



Spring and Summer 2010 Acoustic Bat Survey Report

for the Groton Wind Project
Grafton County, New Hampshire

Prepared for

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Executive Summary

During spring and summer 2010, Stantec Consulting (Stantec) conducted an acoustic bat field survey at the Groton Wind Project area in Grafton County, New Hampshire (Project). This survey supplements the fall 2006 and fall 2009 acoustic bat surveys already conducted on-site to provide a full year of data during periods when bats are active. The proposed Project includes the erection of 24 wind turbines and associated infrastructure (e.g., access roads, electrical distribution lines, electrical substation, turbine lay-down/staging area, and operations and maintenance building). The turbines will be 2.0 megawatt machines mounted on tubular steel towers with an approximate hub height of 78 meters (m; 256 feet [']) and a rotor diameter of 87 m (285'). The proposed turbines will have a maximum height of approximately 121 m (399') at blade tip.

This report details results of a spring and summer 2010 acoustic bat survey, which provide information on seasonal migration activity in the Project area during a period from early April through mid August 2010. This report is the last of three reports describing the methods and results of acoustic bat surveys conducted at the Project.

The objectives of the acoustic survey were to document bat activity patterns and general species composition from April through August across the Project area, and to document bat activity patterns in relation to weather factors such as wind speed and temperature. Consistent with fall 2009 surveys, surveys during the spring and summer 2010 consisted of 8 Anabat SD1 detectors (Titley Electronics Pty Ltd.) deployed at the same locations within the Project area. In 2010, surveys occurred from April 9 to August 18 and operated from 7:00 pm to 7:00 am each night of survey for a total of 986 detector nights. Acoustic survey sites at the Project were chosen based on discussions with bat expert Ed Arnett of Bat Conservation International, United States Fish and Wildlife Service, as well as Stantec's experience conducting these types of surveys. In order to document how bats might move across the Project area, acoustic bat detectors were deployed along each of the two main ridgelines in the Project area proposed for wind turbines. Two detectors were deployed at a height of 15 m on portable towers on the southern end of the Fletcher Mountain ridgeline and the small subsidiary ridge to the north. Three detectors were deployed at the meteorological (met) tower in the middle of Tenney Ridge, and three detectors were deployed at the met tower at the north end of Tenney Ridge. Within each met tower, detectors were deployed at heights of 45 m (148'), 22 m (72'), and 2 m (7'). Recorded call files were analyzed to species guild and tallied by night.

Between April 9 and August 18, a total of 6,356 call files were recorded by the 8 detectors, resulting in an overall detection rate of 6.4 calls per detector-night. Call sequences belonging to all five guilds were identified during the acoustic survey. Migratory species of the hoary bat guild composed the greatest percentage of all calls recorded during the 2010 survey period (25.6%). The Tenney Middle Met Low tower detector (22 m) recorded the most calls (29.8%, n=1,898) during the fall season. Approximately 53 percent of all calls were recorded during the



month of June, when detection rates peaked for all detectors. Species composition varied across acoustic detector height. There was no correlation between wind speed, temperature, and detection rates.



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1.0 Introduction

This report provides a summary of the findings documented during a spring and summer 2010 bat acoustic survey conducted at Groton Wind, LLC's (Groton Wind) Groton Wind Project (Project), in Grafton County, New Hampshire (Figure 1-1). These data combined with data collected on-site during fall 2009 covers the periods within a year when bats are known to be active (i.e., spring, summer, and fall). The Project will consist of 24 wind turbines and associated infrastructure (e.g., access roads, interconnection lines, electrical substation, turbine lay-down/staging area, and an operations and maintenance building). The turbines will be 2.0 megawatt (MW) machines mounted on tubular steel towers with an approximate hub height of 78 meters (m; 256 feet [']) and a rotor diameter of 87 m (285'). At present, the proposed turbines will have a maximum height of 121 m (399').

To supplement fall 2006 and fall 2009 acoustic bat surveys conducted on site, Groton Wind contracted with Stantec Consulting (Stantec) to conduct an acoustic bat survey at the Project in spring and summer 2010 following the work plan referenced below. Following is a brief description of the Project, a review of the methods used to conduct the survey, the results of this survey, and a discussion of those results.

1.1 STUDY BACKGROUND

Previous environmental studies were conducted in 2006 by Woodlot Alternatives.² The results of those surveys are reported under a separate report cover; *Summer and Fall Wildlife Surveys at Tenney Mountain, New Hampshire 2006*. Groton Wind met with the New Hampshire Fish and Game Department (NHFGD) and the U.S. Fish and Wildlife Service (USFWS) on March 4, 2009, to discuss potential bird and bat resources. Groton Wind presented the *Proposed Work Plan for Avian and Bat Studies at the proposed Groton Wind Project* (Iberdrola 2009) for agency comment. The work plan was developed based on two previous documents: Iberdrola's Avian and Bat Protection Plan (ABPP), which the USFWS has endorsed, and the Groton Wind Farm Phase 1 Avian Risk Assessment (ARA), which was produced by Curry & Kerlinger.

Stantec conducted several avian and bat studies at the Project in 2006, 2008, 2009, and 2010, including breeding bird surveys, nocturnal radar surveys, diurnal raptor surveys, a peregrine falcon (*Falco peregrinus*) survey, and bat acoustic surveys. The survey protocols implemented were based on standard methods that are developing among the scientific community to help assess potential impacts at wind energy projects. In addition, the survey guidelines followed were outlined in the *Proposed Work Plan*. The survey protocols are consistent with several other studies conducted at proposed wind projects recently in New Hampshire and throughout the Northeast region of the United States.

² Fieldwork and subsequent report filings performed prior to October 1, 2007, were done so as Woodlot Alternatives, Inc. On October 1, 2007 Woodlot Alternatives, Inc. was acquired by Stantec Consulting.

1.2 PROJECT AREA DESCRIPTION

The Project is located within the Sunapee Uplands subsection as characterized by Sperduto and Nichols 2004 in *Natural Communities of New Hampshire*. This subsection of New Hampshire is classified by its moderate topography consisting of granite hills and peaks of shallow, nutrient poor soils interspersed with small lakes and narrow stream valleys (Sperduto and Nichols 2004).

More specifically, the Project is located on Tenney Mountain and the northwest extension of Fletcher Mountain in Groton, New Hampshire. Both Tenney and Fletcher Mountains are oriented northeast/southwest; the northwest extension is oriented east to west. The peaks range in elevation from 549 m (1,801') to 701 m (2,300'). Due to its moderate elevation, the dominant tree species in the Project area include sugar maple (*Acer saccharum*), yellow birch (*Betula alleghaniensis*), and American beech (*Fagus grandifolia*), which are typical of northern hardwood – conifer forests. This forest community is the most common in the northern half of New Hampshire. Some small pockets of red spruce (*Picea rubens*) and balsam fir (*Abies balsamea*) are present, but are limited to the ridge summits. Common understory species include regenerating canopy species (e.g., sugar maple, yellow birch, and American beech), hobblebush (*Viburnum lantanoides*), striped maple (*Acer pensylvanicum*), and white birch (*Betula papyrifera*).

As planned, the eastern portion of the Project site (i.e., the northern two-thirds of Tenney Mountain) is located on lands owned by Green Acres Woodlands. Most of the Fletcher Mountain portion of the Project area is owned and managed by Wagner Forest Management. Both companies actively manage these lands for commercial forestry products. This is evident by the recent and past cuts, as well as the presence of a network of haul roads that extend through the site. These forest management operations have resulted in a variation of forest age classes.

Crosby Mountain State Park is located south of the Fletcher Mountain portion of the Project area. The 230-acre park includes Jericho Lake and Mount Crosby (elevation 676 m [2,218']). The Cockermonth Forest is located south of the Tenney Mountain portion of the Project, and is owned by the Society For The Protection of New Hampshire Forests, which also commercially harvests timber from the site, including as recently as in 2010. The Tenney Mountain downhill ski area abuts the Project site on the southeast side of the ridge, and includes approximately 48 cleared ski trails. At this location, trails and maintenance roads provide access to the summit for servicing ski trails and chairlifts. A microwave communication tower (communication tower) is also adjacent to the Project area on the summit of Tenney Mountain. The southern summit is the highest point of elevation within the Project area and is evidenced by a greater frequency of red spruce and balsam fir than the side slopes of the Project area ridgelines.

For the purposes of describing bat activity within the Project area, the Project boundary or Project area refers to the proposed turbine areas as depicted in Figure 1- 1 and does not include the lowlands where access roads, interconnection corridors, and the substation are to be located.



Legend

- ▲ Proposed Permanent Met Tower
- Proposed Turbine
- Proposed Underground 34.5-kV Line
- - - Proposed Overhead 34.5-kV Line
- Proposed Access Roads
- Proposed O&M Facility
- Proposed Switching Station
- Site Boundary



Figure 1-1
Project Map
Groton Wind Project



2.0 Acoustic Bat Survey

2.1 INTRODUCTION

Acoustic sampling of bat activity has become a standard aspect of pre-construction surveys for proposed wind-energy developments (Kunz *et al.* 2007). Pre-construction acoustic bat surveys are designed to collect baseline information on bat activity levels and general species composition. Acoustic surveys allow for simultaneous data collection at multiple locations, at varying heights above ground level, and across longer time periods. As a result, acoustic surveys can provide insight into seasonal patterns of activity levels.

Eight species of bats occur in New Hampshire, based upon their normal geographical range. These are the little brown bat (*Myotis lucifugus*), northern long-eared bat, (*M. septentrionalis*), eastern small-footed bat (*M. leibii*), silver-haired bat (*Lasionycteris noctivagans*), tri-colored bat (*Perimyotis subflavus*), big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), and hoary bat (*L. cinereus*) (Whitaker and Hamilton, eds 1998). Of these, only the small-footed bat is a state-listed endangered species.

The objectives of acoustic surveys at the Project were to (1) document bat activity patterns and general species composition from April through August across the Project area; and (2) document bat activity patterns in relation to weather factors such as wind speed and temperature.

2.2 METHODS

2.2.1 Data Collection

Anabat SD1 detectors (Titley Electronics Pty Ltd.) were used for the duration of the 2010 acoustic bat survey. Anabat detectors are frequency division detectors, dividing the frequency of echolocation sounds made by bats by a factor of 16, and recording these sounds for subsequent analysis. The audio sensitivity setting of each Anabat system was set between 6 and 7 (on a scale of 1 to 10) to maximize sensitivity while limiting ambient background noise and interference. The sensitivity of individual detectors was then tested using an ultrasonic Bat Chirp (Reno, NV) to ensure that the detectors would be able to detect bats up to a distance of at least 10 m (33'). Detectors were programmed to passively record data between 7:00 pm and 7:00 am via the internal clock on the SD1 detector, and data were stored on removable 1 to 2 GB compact flash cards. Each detector was checked on a bi-weekly basis to download data and ensure that detectors were functioning properly. Anabat detectors were selected based upon their widespread use for this type of survey, their ability to be deployed for long periods of time, and their ability to detect a broad frequency range, which allows detection of all species of bats that could occur in the Project area.

Each Anabat detector was powered by 12-volt batteries charged by solar panels. Each solar-powered Anabat system was deployed in waterproof housing enabling the detector to record

while unattended for the duration of the survey. The housing suspends the Anabat microphone downward to give maximum protection from precipitation. To compensate for the downward position, a curved section of PVC was fitted to the microphone. This set up allows the microphone to record the airspace horizontally in front of the detector and is the method of weatherproofing that results in the best quality data.

2.2.2 Site Selection

Currently, pre-construction acoustic methods emphasize monitoring a vertical array of airspace to document species flying at all altitudes (Arnett *et al.* 2006, Kunz *et al.* 2007, Reynolds 2006). Fatalities can occur when individuals collide with turbines (Horn *et al.* 2008) or come in close proximity to spinning blades, which can result in rapid decompression that leads to death as a result of barotrauma (Baerwald *et al.* 2008). Detectors placed above tree canopy at or near rotor-swept height assess flight activity for long-distance migrants. These species generally fly and forage at high altitudes, and are species that experience the highest turbine collision rates (Arnett *et al.* 2008). Ground-level detectors are deployed because (1) resident bat species generally forage close to, or below, the tree canopy, (2) activity is often greater at ground level, so these detectors assist with species presence and activity patterns, and (3) bats present at ground level could potentially become attracted to the height of rotating blades (Cryan and Barclay 2009, Kunz *et al.* 2007). Detectors deployed at intermediate heights are used to fill in the vertical array to get a complete picture of species activity within the Project area.

Acoustic surveys at the Project were designed based on discussions with Ed Arnett of Bat Conservation International (BCI) and the USFWS, as well as Stantec's experience conducting these surveys at proposed wind projects in the northeast. The survey design included a total of 8 acoustic detectors that were deployed from April 9 to August 18 and set to record from 7:00 pm to 7:00 am. At the recommendation of BCI and the USFWS Concord, NH Field Office, the detectors were deployed at various positions and heights across the proposed Project area in order to characterize bat activity in two portions (east and west ridge) of the Project area where wind turbines are proposed. Detectors were deployed at various heights in two Project area meteorological (met) towers located on the north and south end of the Tenney ridgeline. Because met towers were not available in all areas in the Project, two detectors were deployed at a height of 15 m on portable towers; one on the southern end of the Fletcher Mountain ridgeline and one on the small subsidiary ridge to the north (Photos 1 and 2 and Figure 1-1).

The Fletcher Mountain North Portable Tower detector was located within a disturbed deciduous forest stand with patches of second growth red spruce, and regenerating hardwood with red raspberry (*Rubus idaeus*) understory (Photo 1). The elevation of this site is approximately 457 m (1,500').



Photo 1: Fletcher Mountain North Portable Tower Detector

Habitat at the Fletcher Mountain South Portable Tower detector location was dominantly northern hardwood – conifer at various age classes with moderately open forest. Grassy openings and bedrock outcroppings are common with sugar maple, yellow birch, and red spruce as dominant canopy species. The elevation of this site is approximately 610 m (2,000') (Figure 1-1).



Photo 2: Fletcher Mountain South Portable Tower Detector

Three detectors were deployed at the tower in the middle of Tenney Ridge and three detectors were deployed at the met tower at the north end of Tenney Ridge (Figure 1-1). Both met tower deployment sites on the Tenney Ridgeline had detectors at elevations of 45 m, 22 m and 2 m (Photo 3).

