

Work Plan for Pre-Construction Avian and Bat Surveys

**Proposed Baron Wind Project,
Steuben County, New York**

Prepared For:

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Proposed Baron Wind Project

1.0 Introduction

EverPower Wind Holdings, Inc. (EverPower) is considering the construction of the Baron Wind Project (Project) located in Steuben County, New York. The proposed Project would include wind turbines located west of Interstate 390 and north and south of Route 85 in the towns of Canisteo, Hornell, and Cohocton (Figure 1). The Project is in the early phase of development and the approximate size of the area of interest is 60,000 acres. The number and locations of turbines, access roads, and electrical corridors are preliminary.

As part of the planning phases of this Project, EverPower contracted Stantec Consulting Services Inc. (Stantec) to prepare a work plan for pre-construction bird and bat studies. The survey methodologies and level of effort identified in this proposed work plan are based on Standard Pre-Construction Studies detailed in NYSDEC's Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects (NYSDEC Guidelines; NYSDEC 2009) as well as the US Fish and Wildlife Service's (USFWS) Land-based Wind Energy Guidelines (2012) and Eagle Conservation Plan Guidance (ECP Guidance, 2013).

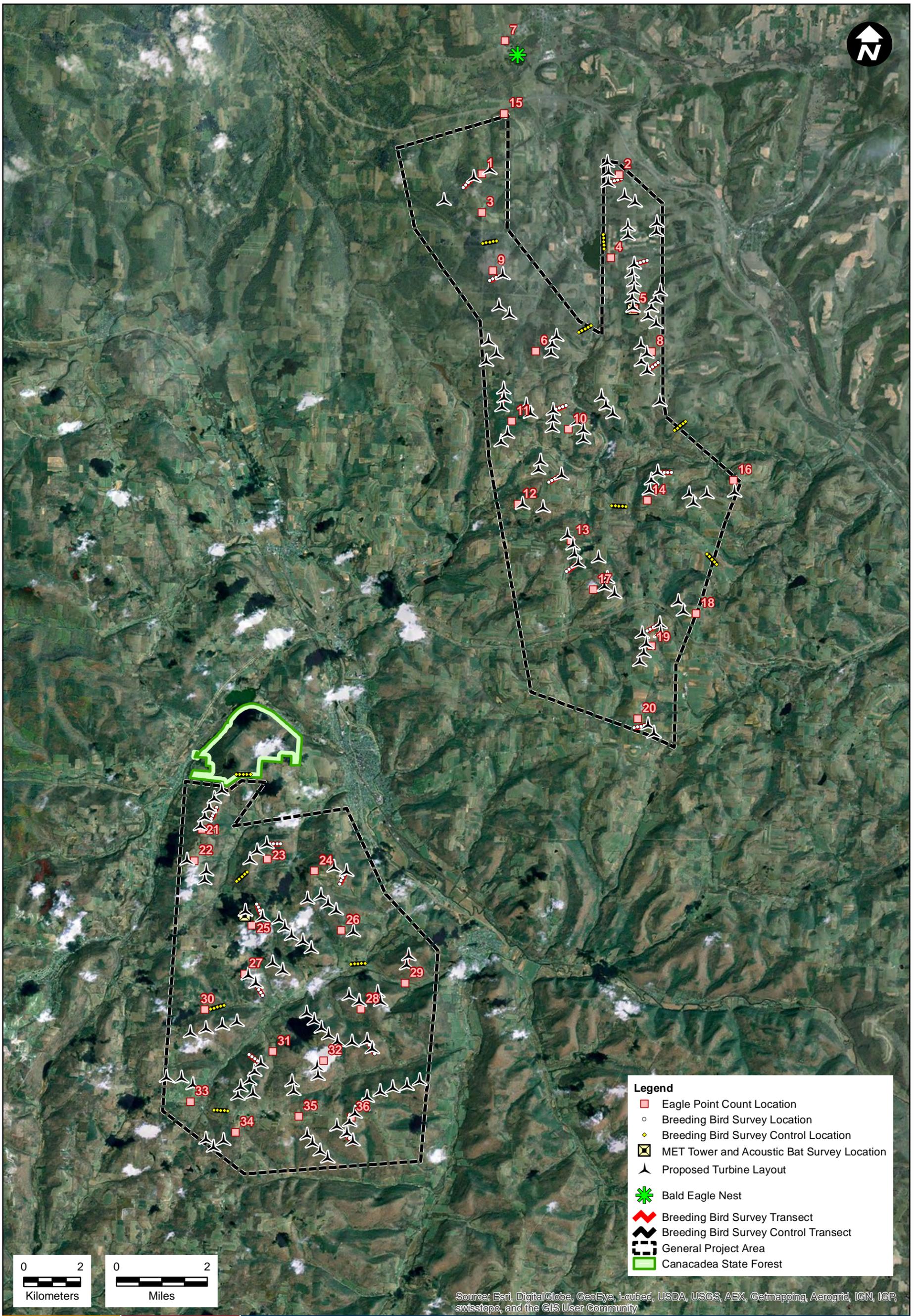
However, the Project lies between 2 operational wind projects, the Cohocton and Dutch Hill Wind Project and the Howard Wind Project; both pre- and post-construction bird and bat studies have been conducted at these 2 projects, including pre-construction spring and fall raptor migration and nocturnal migration studies. Due to the proximity of the Project to these operational projects and the prior survey effort conducted at these projects, the effort for some pre-construction surveys at the Project can be eliminated or reduced. For example, surveys targeting bird and bat movements that are more regional rather than site-specifically based (i.e., raptor migration and bat migration) will not be repeated for this Project. A Draft version of this work plan (June 2013) was presented to biologists at the New York Regional Field Office of the USFWS in Cortland, NY on June 18, 2013 and to NYSDEC via conference call on June 27, 2013. EverPower and Stantec met with USFWS a second time on September 3, 2013 via conference call to discuss the proposed eagle point count locations, which EverPower provided to USFWS prior to the call. This work plan has been revised based on a preliminary Project layout and recommendations made by USFWS and NYSDEC during those meetings. For meeting summaries, please refer to the two sets of meeting minutes dated July 17 (detailing the June 18 and June 27 meetings) and meeting minutes dated September 13, 2013.

