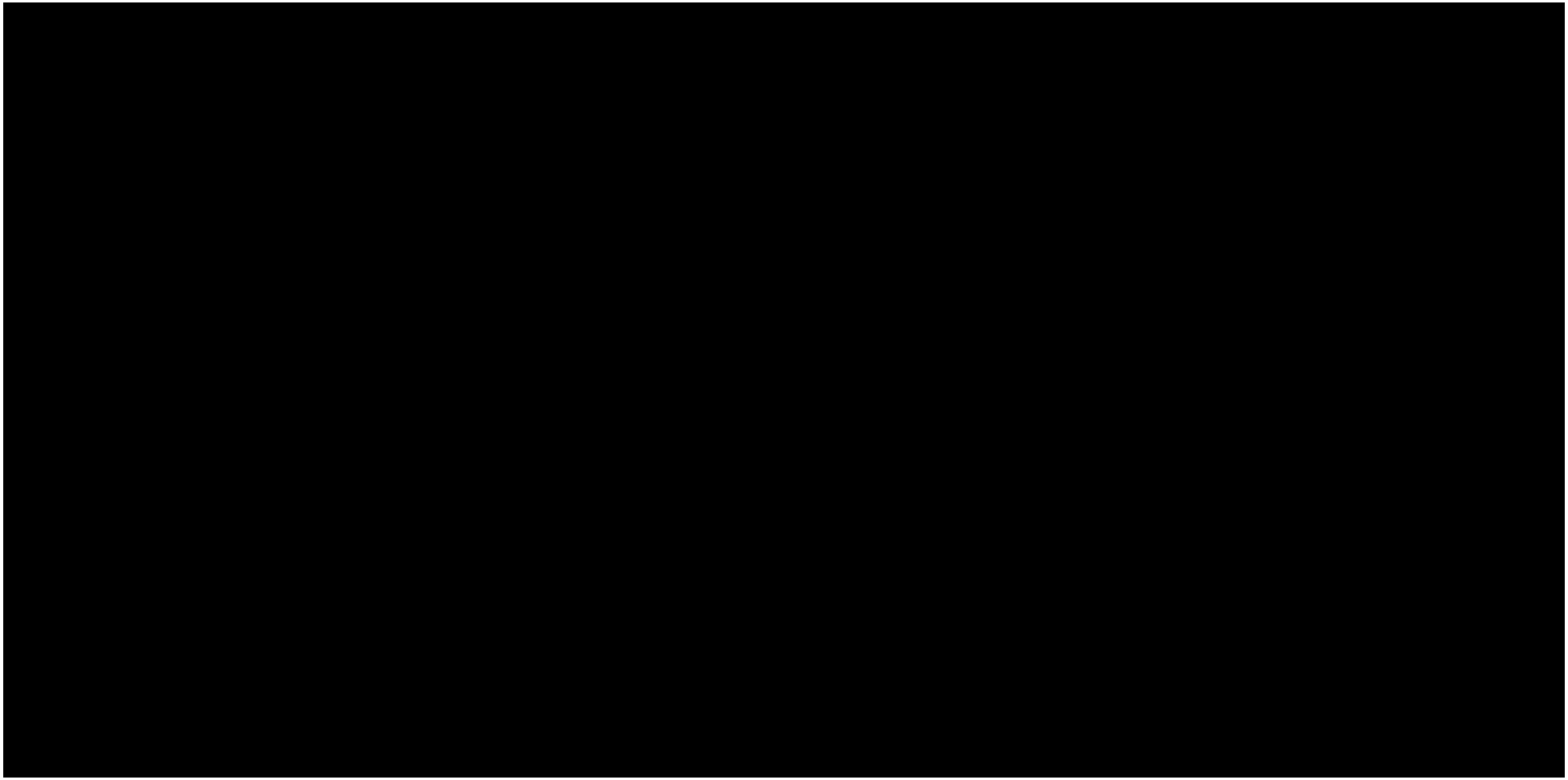
Driving Surveys. WSP surveyors recorded 127 sightings of nine raptor species during driving surveys in addition to one unidentified buteo (see Table 3-3). Abundance ranged from one to 53 raptor sightings per species. [redacted]

The overall sighting rate for the driving surveys was 8.9 raptor sightings per hour. The survey location with the highest sighting rate and raptor frequency recorded was survey point D3, with 35 sightings (22.2 sightings per hour; see Table 3-3). The survey location with the lowest sighting rate was survey point D4 (four sightings; 2.5 sightings per hour).

3.2.2 RAPTOR DETECTIONS BY SURVEY PERIOD

Six evening stationary surveys were conducted for each of the 19 survey periods spanning mid-November 2024 through mid-April 2025. For stationary surveys, the highest raptor sighting rate occurred in period 17 (1.9 sightings per hour; see Table 3-4). The lowest sighting rate occurred in period 8 (0.2 sightings per hour).

One daytime driving survey was conducted for each of the 19 survey periods. For driving surveys, the highest raptor sighting rate occurred in period 18 (49.3 sightings per hour; see Table 3-5), because of Turkey Vultures moving through the Study Area during spring raptor migration. Periods 9 and 13 had the lowest sighting rate of 1.3 sightings per hour.