The Tenney Middle Met Tower is located within a stand dominated by second growth northern hardwood forest with a relatively closed canopy. Forest composition includes sugar maple, yellow birch, beech, and red spruce, with a hobblebush and fern understory and small grassy openings with exposed bedrock. The elevation of this site is approximately 640 m (2,100'). Habitat around the Tenney North Met Tower is mixed coniferous-deciduous forest, with a greater proportion of spruce on the steep northern end of the Tenney Mountain ridge. The forest understory is relatively open with sphagnum moss and some regenerating canopy species. The elevation at this site is approximately 518 m (1,700'). It is important to note that the installation of the met towers required a clearing approximately 120 m in diameter within the habitats described above; therefore, the habitat within the detection zone of the acoustic detectors sampled airspace over the met tower clearing and forest edge, as well as at heights above tree canopy.

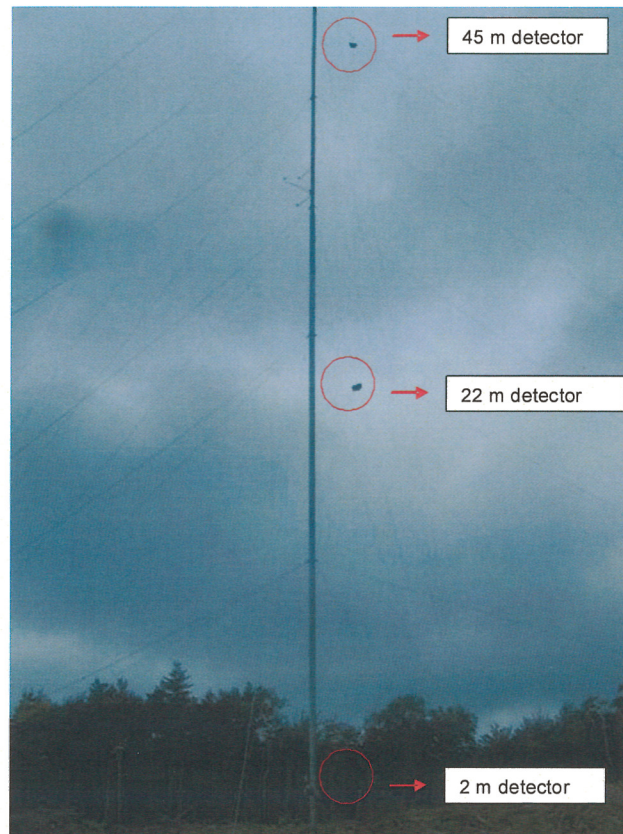


Photo 3: Met tower detectors

2.2.3 Data Analysis

Ultrasound recordings of bat echolocation may be broken into recordings of a single bat call or recordings of bat call sequences. A call is a single pulse of sound produced by a bat, while a call sequence is a combination of two or more pulses recorded in an Anabat file. Recordings containing less than two calls were eliminated from analysis because single pulses are often difficult to differentiate from background noise or static (Arnett *et al.* 2006). Call sequences typically include a series of calls characteristic of normal flight or prey location (“search phase”) and capture periods (feeding “buzzes”). Potential call files were extracted from data files using CFCread[®] software. The default settings for CFCread[®] were used during this file extraction process, as these settings are recommended for the calls that are characteristic of northeastern bats. This software screens all data recorded by the bat detector and extracts call files using a filter. Using the default settings for this initial screen also ensures comparability between data sets. Settings used by the filter include a max TBC (time between calls) of 5 seconds, a minimum line length of 5 milliseconds, and a smoothing factor of 50. The smoothing factor refers to whether or not adjacent pixels can be connected with a smooth line. The higher the

smoothing factor, the less restrictive the filter is and the more noise files and poor quality call sequences are retained within the data set.

Following extraction of call files, each file was visually inspected for species identification and to ensure that only bats calls were included in the data set. Insect activity, wind, and interference can all produce Anabat files that pass through the initial filter and therefore need to be visually inspected and removed from the data set. Call sequences are easily differentiated from other recordings, which typically form a diffuse band of dots at either a constant frequency or widely varying frequency. Bat call sequences were individually marked and categorized by species group, or “guild” based on visual comparison to reference calls. Qualitative visual comparison of recorded call sequences of sufficient length to reference libraries of bat calls allows for relatively accurate identification of bat species (O’Farrell *et al.* 1999, O’Farrell and Gannon 1999). Call sequences were classified to species whenever possible, based on criteria developed from review of reference calls collected by Chris Corben, the developer of the Anabat system, as well as other bat researchers. However, due to similarity of call signatures between several species, all classified calls have been categorized into the five following guilds³ reflecting the bat community in the region of the Project area.

- **Unknown (UNKN)** – All call sequences with less than five calls, or poor quality sequences (those with indistinct call characteristics or background static). These sequences were further identified as either “high frequency unknown” (HFUN) for sequences with a minimum frequency above 30 to 35 kilohertz (kHz), or “low frequency unknown” (LFUN) for sequences with a minimum frequency below 30 to 35 kHz.
- **Myotis (MYSP)** – All bats of the genus *Myotis*. While there are some general characteristics believed to be distinctive for several of the species in this genus, these characteristics do not occur consistently enough for any one species to be relied upon at all times when using Anabat recordings.
- **Eastern red bat/tri-colored (RBTB)** – Eastern red bats and tri-colored bats. These two species can produce calls distinctive only to each species. However, significant overlap in the call pulse shape, frequency range, and slope can also occur.
- **Big brown/silver-haired bat (BBSH)** – Big brown and silver-haired bats. These species’ call signatures commonly overlap and have therefore been included as one guild in this report.
- **Hoary bat (HB)** – Hoary bats. Calls of hoary bats can usually be distinguished from those of big brown and silver-haired bats by minimum frequency extending below 20 kHz or by calls varying widely in minimum frequency across a sequence.

³ Gannon *et al.* 2003 categorized bats into guilds based upon similar minimum frequency and call shape. These guilds were: Unidentified, Myotis, LABO-PISU and EPFU-LANO-LACI. We broke hoary bats out into a separate guild due to the importance of reporting activity patterns of migratory species in the context of wind energy development.

This method of guild identification represents a conservative approach to bat call identification. Because few species can sometimes produce calls unique only to that species, all calls were identified to the lowest possible taxonomic level before being grouped into the listed guilds. Tables and figures in the body of this report will reflect those guilds. However, since species-specific identification did occur in some cases, each guild will also be briefly discussed with respect to potential species composition of recorded call sequences.

Once all of the call files were identified and categorized in appropriate guilds, nightly tallies of detected calls were compiled. Because bat activity levels are highly variable among individual nights and individual hours (Hayes 1997, Arnett *et al.* 2006), detection rates are summarized on both of these temporal scales. Hourly detection rates were summarized by hour after sunset, as recommended by Kunz *et al.* (2007). Mean detection rates (number of recordings/detector-night) for the entire sampling period were calculated for each detector and for all detectors combined. Quantitative comparisons among these temporal periods was not attempted because the high amount of variability associated with bat detection would have required much larger sample sizes (Arnett *et al.* 2006, Hayes 1997).

2.2.4 Weather Data

Two 60-m met towers on the north and middle sections of Tenney Ridgeline recorded weather data through the 2010 acoustic surveys. The mean temperature and wind speed were obtained from the on-site met towers and were calculated for each night of survey and used during data analysis.

2.3 RESULTS

2.3.1 Timing of Activity

Data for all detectors are tabulated in Appendix A, Tables 1-8. Eight detectors were deployed starting on April 9, 2010, and continued to record data through August 18, 2010, for a total survey period of 986 detector nights. The range of dates that each detector was deployed is summarized in Table 2-1. Five of the eight detectors recorded for the entire survey period without interruption, and three detectors suffered equipment malfunction causing occasional lapses in data collection. These include Fletcher South Portable Tower detector, Tenney North Met 2M detector, and the Tenney Middle Met High detector. Overall, the eight detectors combined operated successfully for 93 percent of the survey period. The Tenney Middle Met Low Tower detector recorded the most calls of any detector (n=1,898), and 78 percent (n=1,478) of those calls were recorded during two nights of survey (Table 2-1).



Table 2-1. Summary of bat detector field survey effort and results at Groton, 2010

Location	Dates Deployed	Calendar Nights	Detector-Nights*	Recorded Sequences	Detection Rate **	Maximum Sequences recorded ***
Fletcher North Portable Tower	4/9 to 8/18	132	132	689	5.2	85
Fletcher South Portable Tower	4/9 to 8/18	132	119	332	2.8	69
Tenney North Met 2M	4/9 to 8/18	132	120	1777	14.8	247
Tenney North Met High	4/9 to 8/18	132	132	220	1.7	28
Tenney North Met Low	4/9 to 8/18	132	132	212	1.6	31
Tenney Middle Met 2m	4/9 to 8/18	132	132	1167	8.8	551
Tenney Middle Met High	4/9 to 8/18	132	87	61	0.7	9
Tenney Middle Met Low	4/9 to 8/18	132	132	1898	14.4	846
Overall Results		1056	986	6356	6.4	--
* One detector-night is equal to a one detector successfully operating throughout the night.						
** Number of bat echolocation sequences recorded per detector-night.						
*** Maximum number of bat passes recorded from any single detector for a detector-night.						

Over a period of 986 detector-nights from April 9 to August 18, a total of 6,356 call files were recorded by the 8 detectors in the Project area, yielding an overall detection rate of 6.4 calls per detector-night. Approximately 53 percent of all calls were recorded during the month of June, when detection rates peaked for all detectors (Figure 2-1). The highest detection rate was recorded by the Tenney North Met 2M detector followed by the Tenney Middle Met Low detector (Table 2-1). Both the Tenney North Met High and Low detectors recorded similar detection rates, while the Tenney Middle Met High and Low detectors recorded vastly different detection rates. Activity across the survey period, measured as the number of call sequences recorded per night, was variable and somewhat pulsed. In general, the largest peaks in activity occurred during the month of June and then decreased through the remainder of the survey period (Figure 2-1).

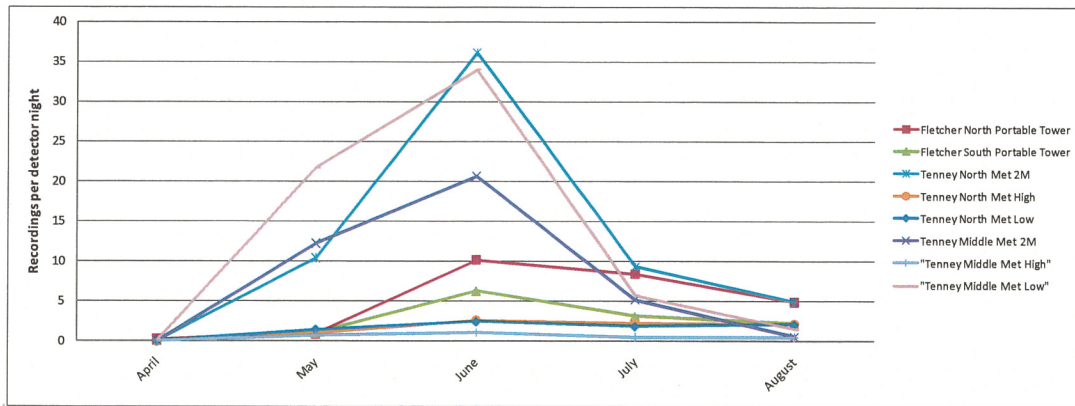


Figure 2-1. Monthly detection rates for all detectors during 2010.

Two nights with large pulses in activity were recorded at the Tenney Middle Met Low (22m) and Tenney Middle Met 2m detectors and accounted for 23 percent of all calls recorded at all detectors combined over the course of the entire survey (Figure 2-2). Approximately one-third (34%) and two-thirds (68%) of files recorded on May 29 and June 1, respectively, were identified as hoary bat calls (See Appendix A). During this time, all eight detectors were functioning properly, yet the majority (99.7 %) of hoary bat calls were recorded by these two detectors during these two nights.

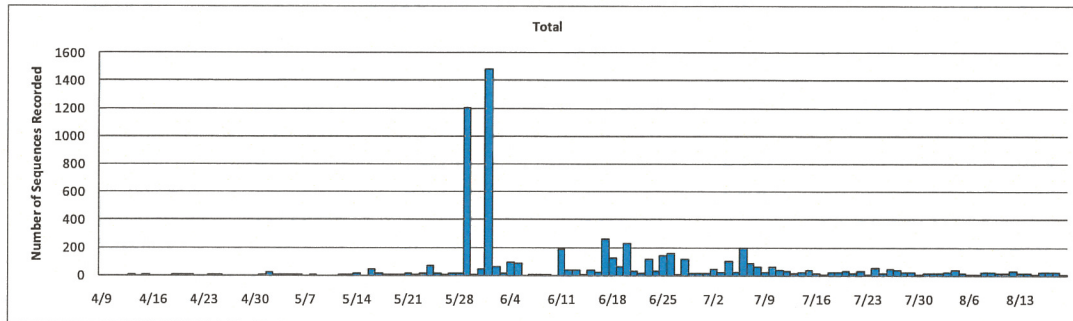


Figure 2-2: Total nightly bat call sequence detections during 2010.

Seasonal activity, measured as the number of call sequences recorded each month, varied across detectors (Figures 2-3a to 2-3c).⁴ For each month except May, the Fletcher North Portable Tower detector recorded more call sequences than the Fletcher South Portable Tower detector. For both portable towers, activity was lowest in April and then peaked during the month of June. The North and Middle Met Tower detectors showed similar trends by month and peaked in June as well.

⁴ Please note that the scales on this series of figures are different to reflect variation in the number of calls detected. Scales are set to allow the reader to visually interpret the different call volumes clearly by detector and location.