2.0 Bird and Bat Surveys

2.1 EAGLE POINT COUNT SURVEYS

Stantec will conduct point count surveys for eagles for one full year consistent with the ECP Guidance. Point count surveys will consist of 1-hour visual surveys at plots within the Project area, each with an 800-meter radius and covering an area of 2 square kilometers. Stantec will survey 34 plots¹ within the Project area and 2 plots outside the Project area each survey cycle (approximately every 3 weeks, totaling 18 total surveys in 1 year). Stantec will complete each survey cycle in 5 to 6 days. Plots within the Project area will be distributed throughout the Project area, where the observer has a view of the sky; plots will not be conducted in forested areas unless suitable vantage points exist. The 2 plots outside the Project

¹ Per the April 2013 ECP Guidelines, the total number of proposed point count locations was determined by calculating the entire turbine area including a 1-km buffer around turbines, calculating 30% of the area, and dividing by 2 (to account for the 2 square-kilometer plots).



Legend

- Eagle Point Count Location
- Breeding Bird Survey Location
- ◆ Breeding Bird Survey Control Location
- MET Tower and Acoustic Bat Survey Location
- ▲ Proposed Turbine Layout
- ★ Bald Eagle Nest
- ⋈ Breeding Bird Survey Transect
- Breeding Bird Survey Control Transect
- General Project Area
- Canacadea State Forest

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Client/Project
 EverPower Wind Holdings, Inc.
 Baron Winds Project
 Steuben County, New York

Figure No.
 1

Title
 Bird and Bat
 Survey Locations

9/9/2013

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area will be located in proximity to the nearest bald eagle nest. Stantec will survey from 2 locations with direct views of the nest, as possible. Data collected from these points will be qualitative and will help inform movement patterns (i.e., seasonal and directional) of the bald eagle pair occupying this nest, if the nest is active at the time of surveys. Proposed point count locations are shown in Figure 1; final locations will be determined after the first site visit and will consider viewsheds and access. Point count locations will be mapped using a Global Positioning Systems (GPS) unit.

Surveys will occur in all weather conditions except when visibility is poor. Survey efforts will target the hours of 10 am to 4 pm, the midday hours in which eagles tend to be more active. The starting plot will change each survey cycle to enable sampling of each plot during a range of daylight hours. Though the species targeted during point count surveys is bald eagle, all raptors observed will be recorded. In addition, Stantec will record incidental observations of other species (i.e., waterbirds and songbirds) observed during surveys. Eagle point count surveys are planned to begin the week of September 9, 2013.

After completion of the eagle point counts, data collected will be summarized and included in a memo report. The memo report will include the eagle exposure rate calculation, expressed as exposure minutes per daylight hour within the Project area, averaged over daylight hours.

2.2 HABITAT ASSESSMENT

Stantec will conduct a habitat assessment during the first round of eagle point count surveys. Habitat data obtained at each point will include cover type, percent canopy cover, and notes of any current or previous disturbance. The habitat assessment will inform the Project of the presence of any habitat with potential to support state or federally listed species. Habitat of state or federally listed wildlife species known or expected to occur in the area will be compared to the habitats identified in the Project area. If such habitat is found in the Project area, we will contact the appropriate agencies (NYSDEC if habitat known to support a state-listed species if found, USFWS if habitat known to support a federally listed species is found) to assess the need for additional field surveys. According to the rare species records database by county maintained by the USFWS, no federally listed bird or bat species are known to occur in Steuben County².