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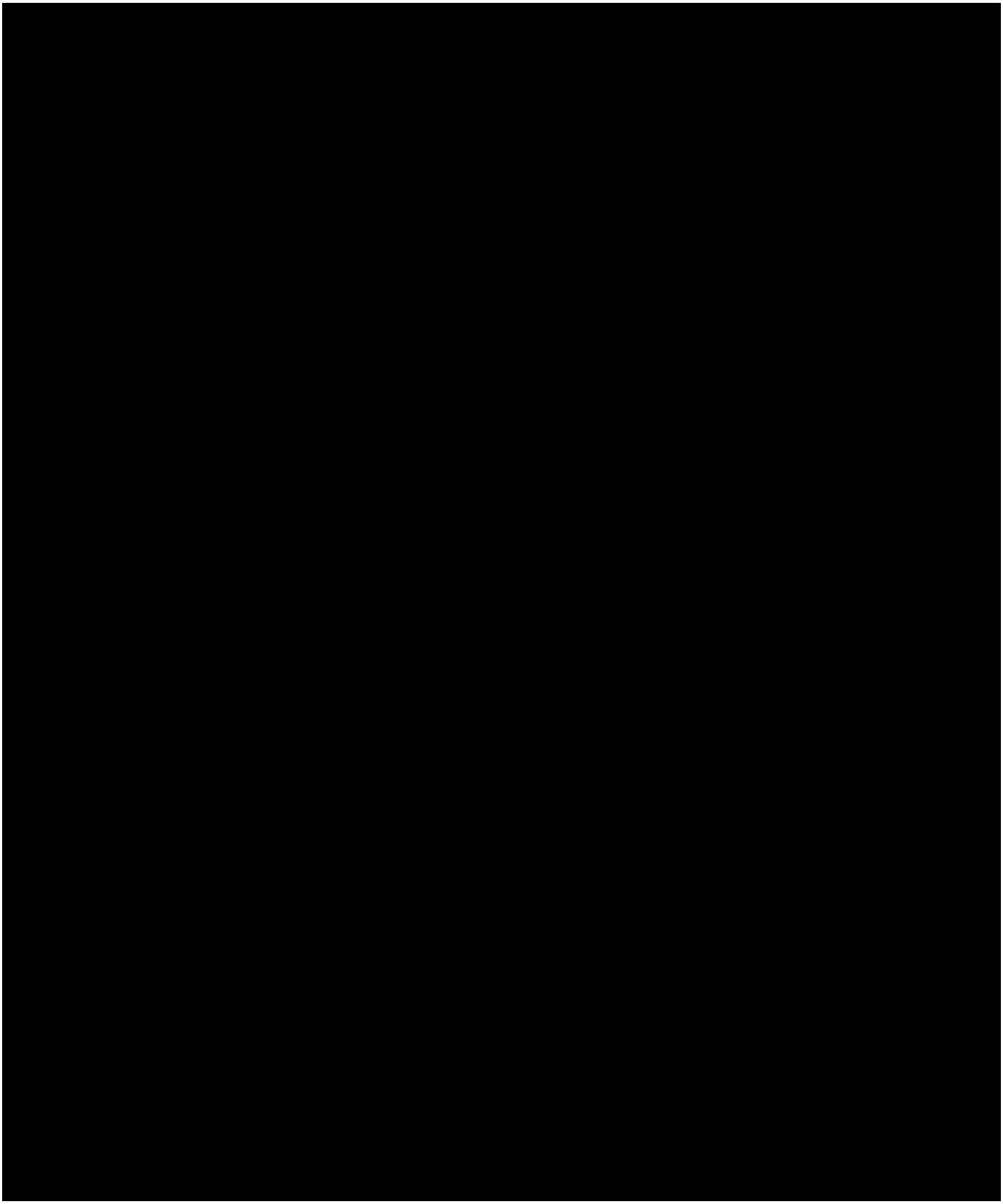

[redacted]

3.5 INCIDENTAL OBSERVATIONS

A total of 41 non-raptor species was recorded incidentally during the stationary surveys and driving surveys (see Table 3-7). [redacted]

Table 3-7 Incidental Bird Species Identified during Wintering Raptor Surveys, Iris Bloom Solar, November 2024 through April 2025

Common Name	Scientific Name
Canada Goose	*Branta canadensis*
Wood Duck	*Anix sponsa*
Mallard	*Anas platyrhynchos*
American Black Duck	*Anas rubripes*
Northern Pintail	*Anas acuta*
Green-winged Teal	*Anas crecca*
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*
Great Blue Heron	*Ardea herodias*
Red-bellied Woodpecker	*Melanerpes carolinus*
Downy Woodpecker	*Picoides pubescens*
Hairy Woodpecker	*Picoides villosus*
Northern Flicker	*Colaptes auratus*
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*
Tufted Titmouse	*Baeolophus bicolor*
Horned Lark	*Eremophila alpestris*
White-breasted Nuthatch	*Sitta carolinensis*
European Starling	*Sturnus vulgaris*
Northern Mockingbird	*Mimus polyglottos*
Eastern Bluebird	*Sialia sialis*
American Robin	*Turdus migratorius*
Snow Bunting	*Plectrophenax nivalis*
American Tree Sparrow	*Spizella arborea*
Chipping Sparrow	*Spizella passerina*
Dark-eyed Junco	*Junco hyemalis*
Song Sparrow	*Melospiza melodia*
Eastern Meadowlark	*Sturnella magna*
Red-winged Blackbird	*Agelaius phoeniceus*
Brown-headed Cowbird	*Molothrus ater*

Table 3-7 Incidental Bird Species Identified during Wintering Raptor Surveys, Iris Bloom Solar, November 2024 through April 2025

Common Name	Scientific Name
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 34 degrees Fahrenheit (°F), ranging from 7°F to 67°F. Five of the 114 stationary surveys experienced maximum sustained winds exceeding 12 mph for at least a portion of the survey (4% percent of stationary surveys). Winds were variable in direction. A total of 10 stationary surveys had periods of precipitation (9% percent of stationary surveys), including light to moderate snow/flurries, drizzle, and light rain. Visibility was generally not impacted during periods of precipitation, and raptors were detected during surveys on 6 of the 10 surveys that had precipitation. Starting temperatures for the driving surveys had an average of 38°F, ranging from 10°F to 68°F. Sustained winds for the driving surveys exceeded 12 mph once in period 18 on March 27, 2025. Weather conditions during the wintering grassland raptor surveys are provided 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 passer-by) 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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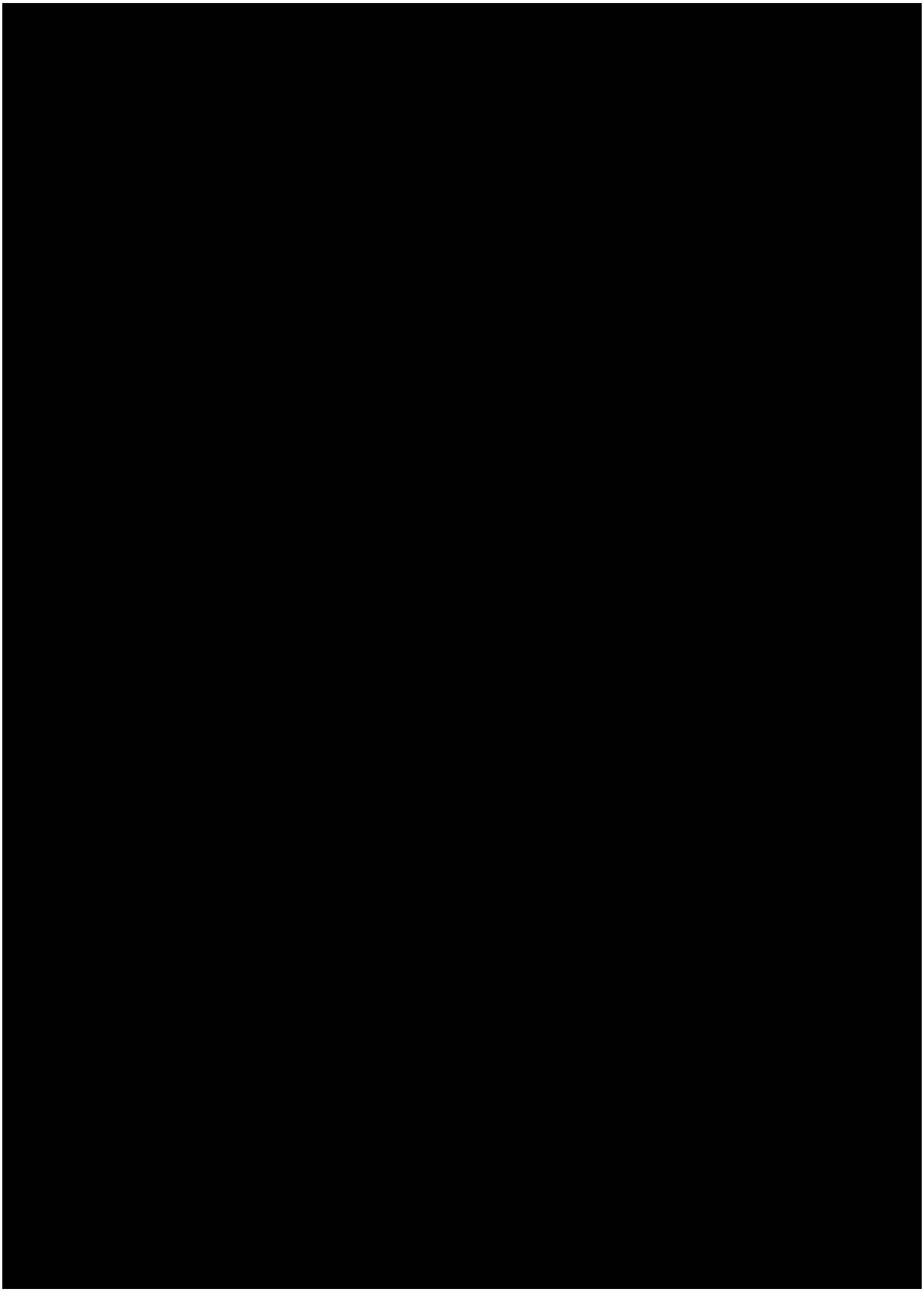