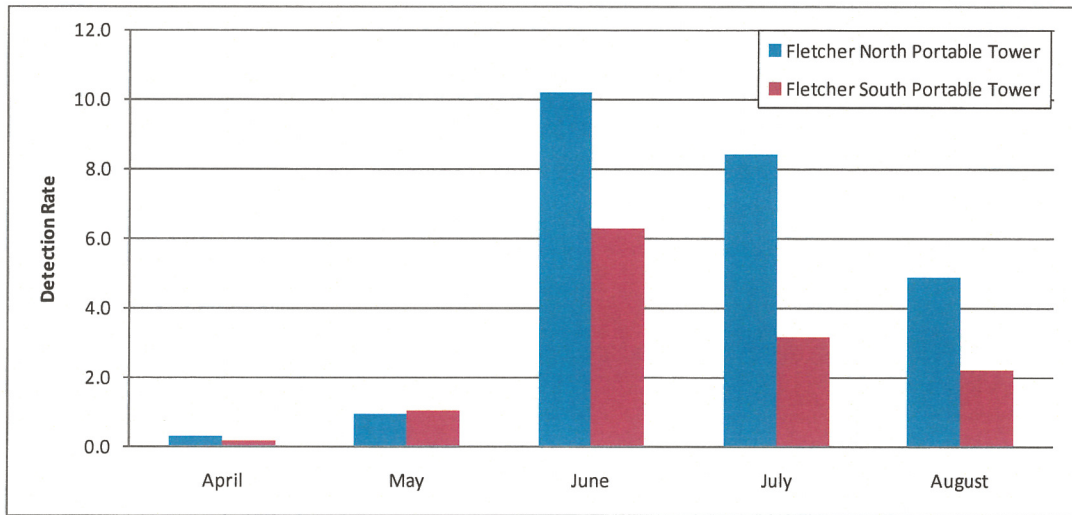


Figure 2-3a: Detection rates by month for Fletcher Portable Tower Detectors during 2010.

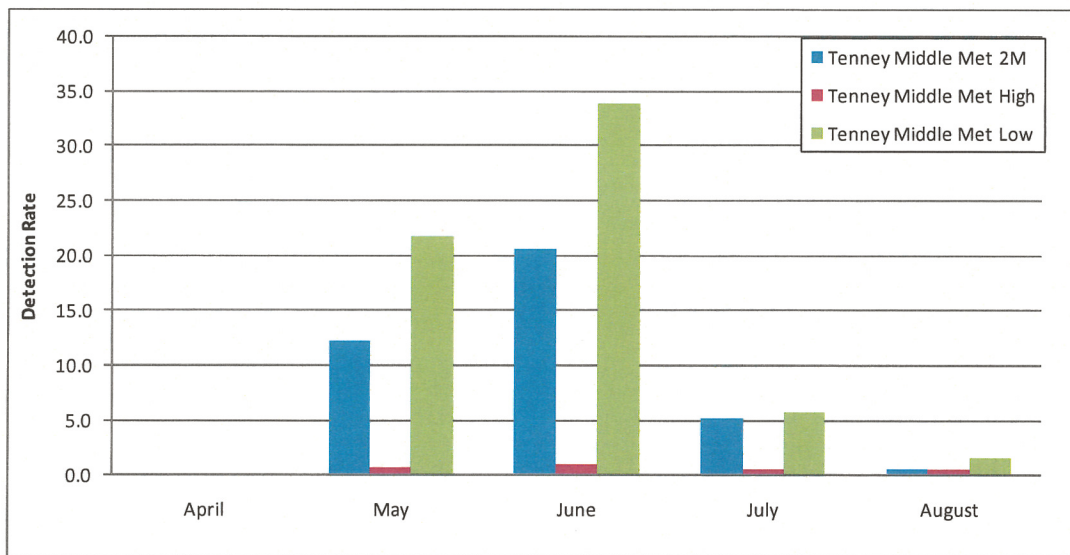


Figure 2-3b: Detection rates by month for Tenney Middle Met Tower Detectors during 2010.

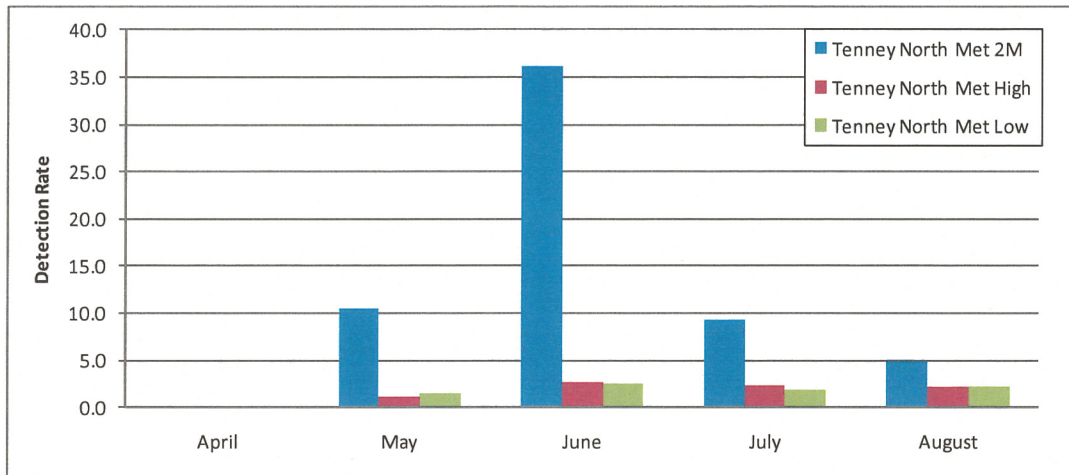


Figure 2-3c: Detection rates by month for Tenney North Met Tower Detectors for 2010.

Nightly activity, measured as the number of call sequences recorded within each hour after sunset, varied by ridgeline and location (Figures 2-4a to 2-4c).⁵ Overall, nightly activity at the two Fletcher Portable Tower detectors peaked twice within a night. The first peak occurred one hour after sunset and the second occurred four hours after sunset. The Tenney Middle Met Tower detectors peaked during the second hour and the sixth after sunset and the Tenney North Met Tower detectors recorded a sustained peak during the third and fourth hours after sunset.

⁵ Please note that the scales on this series of figures are different to reflect variation in the number of calls detected. Scales are set to allow the reader to visually interpret the different call volumes clearly by detector and location.

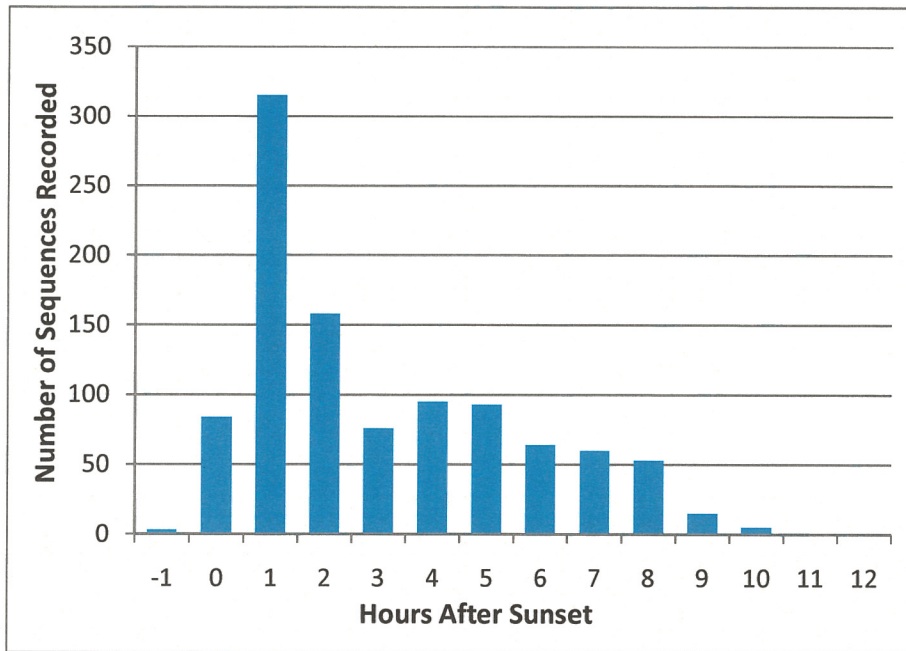


Figure 2-4a: Number of bat sequences per hour at Fletcher Portable Tower Detectors during 2010.

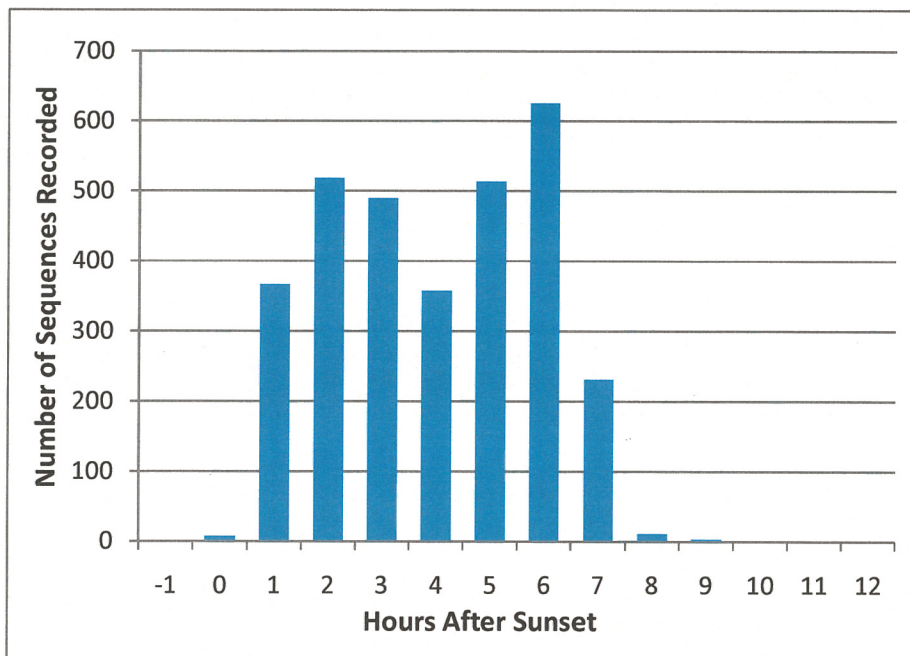


Figure 2-4b: Number of bat sequences per hour at Tenney Middle Met Tower Detectors during 2010.

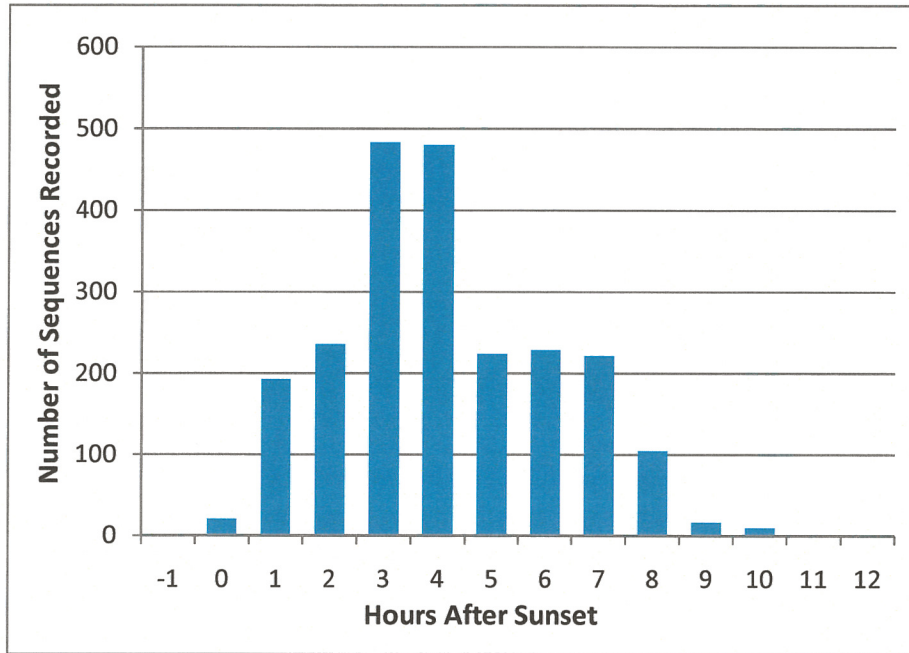


Figure 2-4c: Number of bat sequences per hour at Tenney North Met Tower Detectors during 2010.

2.3.2 Species Composition

Call sequences from all five guilds were identified during the acoustic survey (Table 2-2). The majority of recorded sequences belonged to the HB guild (25.6%), followed by the LFUN guild (23%). The call sequences assigned as LFUN likely belonged to the BBSH or HB guilds based on the known frequency range of this group.

Table 2-2. Distribution of detections by guild for detectors at Groton, 2010.

Detector	Guild						Total
	BBSH	HB	MYSP	RBTB	HFUN	LFUN	
Fletcher North Portable Tower	510	11	18	12	49	89	689
Fletcher South Portable Tower	130	5	81	9	54	53	332
Tenney North Met 2M	170	21	264	39	1216	67	1,777
Tenney North Met High	88	46	0	4	10	72	220
Tenney North Met Low	124	18	2	6	6	56	212
Tenney Middle Met 2m	133	678	14	6	45	291	1,167
Tenney Middle Met High	23	9	0	3	0	26	61
Tenney Middle Met Low	225	836	5	7	19	806	1,898
Total	1,403	1,624	384	86	1,399	1,460	6,356
Total Guild Composition %	22.1%	25.6%	6.0%	1.4%	22.0%	23.0%	--
High Met Total	111	55	0	7	10	98	281
High Met Composition %	39.5%	19.6%	0.0%	2.5%	3.6%	34.9%	--
Low Met Total	349	854	7	13	25	862	2110
Low Met Composition %	16.5%	40.5%	0.3%	0.6%	1.2%	40.9%	--
2m Met Total	303	699	278	45	1261	358	2944
2m Met Composition %	14.4%	33.1%	13.2%	2.1%	59.8%	17.0%	--
Portable Tower Total	640	16	99	21	103	142	1021
Portable Tower Composition %	30.3%	0.8%	4.7%	1.0%	4.9%	6.7%	--

Species composition also varied across acoustic detector heights (Figures 2-5a to 2-5d).⁶ The Fletcher Mountain Portable Tower detectors recorded a greater percentage of big brown bat/silver-haired bat calls. The Tenney 45m met detectors also recorded a high percentage of BBSH calls and nearly as many low frequency unknown calls. The Tenney 22m met detectors recorded a high percentage of hoary bat, low frequency unknown, and BBSH calls. Finally, the majority of calls recorded by the Tenney 2m detectors were from high frequency unknown and hoary bat calls.

⁶ Please note that the scales on this series of figures are different to reflect variation in the number of calls detected. Scales are set to allow the reader to visually interpret the different call volumes clearly by detector and location.