2.3 ACOUSTIC BAT SURVEYS

Stantec will conduct acoustic bat surveys to characterize activity, timing of activity, and when possible, species composition of bats in the area. As bat activity levels during spring and fall migration periods already have been studied at Cohocton and Howard, we expect that these surveys will not be repeated for the full period when bats are known to be active (spring, summer, and fall). However, to obtain data on the species composition (by guild³) and activity of local bat populations during the summer residency and fall swarming period, the period in which bat fatalities have peaked at other operational projects in the East, passive acoustic echolocation monitoring surveys will be conducted from June 1 to September 30. Specific surveys targeting Indiana bat (*Myotis sodalis*) will not be conducted as the Project is outside the known range of this species⁴.

At the Project site, 2 Anabat SD1 detectors (Titley Electronics Pty Ltd.) will be deployed in each of the 2 on-site meteorological (met) towers at approximately 45 m and 3 m in height, as recommended by NYSDEC Guidelines. Recording at the detectors will occur daily from one half hour prior to sunset until

² Note that bald eagle has been delisted. <http://www.fws.gov/northeast/nyfo/es/colistcurrent.pdf>. REV. July 16, 2012. Accessed June 10, 2013.)

³ Bat call sequences will be identified to guild, although during analysis calls will be categorized by species when possible; no attempt will be made to differentiate call sequences within the *Myotis* genus.

⁴ <http://www.dec.ny.gov/animals/6972.html>

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one half hour after sunrise during the survey period. Periodic visits will be conducted to download data and maintain the detectors.

Following completion of the acoustic survey, data will be compiled and evaluated. Once downloaded, each data file will be either visually inspected or filtered using appropriate filtering program software to screen out bat calls. Each call file will be qualitatively identified to guild and when possible, to species. A second biologist will visually inspect each call to ensure accuracy.

The final report will summarize calls from each detector for each night (i.e., number of calls by species or guild per hour) during the survey period. Wind speed, wind direction, and temperature data from the met tower will be compiled to assess if these weather variables are correlated with bat activity levels. Weather data from the met tower for each survey period will be used in the analysis. Results will be incorporated into a comprehensive report to be drafted following completion of the bird and bat surveys.

2.4 RAPTOR MIGRATION SURVEYS

Raptor migration surveys will not be conducted at the Project for reasons mentioned previously. Though fixed-location raptor migration surveys will not be conducted, observers will record any raptors seen during the eagle point count surveys conducted once every 3 weeks for a full year.

2.5 BREEDING AND MIGRATORY BIRD SURVEYS

Breeding and migratory bird surveys will be conducted once each week in May and June (for migratory and breeding birds) and September (for migratory birds), consistent with recommendations during the call with NYSDEC, EverPower and Stantec on June 27, 2013. As suggested in the ECP Guidance, point count surveys for migratory and breeding birds will be accomplished in conjunction with the eagle point counts during the months of May, June, and September prior to or following the 1-hour eagle point count survey.

Surveys will be conducted from sunrise until no later than approximately 10:00 a.m., in weather conditions conducive to hearing birdsong and seeing birds move about in vegetation and in flight. All birds identified by sight or sound, including soaring raptors, waterfowl and other fly-overs, will be recorded at each survey point. Weather information will be recorded at each survey location.

Locations of September migratory bird survey points will be the same as the eagle point count locations within the Project area (i.e., not including points 7 and 15) (Figure 1). Breeding bird surveys in May and June will be conducted at a total of 160 points distributed along 32 separate transects; 105 points will be distributed evenly across 21 linear transects perpendicular to approximate turbine locations and 55 control points will be distributed across 11 transects in control sites where no impacts are expected to occur (Figure 1). Survey points will be spaced at 125-m intervals along transects to help reduce the likelihood of double-counting individuals, and transects will be 500 meters long. Stantec will survey each transect once in May and again in June, with a different set of transects searched during each week in May and June. If landowner permissions or site conditions prevent access to any points or transects as currently mapped, or if proposed points are not within representative habitat types, survey locations may be shifted slightly during the first survey. The final location of each survey point will be recorded with a Global Positioning System. The September migratory bird surveys commenced the week of September 2, 2013.

Species richness, relative abundance, species frequency, and community diversity will be determined. Results will be incorporated into a comprehensive report to be drafted following completion of the bird and bat surveys.

3.0 Reporting

Stantec will draft a single comprehensive report discussing results of the bird and bat surveys described above (acoustic bat and migratory and breeding bird surveys). Stantec will draft a separate memo report providing results of the eagle point count surveys. Reports will follow typical scientific reporting standards and will include Introduction, Methods, Results, and Discussion sections. Reports will include appropriate photographs, tables, and figures. Draft reports will be submitted to EverPower and to NYSDEC and USFWS for review and comment.