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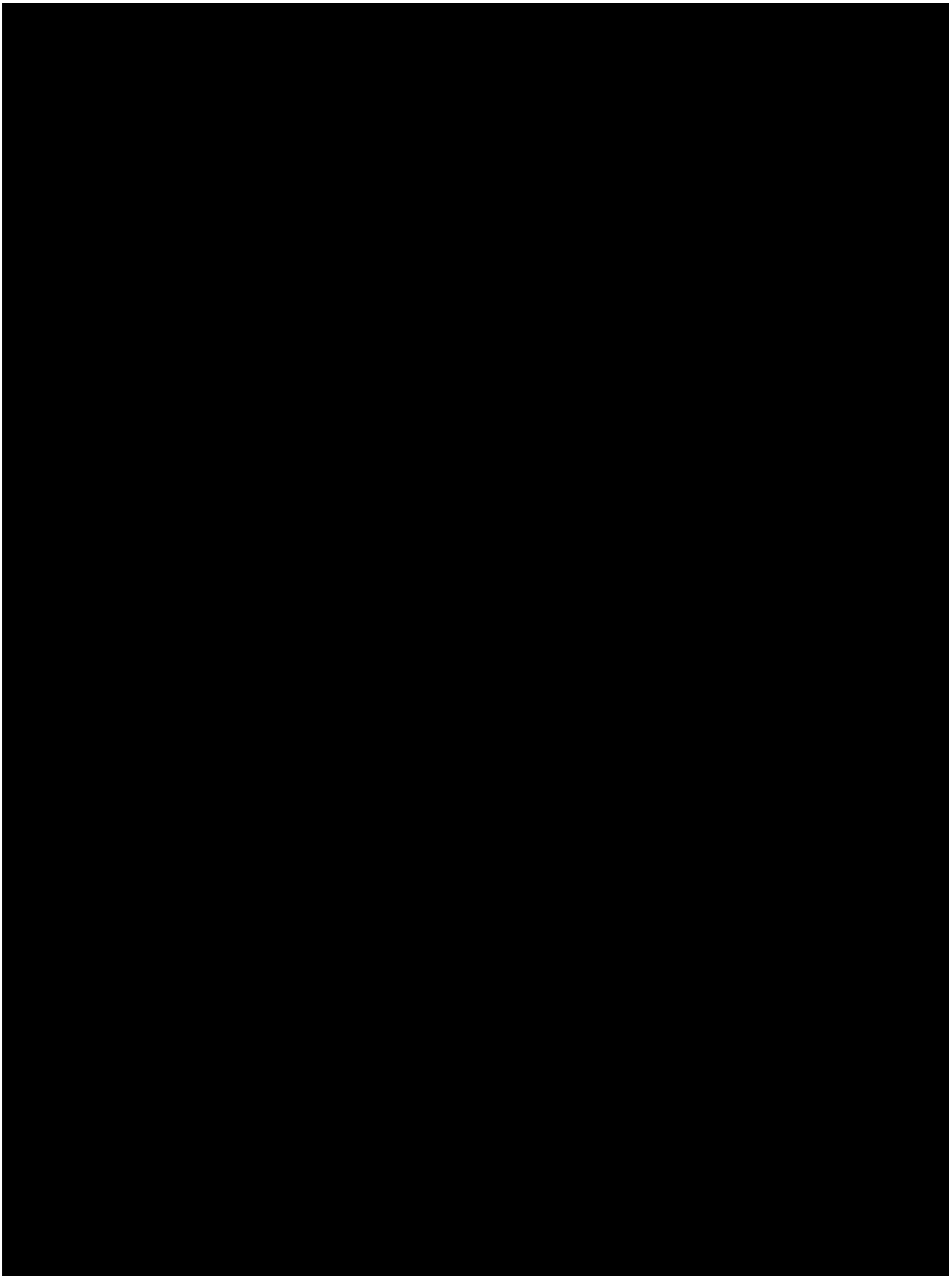

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4 DISCUSSION

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Field surveys for wintering grassland raptors were conducted in all fields greater than 25 acres within the Project boundary. WSP conducted wintering grassland raptor surveys in accordance with the NYSDEC *Draft Survey Protocol for State-Listed Wintering Grassland Raptor Species* (NYSDEC 2021). The 19 surveys at six stationary survey points and nine driving survey points between November 15, 2024, and April 9, 2025, provided thorough coverage of the Study Area throughout the 2024/2025 wintering season. 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 wintering grassland raptor species.

Occupied habitat refers to areas within the Study Area where threatened or endangered species are actively exhibiting essential behaviors. [redacted] Occupied habitat will be designated after the limits of disturbance are identified.

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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. March 2025.

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WSP USA Inc. (WSP). 2024b. *Wildlife Site Characterization for Iris Bloom Solar Facility, Towns of Charlotte and Stockton, Chautauqua County, New York*. October 2024.