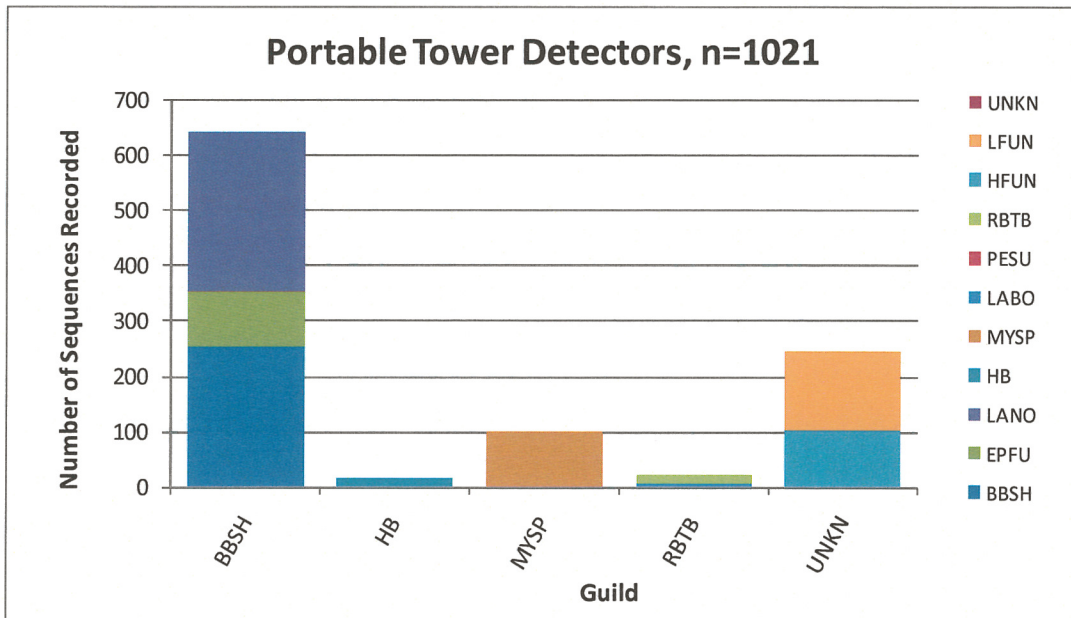


Figure 2-5a: Species composition at Fletcher Portable Tower Detectors during 2010.

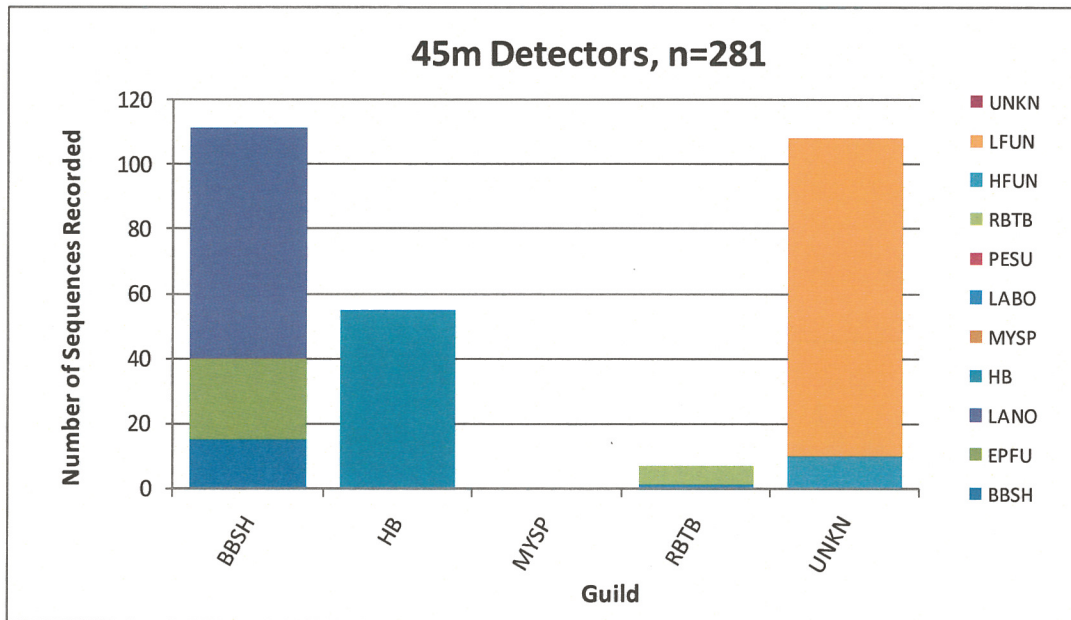


Figure 2-5b: Species composition at Tenney Met Tower 45m Detectors during 2010.

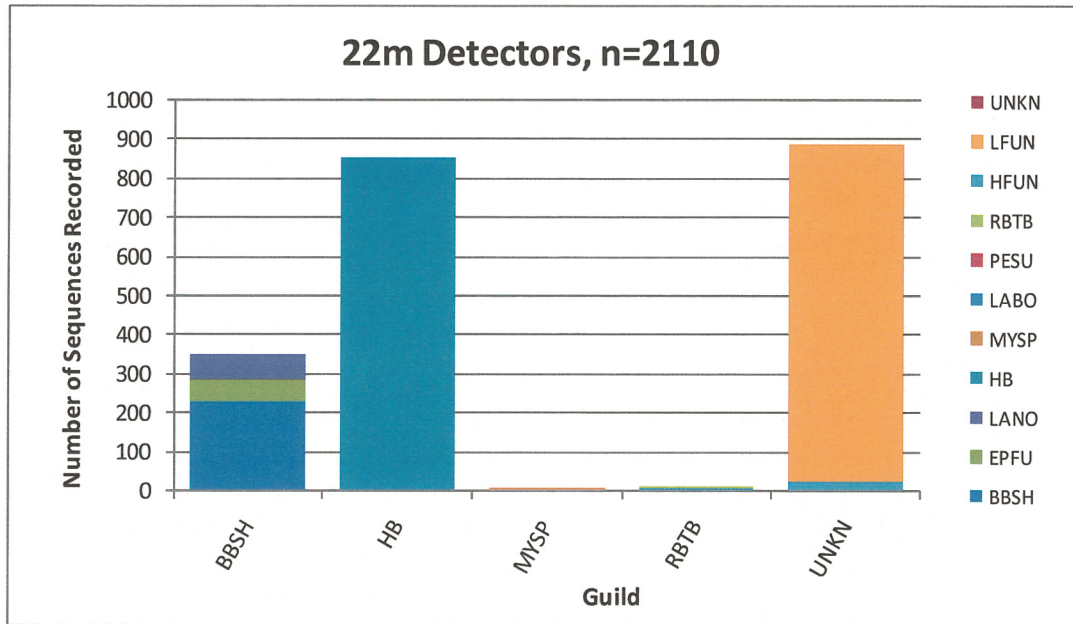


Figure 2-5c: Species composition at Tenney Met Tower 22m Detectors during 2010.

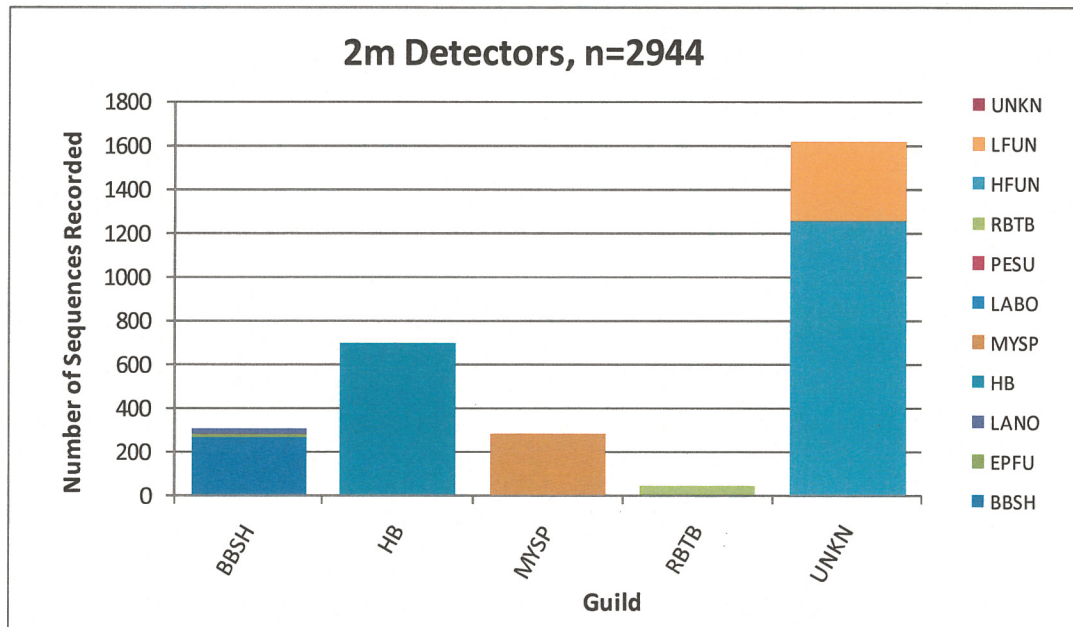


Figure 2-5d: Species composition at Tenney Met Tower 2m Detectors during 2010.

2.3.3 Activity and Weather

Mean nightly wind speeds in the Project area from April 9 to August 18, 2010, varied between 0.4 and 14.3 meters/second (m/s), with an overall mean of 5.6 m/s. Mean nightly temperatures varied between -1.2° Celsius (C) and 25.9°C, with an overall mean of 14.7°C. A comparison of mean nightly wind speeds and temperatures to nightly bat call sequence detections indicates that there was no correlation between either weather variable and detection rates (Figure 2-6, Figure 2-7).

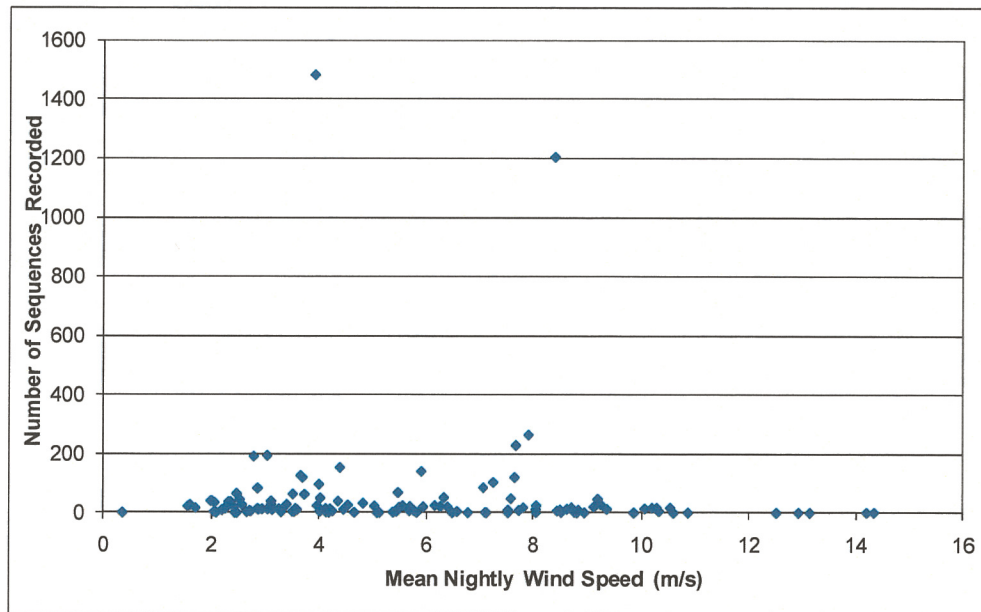


Figure 2-6. Nightly mean wind speed (m/s) and bat call detections during 2010.

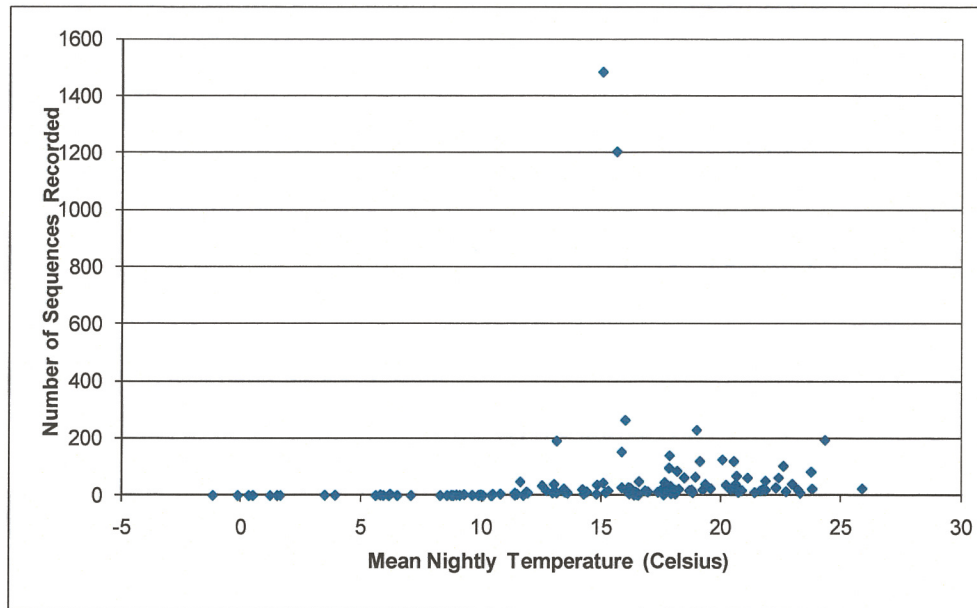


Figure 2-7. Nightly mean temperature (Celsius) and bat detections during 2010.

2.4 DISCUSSION

Bat activity was variable among detector heights and locations during the spring 2010 migration season. However, some trends were observed. Call volumes varied month to month, although peaked in mid to late June through early July (53% of all call sequences were detected in June). Two large pulses in activity were observed at the Tenney Middle Met Low detector on the nights of May 29 and June 1, the majority of which were from the LFUN and HB guilds. Call volumes declined following the first week in July, and detection rates for all detectors remained below five calls per detector night in the month of August. The overall detection rate for all 8 detectors was 6.4 calls per detector night. When compared to other pre-construction acoustic bat surveys conducted at other proposed wind projects in the northeast, detection rates recorded at the Project were at the low to middle range of those rates found at other projects (Appendix B, Tables 1 and 2). It is important to use caution, however, when comparing detection rates across detectors and sites because detector location and height can significantly affect detection rates. Therefore, it is best to compare similar detector heights and habitats when making these comparisons.