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APPENDIX

A Photos of Stationary Survey Points

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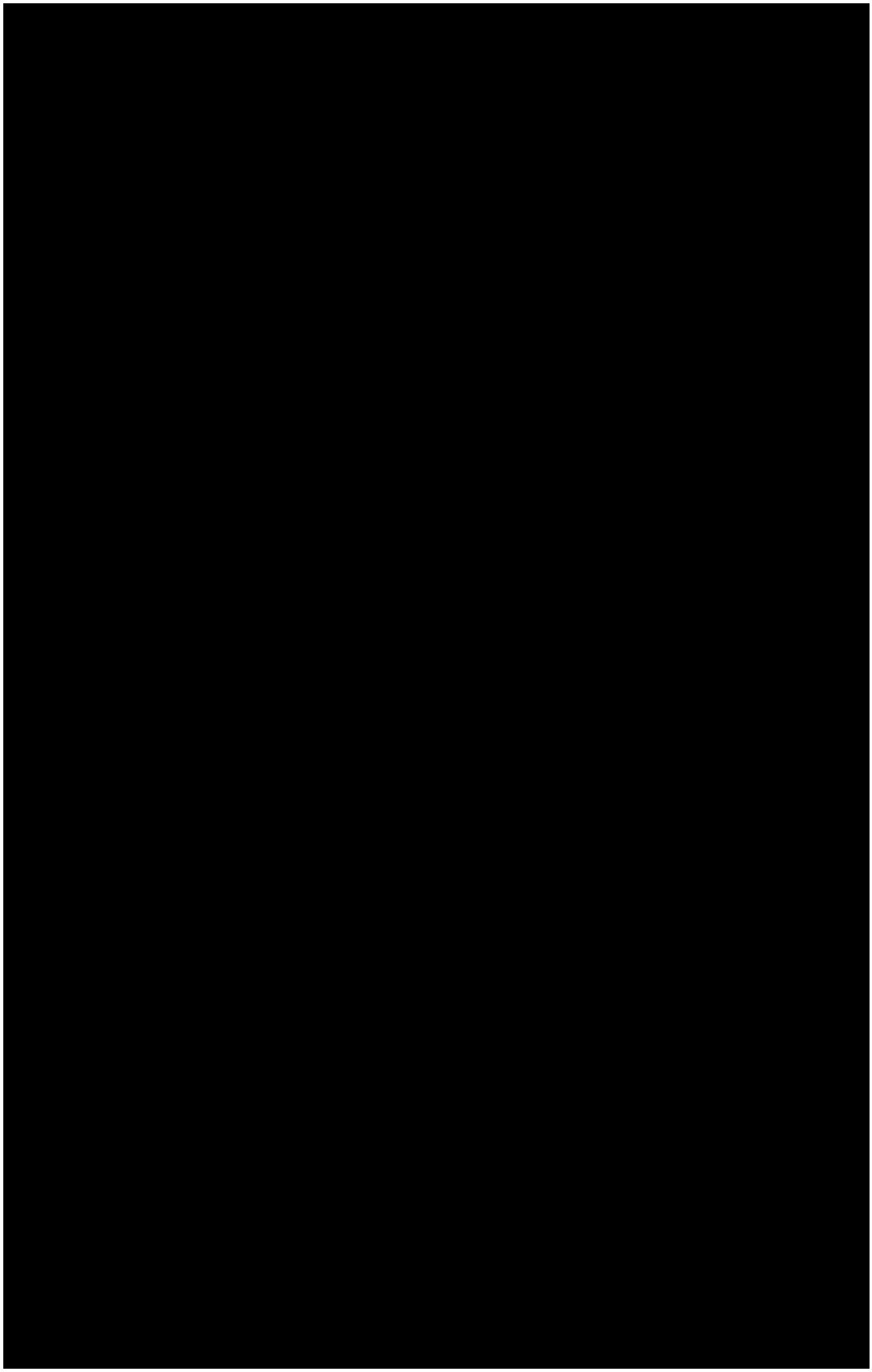
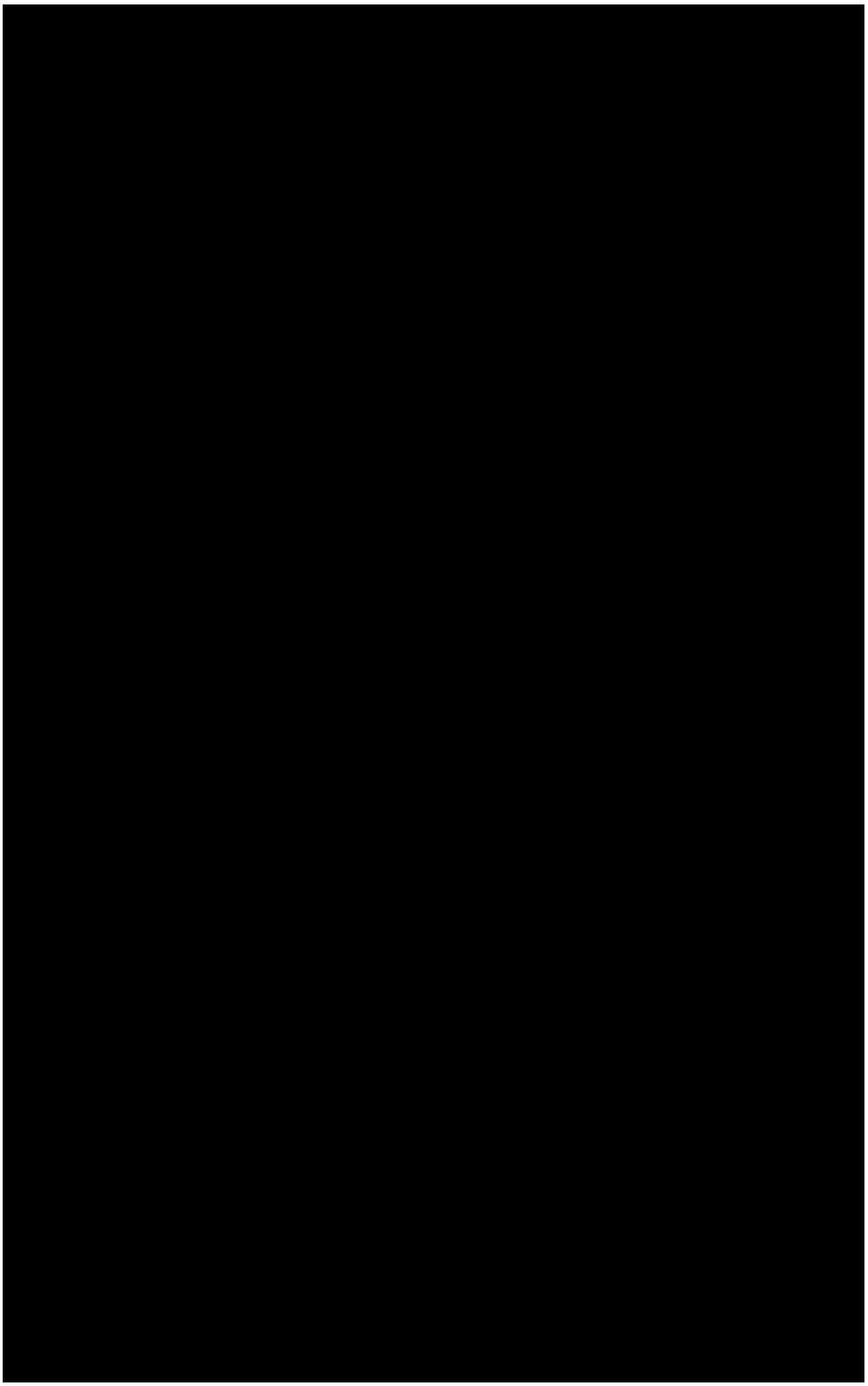
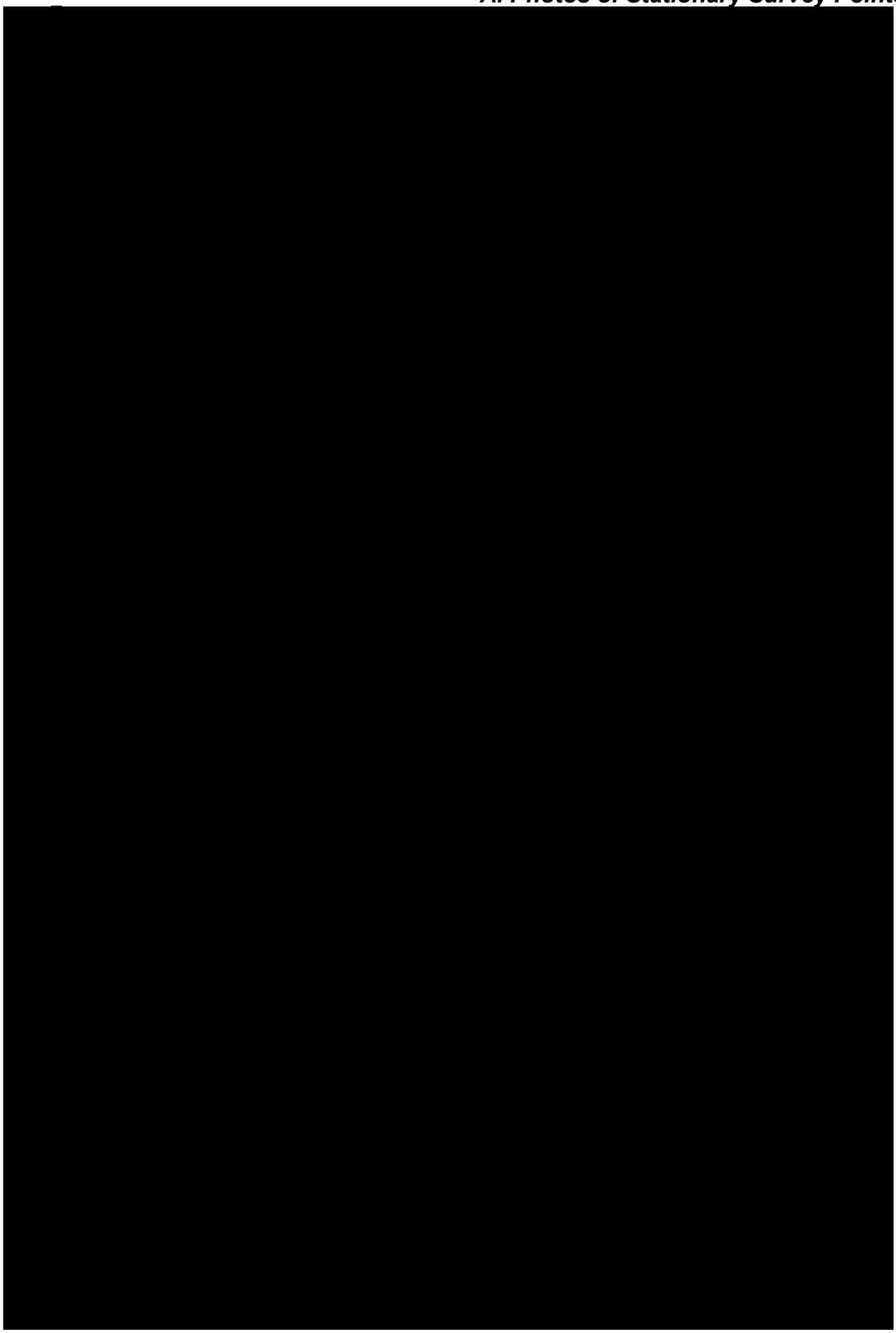
A. Photos of Stationary Survey Points

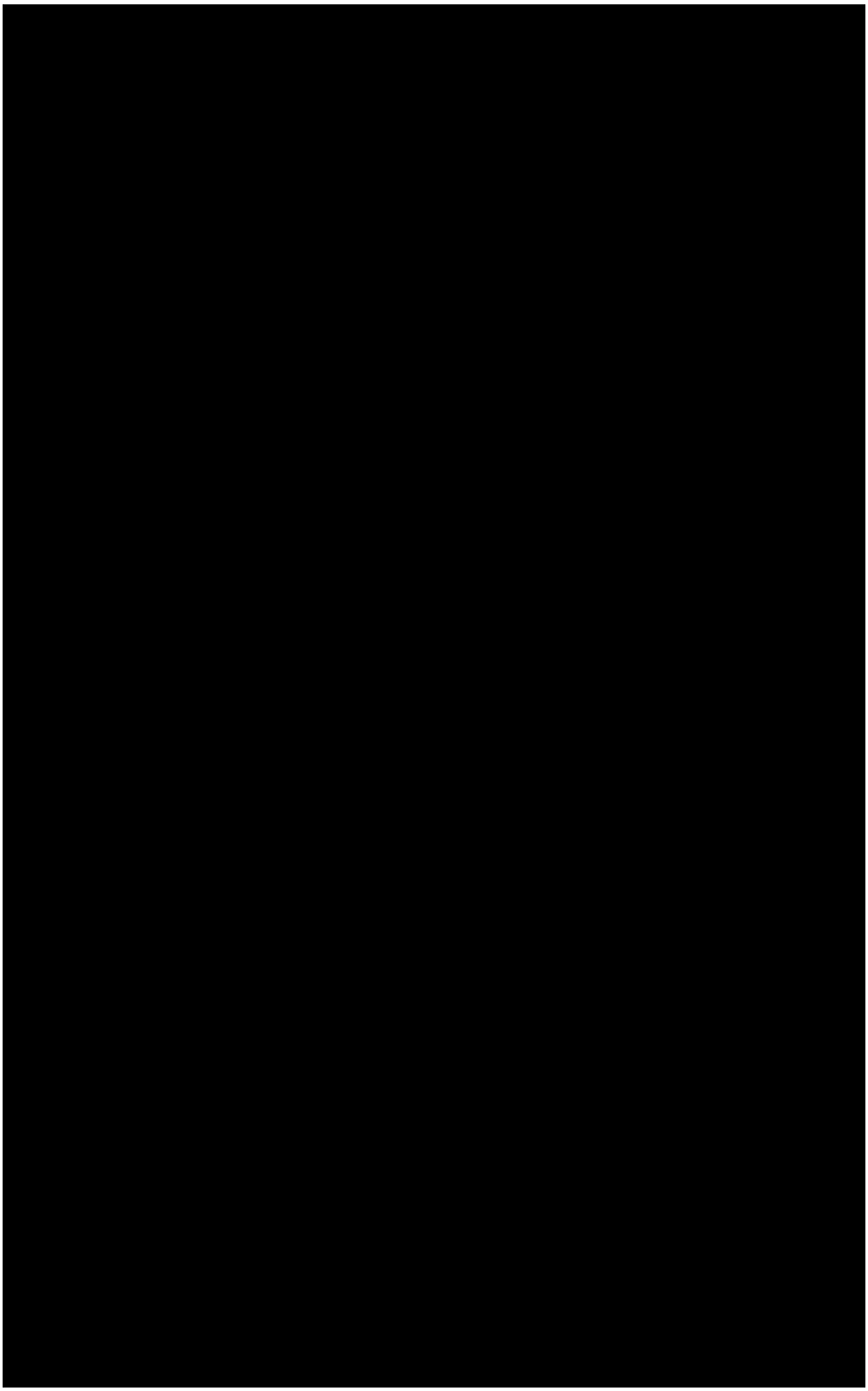


A. Photos of Stationary Survey Points



A. Photos of Stationary Survey Points





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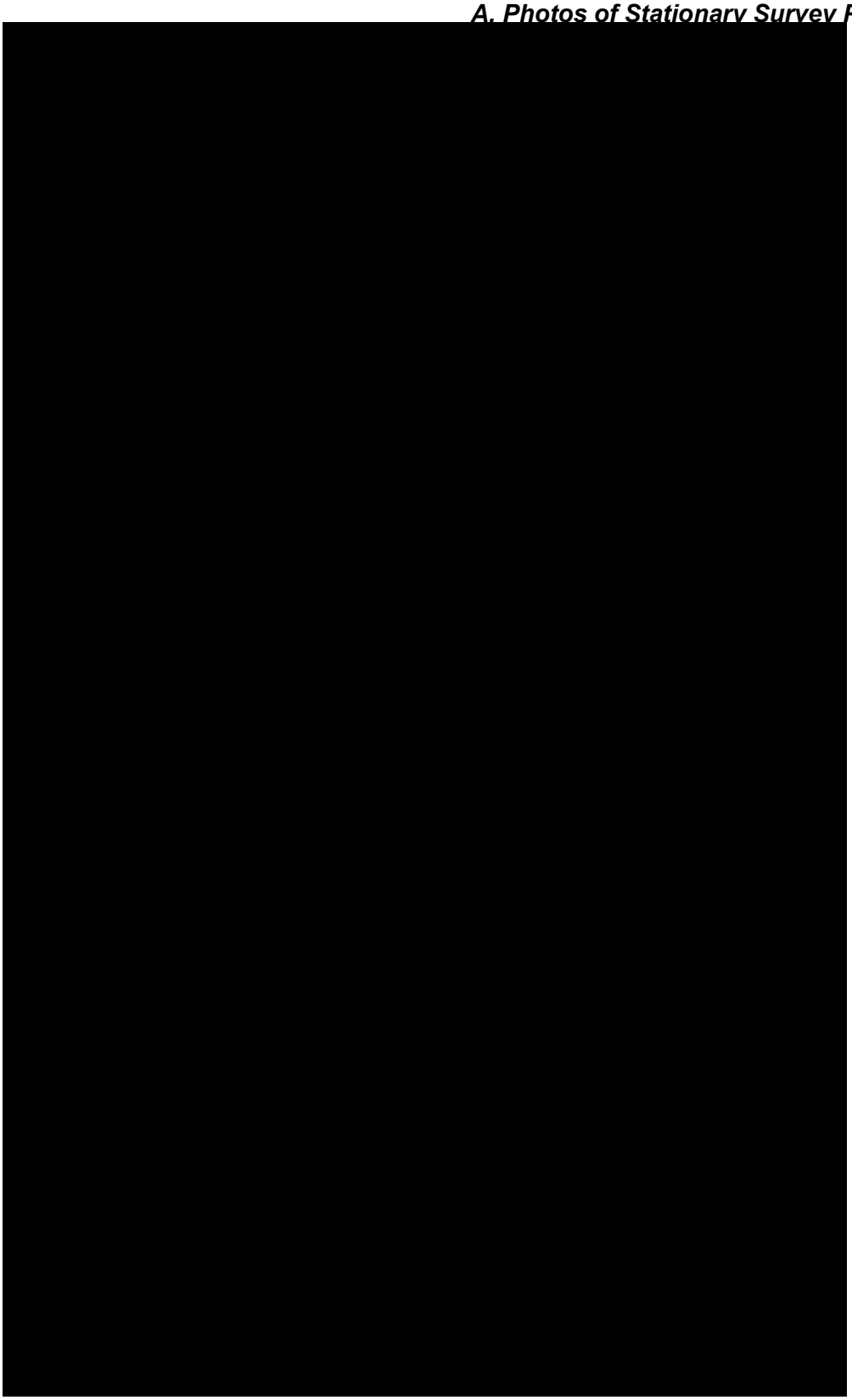
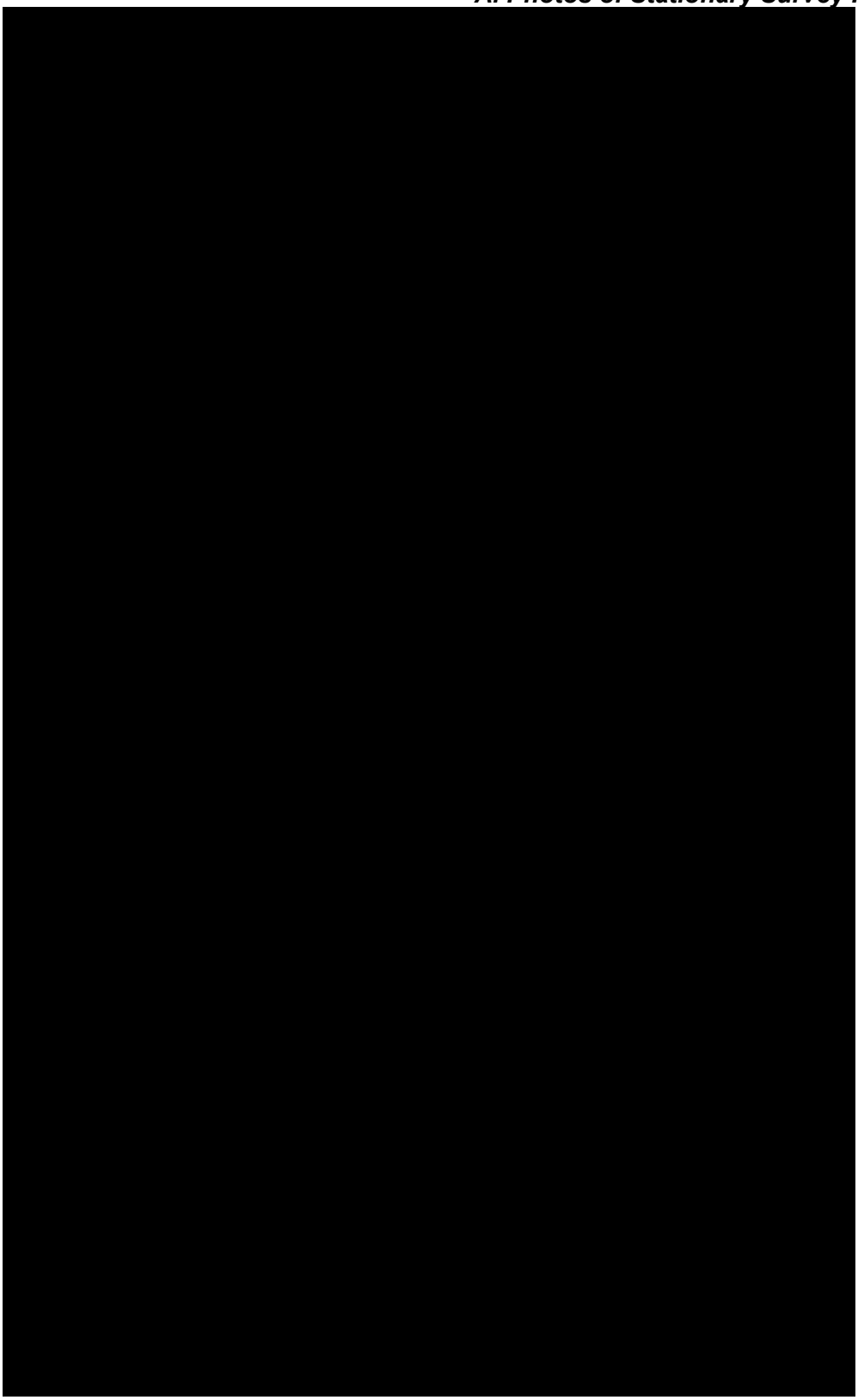