Detectors at higher altitudes may often record lower detection rates because bats do not remain in those areas for long periods of time. Detectors in and around canopy height often detect foraging individuals passing by the detector multiple times, often resulting in a higher detection rate (Arnett *et al.* 2006). Long-distance migratory species are more likely to be recorded at detectors deployed above canopy height. A similar trend was observed across the Project area in 2010 where the highest detection rates were recorded by the detectors deployed below canopy height (2 m), while lower detection rates were recorded by the detectors well above canopy height (45 m). The mid-elevation detectors (22 m) were also deployed above canopy

height, and detection rates fell somewhere in the middle of those recorded at the 45m and 2m detectors. The two portable tower detectors (15 m) recorded slightly different trends than detectors deployed in the met tower clearing, which may be a result of their elevation and differences in the surrounding habitat of the portable towers versus the cleared met tower areas.

Recent studies have found that bat activity patterns are influenced by weather conditions (Arnett *et al.* 2006, Arnett *et al.* 2008, Reynolds 2006). Acoustic surveys have documented a decrease in bat activity rates as wind speed increases and temperature decreases, and bat activity has been shown to correlate negatively to low nightly mean temperatures (Hayes 1997, Reynolds 2006). Similarly, weather factors appeared related to bat collision mortality rates documented at two facilities in the southeastern United States, with mortality rates negatively correlated with both wind speed and relative humidity, and positively correlated to barometric pressure (Arnett *et al.* 2005). These patterns suggest that bats are more likely to migrate on nights with low wind speeds (less than 4 to 6 m/s) and generally warm temperatures. Thus, several weather variables can individually affect bat activity, as does the interaction among variables (i.e., warm nights with low wind speeds). On-site met tower wind speed and temperature data collected at the time of the 2010 survey indicated that there was no correlation between mean nightly wind speed or temperature and nightly bat call sequences. However, temperature data did show that there was little activity on nights with mean temperatures below 10° C.

Bat calls were identified to guild within this report, although calls were provisionally categorized by species when possible during analysis. Certain species, such as the eastern red bat and hoary bat, have easily identifiable calls, whereas other species, such as the big brown bat and silver-haired bat, are difficult to distinguish acoustically when characteristic call components are absent. Similarly, members of the *Myotis* genus have overlapping call characteristics that often cannot be distinguished qualitatively.

Hoary bats, the largest bat species in the Northeast, were the most common bats detected at Tenney, composing approximately 26 percent of all calls recorded at all detectors. Although hoary bats are most often recorded above tree canopy, Tenney detectors at all altitudes above ground level recorded hoary bats. However, 90 percent of hoary bat calls were recorded over the course of 2 nights (May 29 and June 1) at 2 detectors (Tenney Middle Met 2M and Tenney Middle Met Low). Because this level of activity did not persist into the summer resident period and was limited to a single met tower, it is likely that this activity can be attributed to foraging activity by transient individuals, and likely several calls of the same individuals.

Species in the BBSH guild composed 22 percent of all calls recorded during the 2010 survey period. Whereas the big brown bat would be expected to occur in the Project area throughout the survey season, the silver-haired bat is a long-distance migratory species and would likely be present particularly during the fall migration period. A total of 384 *Myotis* call sequences (6% of all call sequences recorded) were detected at the Project in 2010. Finally, 86 call sequences (1.4% of total call sequences) recorded by detectors during the 2010 survey belonged to the RBTB guild, which includes the eastern red bat and the tri-colored bat.

When considering the level of activity documented at the Project during 2010 acoustic surveys, it is important to acknowledge that numbers of recorded bat call sequences cannot be

correlated with the number of bats in an area because acoustic detectors do not allow for differentiation between an individual passing by a single detector multiple times in a night or multiple individuals. While these data may be useful in predicting trends in post-construction mortality rates, the current lack of data on this topic precludes quantitative prediction of risk. Although interpretations are limited, the surveys represent a sample of activity and the general species groups that occur in the Project area.

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Appendix A

Bat survey results



Appendix A Table 4 Summary of acoustic bat data and weather during each survey night at the Tenney North Met High detector, 2010

Night of Operations?	BBSH				HB	MYS	RBTB			UNKN			Total	Wind Speed (m/s)	Temperature (celsius)
	BBSH	BIG brown	Silver-haired	Hoary	MYS	Eastern red	Tri-colored	RBTB	HEUN	LEUN	UNKN				
040810	1												0		
041010	1												0		
041110	1												0		
041210	1												0		
041310	1												0		
041410	1												0	7.1	6.0
041510	1												0	4.2	3.5
041610	1												0	0.4	-0.1
041710	1												0	2.4	0.5
041810	1												0	9.9	1.2
041910	1												0	6.8	5.8
042010	1												0	4.1	9.0
042110	1												0	3.3	11.4
042210	1												0	8.8	6.5
042310	1												0	7.5	6.2
042410	1												0	5.8	11.8
042510	1												0	3.5	9.3
042610	1												0	5.1	8.3
042710	1												0	10.9	-1.2
042810	1												0	12.9	1.7
042910	1												0	12.5	5.6
043010	1												0	5.1	10.5
050110	1												0	2.2	16.5
050210	1												2	6.4	23.2
050310	1												0	8.4	16.2
050410	1												0	6.5	9.9
050510	1												0	5.4	16.5
050610	1												0	14.3	8.8
050710	1												0	6.5	8.6
050810	1												1	14.2	3.9
050910	1												0	13.1	0.3
051010	1												0	6.8	1.5
051110	1												0	2.1	7.1
051210	1												1	6.6	6.2
051310	1												0	2.7	10.0
051410	1												1	16.2	12.7
051510	1												0	6.9	8.5
051610	1												1	7.6	11.6
051710	1												2	3.1	13.1
051810	1												0	7.1	9.8
051910	1												0	8.1	9.9
052010	1												0	5.4	16.4
052110	1												1	3.6	13.0
052210	1												2	4.3	14.8
052310	1												3	3.1	16.4
052410	1												0	5.5	20.7
052510	1												2	10.1	22.7
052610	1												1	5.5	16.5
052710	1												3	2.9	13.6
052810	1												2	3.6	13.5
052910	1												0	6.4	15.6
053010	1												0	7.7	13.6
053110	1												12	2.5	15.1
060110	1												1	3.9	15.0
060210	1												0	3.5	18.5
060310	1												1	5.7	15.2
060410	1												3	4.0	17.8
060510	1												2	7.1	18.2
060610	1												0	10.6	10.1
060710	1												0	10.3	10.8
060810	1												0	4.7	9.1
060910	1												0	4.0	10.5
061010	1												0	2.5	10.4
061110	1												1	2.8	13.1
061210	1												0	3.1	13.0
061310	1												1	2.4	14.8
061410	1												0	7.5	11.4
061510	1												0	2.1	12.5
061610	1												6	5.6	13.4
061710	1												0	7.9	16.0
061810	1												10	3.7	20.1
061910	1												4	3.7	21.1
062010	1												2	4.7	19.0
062110	1												0	3.4	15.9
062210	1												9	4.1	16.9
062310	1												28	3.7	19.1
062410	1												0	9.2	16.1
062510	1												0	5.9	17.9
062610	1												1	4.4	15.9
062710	1												1	5.7	18.1
062810	1												6	7.6	20.6
062910	1												0	8.6	13.5
063010	1												0	6.5	11.9
070110	1												0	9.4	11.9
070210	1												2	4.0	16.6
070310	1												1	9.1	21.9
070410	1												0	7.3	22.6
070510	1												3	4.1	25.9
070610	1												1	3.0	24.3
070710	1												6	14.2	23.8
070810	1												2	6.2	22.4
070910	1												1	2.4	23.8
071010	1												1	2.5	18.9
071110	1												2	2.0	19.4
071210	1												0	3.1	22.3
071310	1												2	3.3	20.7
071410	1												2	1.6	20.4
071510	1												3	2.3	20.2
071610	1												2	8.1	21.4
071710	1												0	6.9	23.3
071810	1												1	2.4	18.2
071910	1												0	5.0	18.2
072010	1												3	1.6	17.6
072110	1												0	7.8	16.8
072210	1												0	4.8	17.9
072310	1												1	2.1	17.6
072410	1												8	6.3	21.9
072510	1												0	10.5	15.3
072610	1												0	9.2	17.7
072710	1												7	4.4	20.6
072810	1												5	8.7	20.9
072910	1												0	6.3	14.2
073010	1												0	3.5	11.5
073110	1												2	2.9	14.4
080110	1												2	4.3	16.3
080210	1												0	1.7	17.7
080310	1												2	5.7	21.8
080410	1												7	2.0	23.0
080510	1												0	10.3	21.1
080610	1												0	5.8	11.9
080710	1												0	2.7	14.3
080810	1												6	4.5	20.4
080910	1												1	5.9	18.8
081010	1												1	4.5	18.8
081110	1												3	4.2	18.0
081210	1												3	2.6	16.2
081310	1												1	2.3	16.1
081410	1												2	2.9	17.4
081510	1												1	2.7	17.9
081610	1												3	6.2	19.8
081710	1												3	5.5	18.7
081810	1												2	2.3	18.1
By Species		11	24	53	46	0	1	0	3	19	72	0			
By Outfit		11	24	53	46	0	1	0	3	19	72	0			



Appendix A Table 5 Summary of acoustic bat data and weather during each survey night at the Tenney North Mat Low detector 2010													
Night of Operations*	BBSH			HB	MYSF	RBTB		RFUN	LFUN	UNKN	Total	Wind Speed (mph)	Temperature (celcius)
	BBSH	Big brown	Silver-haired	Hoary	MYSF	Eastern red	Tra-colored	RBTB	RFUN	LFUN	UNKN		
04/09/10	1											0	-
04/10/10	1											0	-
04/11/10	1											0	-
04/12/10	1											0	-
04/13/10	1											0	-
04/14/10	1											0	7.1 6.0
04/15/10	1											0	4.2 3.5
04/16/10	1											0	0.4 0.1
04/17/10	1											0	2.4 0.5
04/18/10	1											0	9.9 1.2
04/19/10	1											0	8.8 5.8
04/20/10	1											0	4.1 9.0
04/21/10	1											0	3.3 11.4
04/22/10	1											0	8.8 6.5
04/23/10	1											0	7.5 9.2
04/24/10	1											0	5.8 11.8
04/25/10	1											0	3.5 9.3
04/26/10	1											0	5.1 8.3
04/27/10	1											0	10.9 -1.2
04/28/10	1											0	12.9 1.7
04/29/10	1											0	12.5 5.6
04/30/10	1											0	5.1 10.5
05/01/10	1	2										2	2.2 16.5
05/02/10	1	1										2	6.4 23.2
05/03/10	1											0	8.4 18.2
05/04/10	1											0	8.5 9.9
05/05/10	1											0	5.4 16.5
05/06/10	1											0	14.3 8.8
05/07/10	1											0	6.5 8.6
05/08/10	1											0	14.2 3.9
05/09/10	1											0	13.1 0.3
05/10/10	1											0	6.8 1.5
05/11/10	1											0	2.1 7.1
05/12/10	1	1										2	6.6 6.2
05/13/10	1											0	2.7 10.0
05/14/10	1	1										2	10.2 12.7
05/15/10	1											0	8.9 8.8
05/16/10	1	1										1	7.6 11.6
05/17/10	1											1	3.1 13.1
05/18/10	1											0	7.1 9.6
05/19/10	1											0	8.1 9.9
05/20/10	1											0	5.4 18.4
05/21/10	1	2										3	3.9 13.0
05/22/10	1	1										1	4.3 14.8
05/23/10	1	2	1									3	3.1 16.4
05/24/10	1											3	8.5 23.7
05/25/10	1											3	10.1 22.7
05/26/10	1											1	5.5 16.5
05/27/10	1											2	2.8 13.6
05/28/10	1	1										1	3.9 13.5
05/29/10	1											1	8.4 15.6
05/30/10	1											2	7.7 13.6
05/31/10	1											2	16 25 18.1
06/01/10	1											1	3.9 15.0
06/02/10	1											0	3.5 18.5
06/03/10	1											0	5.1 15.2
06/04/10	1											0	4.0 17.8
06/05/10	1											0	7.1 18.2
06/06/10	1											0	10.6 10.1
06/07/10	1	1										1	10.3 10.8
06/08/10	1											0	4.7 9.1
06/09/10	1											0	4.0 10.5
06/10/10	1											0	2.5 10.4
06/11/10	1											0	2.8 13.1
06/12/10	1											0	3.1 13.0
06/13/10	1											3	2.4 14.8
06/14/10	1											0	7.5 11.4
06/15/10	1											0	2.1 12.5
06/16/10	1											6	5.6 13.4
06/17/10	1											0	7.9 18.9
06/18/10	1	5	6	11								31	3.7 20.1
06/19/10	1											7	3.7 21.1
06/20/10	1											0	7.7 19.0
06/21/10	1											2	3.4 15.9
06/22/10	1											1	4.1 16.9
06/23/10	1	1										16	3.7 19.1
06/24/10	1											1	9.2 18.1
06/25/10	1											0	5.9 17.9
06/26/10	1											0	4.4 15.9
06/27/10	1											0	5.7 18.1
06/28/10	1	2										5	7.6 20.6
06/29/10	1											0	8.6 13.5
06/30/10	1											0	8.5 11.9
07/01/10	1											0	9.4 11.9
07/02/10	1											2	4.0 16.6
07/03/10	1	1										1	9.1 21.9
07/04/10	1											1	7.3 22.6
07/05/10	1											2	8.1 25.9
07/06/10	1	1										1	3.0 24.3
07/07/10	1	2	6									12	2.9 23.8
07/08/10	1											1	2.5 22.4
07/09/10	1	1	4									1	4.0 23.8
07/10/10	1	1										2	2.5 18.9
07/11/10	1	2										4	2.0 19.4
07/12/10	1											0	3.1 22.3
07/13/10	1											1	3.3 20.7
07/14/10	1	1										1	1.6 20.4
07/15/10	1	1										1	2.3 20.2
07/16/10	1											2	8.1 21.4
07/17/10	1											0	8.8 23.3
07/18/10	1	1										4	2.4 19.2
07/19/10	1											0	5.0 18.2
07/20/10	1											2	1.6 17.6
07/21/10	1											1	7.8 16.8
07/22/10	1											0	4.8 17.9
07/23/10	1											1	2.1 17.6
07/24/10	1	3										6	6.3 21.9
07/25/10	1											0	10.5 15.3
07/26/10	1											0	9.2 17.7
07/27/10	1	2										5	4.4 20.6
07/28/10	1											0	8.7 20.9
07/29/10	1	1										2	8.3 14.2
07/30/10	1											0	3.5 11.5
07/31/10	1											2	2.9 14.4
08/01/10	1											1	3.3 16.3
08/02/10	1											1	1.7 17.7
08/03/10	1	1										2	5.7 21.6
08/04/10	1											3	2.0 23.0
08/05/10	1	1	1									5	10.3 21.7
08/06/10	1											0	5.8 11.9
08/07/10	1											3	2.7 14.3
08/08/10	1	3										5	4.5 20.4
08/09/10	1											1	5.9 18.8
08/10/10	1											0	4.5 18.8
08/11/10	1											3	4.2 18.0
08/12/10	1	3										6	2.6 16.2
08/13/10	1											1	2.3 16.1
08/14/10	1	1										2	2.9 17.4
08/15/10	1											1	3.7 17.9
08/16/10	1											0	6.2 19.6
08/17/10	1											1	5.5 18.7
08/18/10	1	2										2	2.3 18.1
By Species		51	40	33	18	2	3	0	3	6	56	0	212
By Species		BBSH	124		18	2	6			UNKN	62		
										Total			

* = Detector functioned for the entire night, 0 = Non-operational for all or part of the night



Appendix A Table 6 Summary of acoustic bat data and weather during each survey night at the Tenney Middle Met 2M detector, 2010

Night of	Operational?	BBSH			HB	MYSP	RBTB			UNKN		Total	Wind Speed (m/s)	Temperature (celcius)		
		Big brown	Silver-haired	Hoary	MYSP	Eastern red	Tri-colored	RBTB	HIFUN	LIFUN	UNKN					
04/08/10	1											0	-	-		
04/10/10	1											0	-	-		
04/11/10	1											0	-	-		
04/12/10	1											0	-	-		
04/13/10	1											0	-	-		
04/14/10	1											0	7.1	16.5		
04/15/10	1											0	4.2	3.0		
04/16/10	1											0	0.4	-0.1		
04/17/10	1											0	2.4	0.5		
04/18/10	1											0	3.9	1.2		
04/19/10	1					1						1	8.8	5.8		
04/20/10	1											0	4.1	9.0		
04/21/10	1											0	4.3	11.4		
04/22/10	1											0	8.8	6.5		
04/23/10	1											0	7.5	6.2		
04/24/10	1											0	5.8	11.8		
04/25/10	1											0	3.5	9.3		
04/26/10	1											0	5.1	8.3		
04/27/10	1											0	10.9	-1.2		
04/28/10	1											0	12.9	1.7		
04/29/10	1											0	12.5	5.6		
04/30/10	1											0	5.1	10.5		
05/01/10	1											0	2.2	16.5		
05/02/10	1	1							1			2	6.4	23.2		
05/03/10	1	1										1	8.4	16.2		
05/04/10	1											0	8.5	9.9		
05/05/10	1											0	6.4	16.5		
05/06/10	1											0	14.3	8.8		
05/07/10	1											0	6.5	8.6		
05/08/10	1											0	14.2	3.9		
05/09/10	1											0	13.1	0.3		
05/10/10	1											0	6.8	1.5		
05/11/10	1											0	2.1	7.1		
05/12/10	1											0	8.6	6.2		
05/13/10	1											0	2.7	10.0		
05/14/10	1											0	10.2	12.7		
05/15/10	1											0	6.9	8.8		
05/16/10	1											0	7.6	11.6		
05/17/10	1											0	3.1	13.1		
05/18/10	1											0	7.1	9.6		
05/19/10	1											0	6.1	9.9		
05/20/10	1											0	5.4	16.4		
05/21/10	1									1		1	3.6	13.0		
05/22/10	1											1	4.3	14.8		
05/23/10	1										1	2	3.1	16.4		
05/24/10	1	8									12	20	5.5	20.7		
05/25/10	1											0	10.1	22.7		
05/26/10	1											0	5.5	16.5		
05/27/10	1	1				1						2	2.9	13.6		
05/28/10	1											0	3.6	13.5		
05/29/10	1	3			204						140	347	8.4	15.6		
05/30/10	1										1	1	7.7	13.6		
05/31/10	1											1	2.5	15.1		
06/01/10	1				4/4						77	951	3.9	15.0		
06/02/10	1											0	3.5	18.5		
06/03/10	1											0	5.7	15.2		
06/04/10	1	1										1	4.0	17.8		
06/05/10	1											0	7.1	18.2		
06/06/10	1											0	10.6	10.1		
06/07/10	1								1			1	10.3	10.8		
06/08/10	1											0	4.7	9.1		
06/09/10	1									1		1	4.0	10.5		
06/10/10	1											0	2.5	10.4		
06/11/10	1	3									18	22	8.8	13.1		
06/12/10	1											1	3.1	13.0		
06/13/10	1	1				1						3	2.4	14.8		
06/14/10	1											0	7.5	11.4		
06/15/10	1											0	2.1	12.5		
06/16/10	1											0	5.6	13.4		
06/17/10	1					1					3	4	7.9	16.0		
06/18/10	1									1		2	3.7	20.1		
06/19/10	1											1	3.7	21.1		
06/20/10	1					1						1	7.7	19.0		
06/21/10	1					1						2	3.4	15.9		
06/22/10	1									1		1	4.1	16.9		
06/23/10	1	1									3	4	3.7	19.1		
06/24/10	1											0	9.2	16.1		
06/25/10	1									1		1	5.9	17.9		
06/26/10	1											0	4.4	15.9		
06/27/10	1											0	5.7	18.1		
06/28/10	1	11									6	3	7.6	20.6		
06/29/10	1											0	8.6	13.5		
06/30/10	1					1					1	2	8.5	11.9		
07/01/10	1											1	9.4	11.9		
07/02/10	1											0	4.0	16.6		
07/03/10	1											0	9.1	21.9		
07/04/10	1											0	7.3	22.6		
07/05/10	1	1										1	6.1	25.9		
07/06/10	1	75									2	4	10	91	3.0	24.3
07/07/10	1											1	2.9	23.6		
07/08/10	1											2	4	2.5	22.4	
07/09/10	1	1				1						1	4	4.0	23.8	
07/10/10	1	13									6	19	2.5	18.9		
07/11/10	1	2										2	4	2.0	19.4	
07/12/10	1											2	2	3.1	22.3	
07/13/10	1										1	1	3.3	20.7		
07/14/10	1											0	1.6	20.4		
07/15/10	1					1						2	2.3	20.2		
07/16/10	1											0	8.1	21.4		
07/17/10	1										1	3	8.8	23.3		
07/18/10	1									1		1	2.4	19.2		
07/19/10	1					1						1	5.0	18.2		
07/20/10	1											0	1.8	17.6		
07/21/10	1										2	2	7.8	16.8		
07/22/10	1	3									4	7	4.8	17.9		
07/23/10	1											0	2.1	17.6		
07/24/10	1	1										2	6.3	21.9		
07/25/10	1										3	3	10.5	15.3		
07/26/10	1										1	2	1	4	9.2	17.7
07/27/10	1										2	2	4	4.4	20.6	
07/28/10	1										1	1	8.7	20.9		
07/29/10	1							1			1	2	6.3	14.2		
07/30/10	1											0	3.5	11.5		
07/31/10	1											1	2.9	14.4		
08/01/10	1											0	3.3	16.3		
08/02/10	1										1	1	1.7	17.7		
08/03/10	1											0	5.7	21.8		
08/04/10	1										2	2	2.0	23.0		
08/05/10	1											0	10.3	21.7		
08/06/10	1											0	5.8	11.9		
08/07/10	1											0	2.7	14.3		
08/08/10	1											0	4.5	20.4		
08/09/10	1										1	1	5.9	18.6		
08/10/10	1										1	1	4.5	18.8		
08/11/10	1											0	4.2	18.0		
08/12/10	1	2								1		3	2.6	16.2		
08/13/10	1											0	2.3	16.1		
08/14/10	1											0	2.9	17.4		
08/15/10	1											0	2.7	17.8		
08/16/10	1									1		1	8.2	19.6		
08/17/10	1										1	1	5.5	18.1		
08/18/10	1											0	2.3	18.1		
By Species		133	0	0	678	14	0	1	5	45	291	0	1167			
By Ouid		133			678	14			6		336					
		BBSH			HB	MYSP			RBTB							



Appendix A Table 7 Summary of acoustic bat data and weather during each survey night at the Yenney Middle Met High detector, 2010

Night of Operation*	BBSH			HB	MYSP	RBTB					UNKN	Total	Wind Speed (m/s)	Temperature (celsius)
	BBSH	Big brown	Shoreline	Hoary	MYSP	Eastern red	Tri-colored	RBTB	W/UN	L/UN	UNKN			
04/09/10	0											0	-	-
04/10/10	0											0	-	-
04/11/10	0											0	-	-
04/12/10	0											0	-	-
04/13/10	0											0	-	-
04/14/10	0											0	7.1	6.0
04/15/10	0											0	4.2	3.5
04/16/10	0											0	0.4	-0.1
04/17/10	0											0	2.4	0.5
04/18/10	0											0	9.9	1.2
04/19/10	0											0	8.8	5.8
04/20/10	0											0	4.1	9.0
04/21/10	0											0	3.3	11.4
04/22/10	0											0	8.8	6.5
04/23/10	0											0	7.5	6.2
04/24/10	0											0	5.8	11.8
04/25/10	0											0	3.5	8.3
04/26/10	0											0	5.1	8.3
04/27/10	0											0	10.9	-1.2
04/28/10	0											0	12.9	1.7
04/29/10	0											0	12.5	5.6
04/30/10	0											0	5.1	10.5
05/01/10	0											0	2.2	16.5
05/02/10	0											0	8.4	23.2
05/03/10	0											0	8.4	16.2
05/04/10	0											0	8.5	9.9
05/05/10	0											0	5.4	16.5
05/06/10	0											0	14.3	8.8
05/07/10	0											0	6.5	6.6
05/08/10	0											0	14.2	3.9
05/09/10	0											0	13.1	0.3
05/10/10	0											0	6.8	1.5
05/11/10	0											0	2.1	7.1
05/12/10	0											0	6.6	6.2
05/13/10	0											0	2.7	10.0
05/14/10	0											0	10.2	12.7
05/15/10	0											0	6.9	8.8
05/16/10	0											0	7.6	11.6
05/17/10	0											0	3.1	13.1
05/18/10	0											0	7.1	9.6
05/19/10	0											0	8.1	9.9
05/20/10	0											0	5.4	16.4
05/21/10	0											0	3.6	13.0
05/22/10	0											0	1.3	14.8
05/23/10	0											0	3.1	16.4
05/24/10	1									2		2	5.5	20.7
05/25/10	1									1		1	10.1	22.7
05/26/10	1									0		0	5.5	16.5
05/27/10	1									0		0	2.9	13.6
05/28/10	1									1		1	3.6	13.5
05/29/10	1									0		0	8.4	15.6
05/30/10	1									0		0	7.7	13.6
05/31/10	1		1							1		2	2.5	15.1
06/01/10	1				2					0		2	3.9	15.0
06/02/10	1	1								0		1	3.1	16.5
06/03/10	1									0		0	5.7	15.2
06/04/10	1									0		0	4.0	17.8
06/05/10	1	1								4		4	7.1	18.2
06/06/10	1									3		0	10.6	10.1
06/07/10	1									0		0	10.3	10.8
06/08/10	1									0		0	4.7	8.1
06/09/10	1									0		0	4.0	10.5
06/10/10	1									0		0	2.5	10.4
06/11/10	1									0		0	2.8	13.1
06/12/10	1									5		4	8	13.0
06/13/10	1		3	1						1		5	2.4	14.8
06/14/10	1									0		0	7.5	11.4
06/15/10	1									0		0	2.1	12.5
06/16/10	1									0		0	5.6	13.4
06/17/10	1									0		0	7.9	16.0
06/18/10	1									0		0	3.7	20.1
06/19/10	1									1		1	3.7	21.1
06/20/10	1			1						2		3	7.7	19.0
06/21/10	1									0		0	3.4	15.9
06/22/10	1									0		0	4.1	16.9
06/23/10	1		1	3	1					1		6	3.7	19.1
06/24/10	1									0		0	8.2	16.1
06/25/10	1									0		0	5.9	17.9
06/26/10	1									0		0	4.4	15.9
06/27/10	1									0		0	6.7	18.1
06/28/10	1									0		0	7.8	20.6
06/29/10	1									0		0	8.6	13.5
06/30/10	1									0		0	8.5	11.9
07/01/10	1									0		0	8.4	11.9
07/02/10	1									0		0	4.0	16.6
07/03/10	1									0		0	9.1	21.9
07/04/10	1				1					1		2	7.3	22.6
07/05/10	1									0		0	8.1	25.9
07/06/10	1									0		0	3.0	24.3
07/07/10	1									2		2	2.9	23.8
07/08/10	1									1		4	2.5	22.4
07/09/10	1									0		0	4.0	23.8
07/10/10	1									0		2	2.5	18.9
07/11/10	1									0		0	2.0	19.4
07/12/10	1									1		0	3.1	22.3
07/13/10	1									0		0	3.3	20.7
07/14/10	1									0		1	1.6	20.4
07/15/10	1									0		0	2.3	20.2
07/16/10	1									0		0	4.1	21.4
07/17/10	1									0		0	8.8	23.3
07/18/10	1									1		1	2.4	19.2
07/19/10	1									0		0	5.0	18.2
07/20/10	1									0		0	1.6	17.6
07/21/10	1									1		1	7.8	16.8
07/22/10	1									0		0	4.8	17.9
07/23/10	1									0		0	2.1	17.6
07/24/10	1	1								0		1	6.3	21.9
07/25/10	1									0		0	10.5	15.3
07/26/10	1									0		0	8.2	17.7
07/27/10	1									0		0	4.4	20.6
07/28/10	1									1		1	8.7	20.9
07/29/10	1									0		0	6.3	14.2
07/30/10	1									0		0	3.5	11.5
07/31/10	1									0		0	2.9	14.4
08/01/10	1									0		0	3.3	16.3
08/02/10	1									0		0	1.7	17.7
08/03/10	1	1								0		1	5.7	21.8
08/04/10	1									1		1	2.0	23.0
08/05/10	1									0		0	10.3	21.7
08/06/10	1									0		0	5.8	11.9
08/07/10	1									0		0	2.7	14.3
08/08/10	1									0		0	4.5	20.4
08/09/10	1									1		1	4.9	18.8
08/10/10	1									0		0	4.5	18.8
08/11/10	1									1		1	4.2	18.0
08/12/10	1									0		0	2.6	16.2
08/13/10	1									0		0	2.3	16.1
08/14/10	1									0		0	2.9	17.4
08/15/10	1									3		0	2.7	17.9
08/16/10	1									0		3	6.2	19.6
08/17/10	1									0		0	5.5	18.7
08/18/10	1									0		2	2.3	18.1
By Species	4	1	18	9	0	0	0	3	0	2	0	28	0	61
By Guild	23	9	0	0	3	0	0	26	0	0	0	26	0	61
	BBSH	HB	MYSP	RBTB	UN									