A. Photos of Stationary Survey Points



APPENDIX

B Full Survey Results

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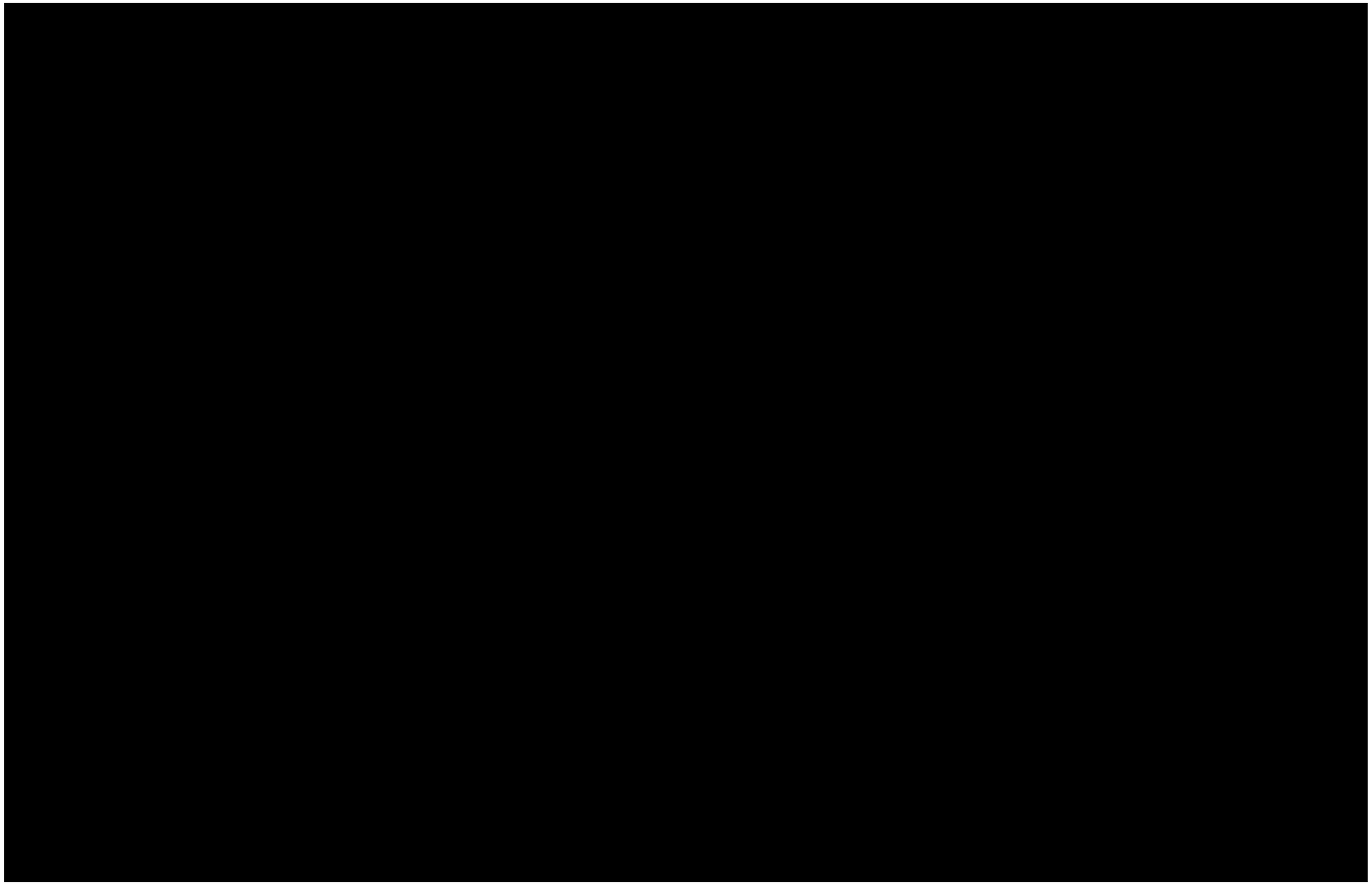

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APPENDIX

C Weather Conditions

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Table C-1 Weather Data for Survey Dates and Dates Prior to Surveys, Iris Bloom Solar

Survey Period	Date	Temperature (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipitation (Y/N)
11/14/24	46	SSE	0	25	N/A	Y	N/A
11/15/24	48	NW	0	4	100	N	0
11/16/24	48	NNW	0	5	N/A	N	N/A
11/17/24	55	SW	0	6	98	N	0
11/18/24	54	NW	0	6	50	N	0
11/19/24	57	SSE	3	9	85	Y	0
11/20/24	53	ENE	0	10	N/A	N	N/A
11/21/24	38	WNW	0	4	92	N	0
11/23/24	45	WNW	0	16	N/A	N	N/A
11/24/24	42	W	0	9	100	N	0
11/25/24	48	S	3	8	100	N	0
11/26/24	46	WSW	0	17	N/A	N	N/A
11/27/24	41	WSW	0	5	31	N	0
12/2/24	30	SW	0	14	N/A	Y	N/A
12/3/24	32	W	2	7	90	Y	20
12/6/24	28	SW	0	14	N/A	Y	N/A
12/7/24	27	SW	11	15	97	N	24-30
12/8/24	40	W	0	8	100	N	20
12/12/24	21	SSW	0	22	N/A	Y	N/A
12/13/24	21	W	0	4	95	N	12
12/14/24	33	SE	2	7	20	N	2-9
12/16/24	45	SSE	0	20	N/A	N	N/A
12/17/24	39	SW	6	9	35	N	patches
12/18/24	35	W	0	5	N/A	Y	N/A
12/19/24	28	NNW	0	4	100	N	4
12/21/24	23	NW	0	14	N/A	N	N/A
12/22/24	14	E	0	2	N/A	N	4-10
12/23/24	30	S	10	14	100	N	4-11
12/24/24	36	NW	0	6	N/A	N	N/A
12/25/24	34	NE	0	5	100	N	4-7
12/26/24	38	E	2	5	100	N	3-6
12/27/24	42	SSE	0	10	65	N	2
12/28/24	53	S	0	8	83	N	patches
12/29/24	53	SSE	0	18	N/A	Y	N/A

Table C-1 Weather Data for Survey Dates and Dates Prior to Surveys, Iris Bloom Solar

Survey Period	Date	Temperature (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipitation (Y/N)
12/30/24	36	WSW	0	15	100	Y	0
1/4/25	22	W	0	21	N/A	Y	N/A
1/5/25	20	SW	3	8	100	N	8-10
1/6/25	18	N	6	10	100	Y	8
1/7/25	24	NW	13	16	95	N	8-11
1/8/25	22	WNW	0	14	N/A	Y	N/A
1/9/25	19	NW	5	12	35	N	8
1/10/25	22	S	0	12	N/A	N	8
1/11/25	23	W	0	9	N/A	N	N/A
1/12/25	29	S	0	10	93	N	7
1/15/25	22	SW	0	17	N/A	Y	N/A
1/16/25	22	WSW	0	9	100	Y	24-36
1/17/25	30	SSW	9	16	30	N	16-24
1/20/25	11	WSW	0	16	N/A	N	N/A
1/21/25	7	SW	0	12	92	Y	36
1/22/25	10	S	7	12	93	N	30
1/23/25	24	SSW	0	14	N/A	N	N/A
1/24/25	20	W	6	12	88	N	24-36
1/25/25	29	SSW	0	13	N/A	N	N/A
1/26/25	27	SW	6	9	30	N	12
1/27/25	32	SSW	0	25	N/A	N	N/A
1/28/25	28	SW	8	11	100	N	100
1/29/25	29	WNW	0	16	N/A	N	N/A
1/30/25	37	SSE	5	10	95	N	24
1/31/25	34	NE	0	13	N/A	Y	N/A
2/1/25	15	NNE	0	5	1	N	18
2/3/25	32	S	0	13	N/A	Y	N/A
2/4/25	22	NW	8	12	100	N	10-17
2/5/25	28	NE	0	3	100	N	N/A
2/6/25	32	WSW	0	20	N/A	Y	N/A
2/7/25	19	SW	4	10	20	N	12
2/9/25	26	WSW	0	6	N/A	N	N/A
2/10/25	23	WSW	9	11	93	Y	12
2/11/25	29	WNW	0	5	91	N	10

Table C-1 Weather Data for Survey Dates and Dates Prior to Surveys, Iris Bloom Solar

Survey Period	Date	Temperature (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipitation (Y/N)
2/13/25	26	W	0	15	N/A	Y	N/A
2/14/25	20	WSW	0	3	100	N	12
2/18/25	13	W	0	12	N/A	N	N/A
2/19/25	14	W	5	10	100	N	8-12
2/20/25	18	W	0	17	N/A	Y	N/A
2/21/25	21	W	7	10	94	Y	8-12
2/22/25	32	W	5	10	80	N	8-12
2/23/25	32	WSW	5	9	87	N	18
2/24/25	49	SSW	0	23	N/A	N	N/A
2/25/25	40	WSW	5	8	90	N	15
2/26/25	42	S	0	3	100	N	8-10
3/1/25	18	NW	0	16	N/A	N	N/A
3/2/25	41	W	4	8	100	Y	6-12
3/3/25	26	SSW	0	8	11	N	N/A
3/4/25	55	SSW	0	11	3	N	5-8
3/7/25	33	W	0	7	N/A	N	N/A
3/8/25	22	WSW	8	12	62	N	patches
3/9/25	44	E	2	6	0	N	patches
3/10/25	58	SW	7	11	1	N	patches
3/11/25	42	NNW	0	10	0	N	patches
3/12/25	38	E	0	10	77	N	patches
3/13/25	49	N	0	6	8	N	patches
3/14/25	65	E	0	7	90	N	0
3/16/25	42	WSW	0	15	N/A	N	N/A
3/17/25	32	WNW	0	7	13	N	0
3/18/25	67	SW	0	4	10	N	0
3/20/25	34	W	0	15	N/A	N	N/A
3/21/25	43	SSW	0	10	2	N	0
3/22/25	30	NNW	0	8	N/A	N	N/A
3/23/25	38	SSE	4	10	100	N	0
3/24/25	36	W	0	18	N/A	N	N/A
3/25/25	32	W	3	12	90	N	0
3/26/25	30	S	7	10	90	Y	1
3/27/25	51	W	5	10	95	N	0

Table C-1 Weather Data for Survey Dates and Dates Prior to Surveys, Iris Bloom Solar

Survey Period	Date	Temperature (F°)	Wind Direction	Minimum Wind Speed (mph)	Maximum Wind Speed (mph)	Cloud Cover (%)	Precipitation (Y/N)
3/31/25	16	NW	14	28	N/A	N	N/A
4/1/25	36	NNE	5	7	57	N	0
4/3/25	57	W	12	20	N/A	N	N/A
4/4/25	49	NE	7	9	65	N	0
4/5/25	42	W	10	12	N/A	Y	N/A
4/6/25	35	NW	3	6	95	N	0
4/8/25	28	WNW	13	18	N/A	N	N/A
4/9/25	35	NNE	3	7	45	N	0

Source: Wunderground.com
Notes: Weather data for prior days represents weather data from Erie, PA (one hour from Charlotte, NY) 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.