Night of	Operational?	BBSH		HB	MYSF	RBTB			UNKN		Total	Wind Speed (m/s)	Temperature (Celsius)	
		Big brown	Silver-haired	Noisy	Eastern red	Tri-colored	RBTB	HFJUN	LFJUN	UNKN				
04/08/10	1										0			
04/09/10	1										0			
04/11/10	1										0			
04/12/10	1										0			
04/13/10	1										0			
04/14/10	1										0			
04/15/10	1										0	7.1	6.0	
04/16/10	1										0	4.2	3.5	
04/17/10	1										0	0.4	-0.1	
04/17/10	1										0	2.4	0.5	
04/18/10	1										0	9.9	1.2	
04/18/10	1										1	8.8	5.8	
04/20/10	1										0	4.1	9.0	
04/21/10	1										1	5.8	11.8	
04/22/10	1										0	8.8	6.5	
04/23/10	1										0	7.5	6.2	
04/24/10	1										1	3.3	11.4	
04/25/10	1										0	3.5	9.3	
04/26/10	1										0	5.1	6.3	
04/27/10	1										0	10.9	-1.2	
04/28/10	1										0	13.9	1.1	
04/28/10	1										0	12.5	5.8	
04/30/10	1										0	5.1	10.5	
05/01/10	1	1		2						1	4	4	2.2	16.5
05/02/10	1	4		1							5	6.4	23.2	
05/03/10	1										2	8.4	16.2	
05/04/10	1										0	6.5	8.9	
05/05/10	1									1	1	5.4	16.5	
05/06/10	1										1	14.3	6.8	
05/07/10	1										0	6.5	8.6	
05/08/10	1										0	16.2	3.9	
05/08/10	1										0	13.1	0.3	
05/10/10	1										0	6.8	1.5	
05/11/10	1										0	2.1	7.1	
05/12/10	1										0	6.6	6.2	
05/13/10	1										0	2.7	10.0	
05/14/10	1									1	1	10.2	12.7	
05/15/10	1										0	6.9	6.6	
05/16/10	1										0	7.6	11.6	
05/17/10	1			1							1	3.1	13.1	
05/18/10	1										0	7.1	9.6	
05/18/10	1										0	8.1	9.9	
05/20/10	1										0	5.4	16.4	
05/21/10	1			1							1	3.6	13.0	
05/22/10	1										0	4.3	14.8	
05/23/10	1										0	3.1	16.4	
05/24/10	1	13	2	1						3	19	5.5	20.7	
05/25/10	1									1	2	10.1	22.1	
05/26/10	1										0	5.5	16.5	
05/27/10	1										0	2.9	13.6	
05/28/10	1	1		1							2	3.6	13.5	
05/28/10	1	4			213					415	632	8.4	15.6	
05/30/10	1	1									1	7.7	13.6	
05/31/10	1		1								1	2.5	15.1	
06/01/10	1				574					272	846	3.9	15.0	
06/02/10	1	1								1	2	3.5	18.5	
06/03/10	1										0	5.7	19.2	
06/04/10	1	1	2								3	4.0	17.6	
06/05/10	1										1	7.1	18.2	
06/06/10	1										0	10.6	10.1	
06/07/10	1										0	10.3	10.3	
06/08/10	1										0	4.7	9.1	
06/09/10	1										0	4.0	10.5	
06/10/10	1										0	2.5	10.4	
06/11/10	1	4	2		38					65	109	2.8	13.1	
06/12/10	1			4							7	3.1	13.0	
06/13/10	1	1		1							3	2.4	14.8	
06/14/10	1									1	1	7.5	11.4	
06/15/10	1										0	2.1	12.5	
06/16/10	1										0	5.6	13.4	
06/17/10	1	1									1	7.9	16.0	
06/18/10	1										0	3.7	20.1	
06/18/10	1										0	3.7	21.1	
06/20/10	1			1						2	3	7.7	19.0	
06/21/10	1	1								2	3	3.4	15.9	
06/22/10	1									1	3	4.1	16.9	
06/23/10	1	5	1	7	2					1	19	3.7	18.1	
06/24/10	1										0	9.2	16.1	
06/25/10	1									1	1	2	5.9	17.9
06/26/10	1										0	4.4	15.9	
06/27/10	1										0	5.7	18.1	
06/28/10	1	14	3							1	18	7.6	20.6	
06/29/10	1										0	8.6	13.5	
06/30/10	1									1	1	6.5	11.6	
07/01/10	1										0	9.4	11.9	
07/02/10	1									4	4	4.0	16.6	
07/03/10	1										0	6.1	21.9	
07/04/10	1	1								1	2	7.3	22.6	
07/05/10	1									2	2	8.1	25.9	
07/06/10	1	79	1					1	1	3	89	3.0	24.3	
07/07/10	1	1		4						4	2	2.9	23.4	
07/08/10	1	3		4						2	9	2.5	22.4	
07/09/10	1		1	1							2	4.0	23.8	
07/10/10	1	16		4						2	22	2.5	18.9	
07/11/10	1	1		1							2	2.0	19.4	
07/12/10	1	1								1	2	3.1	22.3	
07/13/10	1										0	3.3	20.7	
07/14/10	1										0	1.9	26.4	
07/15/10	1									1	1	2.3	20.2	
07/16/10	1	1								1	3	8.1	21.4	
07/17/10	1	3								1	4	6.8	23.3	
07/18/10	1			1							1	2.4	19.2	
07/19/10	1										0	5.0	18.2	
07/20/10	1	1									1	1.6	17.6	
07/21/10	1	8								1	9	4.8	17.9	
07/22/10	1										1	7.8	16.8	
07/23/10	1									1	0	2.1	17.6	
07/24/10	1		1								1	6.3	21.9	
07/25/10	1			1						2	2	5	10.5	15.3
07/26/10	1									1	1	2	9.2	17.7
07/27/10	1	4								1	6	4.4	20.6	
07/28/10	1									1	2	8.7	20.9	
07/29/10	1	1								1	3	6.3	14.2	
07/30/10	1									1	2	3.5	11.5	
07/31/10	1									1	1	2.9	14.4	
08/01/10	1										0	3.3	19.3	
08/02/10	1	1									0	1.1	17.7	
08/03/10	1	1									1	5.7	21.8	
08/04/10	1	2								3	5	2.0	23.0	
08/05/10	1	1									1	10.3	21.7	
08/06/10	1										0	5.8	11.6	
08/07/10	1										0	2.7	14.3	
08/08/10	1									1	1	4.5	20.4	
08/09/10	1										0	5.9	18.6	
08/10/10	1									1	1	4.5	19.8	
08/11/10	1									1	1	4.2	18.0	
08/12/10	1	2								1	3	2.8	16.2	
08/13/10	1									2	2	2.3	16.1	
08/14/10	1									1	1	2.9	17.4	
08/15/10	1										0	2.7	17.9	
08/16/10	1									1	2	6.2	19.6	
08/17/10	1	2								1	2	5.5	18.7	
08/18/10	1									1	4	2.3	18.1	
By Species		180	13	32	836	5	2	0	1	19	896	0	1898	
By Guild			225		836	5		7			825			
		BBSH		HB	MYSF			RBTB		UNKN			Total	

*1 = Detector functioned for the entire night, 0 = Non-operational for all or part of the night

Appendix B

Publicly Available Acoustic Bat Survey Results



Appendix B Table 1. Summary of available spring bat detector surveys (results reported for individual detectors)

Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
Tree or low tower detectors (10 m or below)										
2006	Lempster	Lempster, Sullivan City, NH	forest edge	5	21	4/5	6/12	16	0.8	Woodlot Alternatives, Inc. 2006. Summary of spring 2006 Lempster bat survey. Memorandum to Jeff Keeler (CEI) from Bob Roy (Woodlot Alternatives, Inc.) dated July 26, 2006.
2006	Howard	Howard, Steuben City, NY	field	8	35	4/15	6/3	29	0.8	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bird and Bat Migration at the Proposed Howard Wind Power Project in Howard, New York. Prepared for EverPower Global.
2005	Sheffield	Sheffield, Caledonia City, VT	forest edge	10	4	5/12	5/29	0	0	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2006	Sheffield	Sheffield, Caledonia City, VT	forest edge	8	38	4/24	6/13	840	22.1	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2006	Sheffield	Sheffield, Caledonia City, VT	forest edge	9	37	4/24	6/13	90	2.4	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2006	Sheffield	Sheffield, Caledonia City, VT	forest edge	8	34	4/24	6/13	178	5.2	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2006	Deerfield	Deerfield, Bennington City, VT	forest edge	2	37	4/14	6/11	4	0.1	Woodlot Alternatives, Inc. 2006. Spring 2006 Bird and Bat Migration Surveys at the Proposed Deerfield Wind Project in Searsburg and Readsboro, Vermont. Prepared for PPM Energy, Inc.
2008	Rollins	Rollins, Penobscot City, ME	forest edge	3	21	4/23	5/22	34	1.6	Stantec Consulting Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2008	Rollins	Rollins, Penobscot City, ME	forest edge	3	29	4/23	5/22	16	0.6	Stantec Consulting Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2008	Buckeye	Buckeye, Champaign Cty, OH	field	2	24	3/29	5/15	94	12.5	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Buckeye	Buckeye, Champaign Cty, OH	field	2	47	3/29	5/15	204	20.4	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	New Creek	New Creek, Grant Cty, WV	forest edge	1.5	34	4/11	5/14	565	38.3	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	Allegany	Allegany, Cattaraugus Cty, NY	forest edge	2	48	4/2	5/31	7	0.8	Stantec Consulting Services Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Allegany Wind Project. Prepared for EverPower Renewables
2008	Oakfield	Oakfield, Penobscot Cty, ME	forest edge	4.5	24	4/25	5/31	60	9.1	Stantec Consulting Services Inc. 2009. Spring and Summer 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Oakfield Wind Project in Oakfield, Maine. Prepared for First Wind Management, LLC.
2008	Oakfield	Oakfield, Penobscot Cty, ME	forest edge	4.8	0	4/28	5/29	0	0	Stantec Consulting Services Inc. 2009. Spring and Summer 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Oakfield Wind Project in Oakfield, Maine. Prepared for First Wind Management, LLC.
2008	Oakfield	Oakfield, Penobscot Cty, ME	forest edge	3-5	31	5/1	5/31	58	8.4	Stantec Consulting Services Inc. 2009. Spring and Summer 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Oakfield Wind Project in Oakfield, Maine. Prepared for First Wind Management, LLC.
2008	Oakfield	Oakfield, Penobscot Cty, ME	forest edge	4	31	5/1	5/31	24	3.4	Stantec Consulting Services Inc. 2009. Spring and Summer 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Oakfield Wind Project in Oakfield, Maine. Prepared for First Wind Management, LLC.



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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2008	Record Hill	Record Hill, Oxford Cty, ME	forest edge	2	21	5/27	6/16	378	87.9	Stantec Consulting Services Inc. 2008. Spring 2009 Bird and Bat Migration Survey Report: Breeding Bird, Raptor, and Acoustic Bat Surveys for the Record Hill Wind Project, Roxbury, Maine. Prepared for Record Hill Wind, LLC.
2008	Record Hill	Record Hill, Oxford Cty, ME	forest edge	5	20	5/28	6/16	231	20.6	Stantec Consulting Services Inc. 2008. Spring 2009 Bird and Bat Migration Survey Report: Breeding Bird, Raptor, and Acoustic Bat Surveys for the Record Hill Wind Project, Roxbury, Maine. Prepared for Record Hill Wind, LLC.
Met tower detectors										
2008	New Creek	New Creek, Grant Cty, WV	forest edge	40	34	4/11	5/14	13	1.9	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	New Creek	New Creek, Grant Cty, WV	forest edge	20	28	4/11	5/14	25	4.5	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	New Creek	New Creek, Grant Cty, WV	talus slope	0	29	4/11	5/14	57	13.3	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	Buckeye	Buckeye, Champaign Cty, OH	field	40	25	3/29	5/15	7	1	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Buckeye	Buckeye, Champaign Cty, OH	field	20	24	3/29	5/15	13	2.8	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Buckeye	Buckeye, Champaign Cty, OH	field	40	13	3/29	5/15	1	0.2	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.



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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2008	Buckeye	Buckeye, Champaign Cty, OH	field	20	48	3/29	5/15	9	2.3	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Allegany	Allegany, Cattaraugus Cty, NY	forest edge	40	59	4/2	5/31	8	1.5	Stantec Consulting Services Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Allegany Wind Project. Prepared for EverPower Renewables
2008	Allegany	Allegany, Cattaraugus Cty, NY	forest edge	20	59	4/2	5/31	13	1.8	Stantec Consulting Services Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Allegany Wind Project. Prepared for EverPower Renewables
2008	Allegany	Allegany, Cattaraugus Cty, NY	forest edge	12	50	4/2	5/31	28	5.1	Stantec Consulting Services Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Allegany Wind Project. Prepared for EverPower Renewables
2008	Oakfield	Oakfield, Penobscot Cty, ME	forest edge	22	36	4/25	5/31	2	0.1	Stantec Consulting Services Inc. 2009. Spring and Summer 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Oakfield Wind Project in Oakfield, Maine. Prepared for First Wind Management, LLC.
2008	Oakfield	Oakfield, Penobscot Cty, ME	forest edge	11	36	4/25	5/31	2	0.4	Stantec Consulting Services Inc. 2009. Spring and Summer 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the Oakfield Wind Project in Oakfield, Maine. Prepared for First Wind Management, LLC.
2008	Record Hill	Record Hill, Oxford Cty, ME	forest edge	45	45	5/1	6/16	8	0.6	Stantec Consulting Services Inc. 2008. Spring 2009 Bird and Bat Migration Survey Report: Breeding Bird, Raptor, and Acoustic Bat Surveys for the Record Hill Wind Project, Roxbury, Maine. Prepared for Record Hill Wind, LLC.
2008	Record Hill	Record Hill, Oxford Cty, ME	forest edge	20	47	5/1	6/16	5	1	Stantec Consulting Services Inc. 2008. Spring 2009 Bird and Bat Migration Survey Report: Breeding Bird, Raptor, and Acoustic Bat Surveys for the Record Hill Wind Project, Roxbury, Maine. Prepared for Record Hill Wind, LLC.
2008	Record Hill	Record Hill, Oxford Cty, ME	forest edge	45	45	5/1	6/16	2	0.1	Stantec Consulting Services Inc. 2008. Spring 2009 Bird and Bat Migration Survey Report: Breeding Bird, Raptor, and Acoustic Bat Surveys for the Record Hill Wind Project, Roxbury, Maine. Prepared for Record Hill Wind, LLC.



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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2008	Record Hill	Record Hill, Oxford City, ME	forest edge	20	37	5/1	6/16	4	0.7	Stantec Consulting Services Inc. 2008. Spring 2009 Bird and Bat Migration Survey Report: Breeding Bird, Raptor, and Acoustic Bat Surveys for the Record Hill Wind Project, Roxbury, Maine. Prepared for Record Hill Wind, LLC.
2009	Highland, ME	Highland, Somerset City, ME	forest edge	40	73	4/23	8/13	3	0.3	Stantec Consulting Services Inc. 2009. Spring 2009 Ecological Surveys. Prepared for Highland Wind LLC.
2009	Highland, ME	Highland, Somerset City, ME	forest edge	20	112	4/23	8/13	6	0.5	Stantec Consulting Services Inc. 2009. Spring 2009 Ecological Surveys. Prepared for Highland Wind LLC.
2009	Highland, ME	Highland, Somerset City, ME	forest edge	40	117	4/23	8/17	3	0.3	Stantec Consulting Services Inc. 2009. Spring 2009 Ecological Surveys. Prepared for Highland Wind LLC.
2009	Highland, ME	Highland, Somerset City, ME	forest edge	20	74	4/23	8/17	3	0.3	Stantec Consulting Services Inc. 2009. Spring 2009 Ecological Surveys. Prepared for Highland Wind LLC.
2009	Highland, ME	Highland, Somerset City, ME	forest edge	40	110	4/24	8/17	3	0.2	Stantec Consulting Services Inc. 2009. Spring 2009 Ecological Surveys. Prepared for Highland Wind LLC.
2009	Highland, ME	Highland, Somerset City, ME	forest edge	20	67	4/24	8/17	4	0.3	Stantec Consulting Services Inc. 2009. Spring 2009 Ecological Surveys. Prepared for Highland Wind LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	53	4/2	5/28	24	1.6	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	4	92	3/30	6/30	565	23.2	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	10	80	3/30	6/30	359	14.2	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.



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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	2	93	3/30	6/30	898	42.2	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	n/a	78	4/2	6/30	45	2.2	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	10	79	4/1	6/30	55	2.9	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	91	4/1	6/30	47	3	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	91	4/1	6/30	23	1.4	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	3	64	4/1	6/3	69	5.7	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	2	64	4/1	6/3	4	0.4	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project in Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	n/a	22	5/8	5/29	4	0.7	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project in Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	n/a	35	4/25	5/29	19	2.5	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project in Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	15	85	3/31	6/30	23	2	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project in Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	10	65	4/27	6/30	84	6.4	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project in Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	92	3/31	6/30	286	9.2	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project in Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	92	3/31	6/30	701	53.3	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	92	3/31	6/30	466	25.7	Stantec Consulting Services Inc. 2009. Spring and Summer 2009 Bird and Bat Survey Report: Visual, Radar, Acoustic, Mist Net Surveys and Related Assessments for the Vermont Community Wind Farm Project In Rutland, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2008	Rollins	Rollins, Penobscot Cty, ME	forest edge	20	23	4/23	6/14	40	1.7	Stantec Consulting Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2008	Rollins	Rollins, Penobscot Cty, ME	forest edge	40	23	5/22	6/14	3	0.1	Stantec Consulting Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2008	Rollins	Rollins, Penobscot Cty, ME	forest edge	20	23	5/22	6/14	3	0.1	Stantec Consulting Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2008	Rollins	Rollins, Penobscot Cty, ME	forest edge	40	53	4/22	6/14	166	3.1	Stantec Consulting Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2008	Rollins	Rollins, Penobscot Cty, ME	forest edge	20	53	4/22	6/14	106	2.0	Stantec Consulting Inc. 2008. Spring 2008 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2007	Ball Hill	Villenova, Chautauqua Cty, NY	field	40	32	3/28	5/30	4	0.1	Stantec Consulting Inc. 2007. A Spring 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Ball Hill Windpark in Villenova and Hanover, NY. Prepared for Nobel Environmental Power, LLC and Ecology and Environment, Inc.
2007	Ball Hill	Villenova, Chautauqua Cty, NY	field	20	54	3/28	5/30	74	1.4	Stantec Consulting Inc. 2007. A Spring 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Ball Hill Windpark in Villenova and



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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
										Hanover, NY. Prepared for Nobel Environmental Power, LLC and Ecology and Environment, Inc.
2007	Stetson	Stetson, Penobscot Cty, ME	forest edge	30	47	4/24	6/18	52	1.1	Woodlot Alternatives, Inc. 2007. A Spring 2007 Survey of Bird and Bat Migration at the Stetson Wind Project, Washington County, Maine. Prepared for Evergreen Wind V, LLC.
2007	Stetson	Stetson, Penobscot Cty, ME	forest edge	30	56	4/24	6/18	235	4.2	Woodlot Alternatives, Inc. 2007. A Spring 2007 Survey of Bird and Bat Migration at the Stetson Wind Project, Washington County, Maine. Prepared for Evergreen Wind V, LLC.
2007	Stetson	Stetson, Penobscot Cty, ME	forest edge	30	56	4/24	6/18	36	0.6	Woodlot Alternatives, Inc. 2007. A Spring 2007 Survey of Bird and Bat Migration at the Stetson Wind Project, Washington County, Maine. Prepared for Evergreen Wind V, LLC.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	50	14	5/4	6/19	0	0	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bird and Bat Migration at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development, Inc.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	50	24	5/4	6/19	0	0	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bird and Bat Migration at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development, Inc.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	20	35	5/4	6/19	31	0.7	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bird and Bat Migration at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development, Inc.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	50	35	5/4	6/19	0	0	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bird and Bat Migration at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development, Inc.
2006	Lempster	Lempster, Sullivan Cty, NH	forest edge	40	60	4/5	6/12	7	0.1	Woodlot Alternatives, Inc. 2006. Summary of spring 2006 Lempster bat survey. Memorandum to Jeff Keeler (CEI) from Bob Roy (Woodlot Alternatives, Inc.) dated July 26, 2006.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2006	Lempster	Lempster, Sullivan City, NH	forest edge	20	50	4/5	6/12	3	0.1	Woodlot Alternatives, Inc. 2006. Summary of spring 2006 Lempster bat survey. Memorandum to Jeff Keeler (CEI) from Bob Roy (Woodlot Alternatives, Inc.) dated July 26, 2006.
2005	Cohocton/Dutch Hill	Cohocton, Steuben City, NY	field	30	29	5/2	5/30	21	0.7	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Cohocton Wind Power Project in Cohocton, New York. Prepared for UPC Wind Management, LLC
2005	High Sheldon	Sheldon, Wyoming City, NY	field	30	36	4/21	5/30	6	0.2	Woodlot Alternatives, Inc. 2006. A Spring 2005 Radar Survey of Bird Migration at the Proposed High Sheldon Wind Project in Sheldon, New York. Prepared for Invenergy.
2005	Jordanville	Jordanville, Herkimer City, NY	field	30	29	4/14	5/13	15	0.5	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Jordanville Wind Project in Jordanville, New York. Prepared for Community Energy, Inc.
2005	Marble River	Churubusco, Clinton City, NY	field	30	46	4/14	5/30	12	0.3	Woodlot Alternatives, Inc. 2005. A Spring Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Marble River Wind Project in Clinton and Ellenburg, New York. Prepared for AES Corporation.
2005	Prattsburgh	Prattsburgh, Steuben City, NY	field	30	17	4/15	5/10	8	0.5	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Windfarm Prattsburgh Project in Prattsburgh, New York. Prepared for UPC Wind Management, LLC.
2005	Prattsburgh	Prattsburgh, Steuben City, NY	field	15	20	4/11	5/30	8	0.4	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Windfarm Prattsburgh Project in Prattsburgh, New York. Prepared for UPC Wind Management, LLC.
2005	West Hill	Munnsville, Madison City, NY	field	30	22	5/10	5/31	6	0.3	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Munnsville Wind Project in Munnsville, New York. Prepared for AES-EHN NY Wind, LLC.
2006	Chateaugay	Chateaugay, Franklin City, NY	field	40	54	4/16	6/8	117	2.2	Woodlot Alternatives, Inc. 2006. Spring 2006 Bat Surveys at the Proposed Brandon and Chateaugay Wind Farms in Northern New York. Prepared for Nobel Environmental Power, LLC and Ecology & Environment, Inc.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2006	Chateaugay	Chateaugay, Franklin Cty, NY	field	20	54	4/16	6/8	103	1.9	Woodlot Alternatives, Inc. 2006. Spring 2006 Bat Surveys at the Proposed Brandon and Chateaugay Wind Farms in Northern New York. Prepared for Nobel Environmental Power, LLC and Ecology & Environment, Inc.
2006	Brandon	Brandon, Franklin Cty, NY	field	15	38	4/7	6/4	848	22	Woodlot Alternatives, Inc. 2006. Spring 2006 Bat Surveys at the Proposed Brandon and Chateaugay Wind Farms in Northern New York. Prepared for Nobel Environmental Power, LLC and Ecology & Environment, Inc.
2006	Brandon	Brandon, Franklin Cty, NY	field	30	36	4/7	6/4	114	3.2	Woodlot Alternatives, Inc. 2006. Spring 2006 Bat Surveys at the Proposed Brandon and Chateaugay Wind Farms in Northern New York. Prepared for Nobel Environmental Power, LLC and Ecology & Environment, Inc.
2006	Howard	Howard, Steuben Cty, NY	field	50	36	4/15	6/4	5	0.1	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bird and Bat Migration at the Proposed Howard Wind Power Project in Howard, New York. Prepared for EverPower Global.
2006	Howard	Howard, Steuben Cty, NY	field	20	45	4/15	6/7	16	0.4	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bird and Bat Migration at the Proposed Howard Wind Power Project in Howard, New York. Prepared for EverPower Global.
2005	Horse Creek	Clayton, Jefferson Cty, NY	forest edge	20	42	4/20	5/31	55	1.3	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Clayton Wind Project in Clayton, New York. Prepared for PPM Atlantic Renewable.
2005	Horse Creek	Clayton, Jefferson Cty, NY	forest edge	15	36	4/20	5/31	12	0.3	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Clayton Wind Project in Clayton, New York. Prepared for PPM Atlantic Renewable.
2005	Moresville	Stamford, Delaware Cty, NY	forest edge	30	27	4/12	5/8	8	0.3	Woodlot. 2007. A Spring and Fall 2005 Radar and Acoustic Survey of Bird Migration at the Proposed Moresville Energy Center in Stamford and Roxbury, New York. Prepared for Invenery, LLC, Rockville, MD.
2005	Deerfield	Deerfield, Bennington Cty, VT	forest edge	15	40	4/19	6/15	4	0.1	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Deerfield Wind Project in Searsburg and Readsboro, Vermont. Prepared for PPM Energy/Deerfield Wind, LLC.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2005	Sheffield	Sheffield, Caledonia Cty, VT	forest edge	20	31	5/1	5/31	6	0.2	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2006	Deerfield	Deerfield, Bennington Cty, VT	forest edge	35	60	4/14	6/13	4	0.1	Woodlot Alternatives, Inc. 2006. Spring 2006 Bird and Bat Migration Surveys at the Proposed Deerfield Wind Project in Searsburg and Readsboro, Vermont. Prepared for PPM Energy, Inc.
2006	Deerfield	Deerfield, Bennington Cty, VT	forest edge	15	47	4/14	5/31	0	0	Woodlot Alternatives, Inc. 2006. Spring 2006 Bird and Bat Migration Surveys at the Proposed Deerfield Wind Project in Searsburg and Readsboro, Vermont. Prepared for PPM Energy, Inc.
2006	Deerfield	Deerfield, Bennington Cty, VT	forest edge	30	29	4/14	5/20	0	0	Woodlot Alternatives, Inc. 2006. Spring 2006 Bird and Bat Migration Surveys at the Proposed Deerfield Wind Project in Searsburg and Readsboro, Vermont. Prepared for PPM Energy, Inc.
2006	Deerfield	Deerfield, Bennington Cty, VT	forest edge	15	21	4/14	5/16	7	0.3	Woodlot Alternatives, Inc. 2006. Spring 2006 Bird and Bat Migration Surveys at the Proposed Deerfield Wind Project in Searsburg and Readsboro, Vermont. Prepared for PPM Energy, Inc.
2006	Sheffield	Sheffield, Caledonia Cty, VT	forest edge	31	36	4/24	6/13	5	0.14	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2005	Liberty Gap	Franklin, Pendleton Cty, WV	forest edge	30	21	4/17	6/7	2	0.1	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Liberty Gap Wind Project in Franklin, West Virginia. Prepared for US Wind Force, LLC.
2005	Liberty Gap	Franklin, Pendleton Cty, WV	forest edge	15	21	4/17	6/7	19	0.9	Woodlot Alternatives, Inc. 2005. A Spring 2005 Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Liberty Gap Wind Project in Franklin, West Virginia. Prepared for US Wind Force, LLC.
2006	Wethersfield	Wethersfield, Wyoming Cty, NY	field	21	63	4/6	6/7	60	1.0	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.



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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2006	Wethersfield	Wethersfield, Wyoming Cty, NY	field	10	63	4/6	6/7	132	2.1	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Centerville	Centerville, Allegany Cty, NY	field	25	63	4/6	6/8	139	2.2	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Centerville	Centerville, Allegany Cty, NY	field	10	63	4/6	6/8	131	2.1	Woodlot Alternatives, Inc. 2006. A Spring 2006 Survey of Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2007	Coos	Coos Cty, NH	forest edge	50	37	4/26	6/1	8	0.2	Stantec Consulting Inc. 2007. Spring 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Windpark in Coos County, New Hampshire by Granite Reliable Power, LLC. Prepared for Granite Reliable Power, LLC.
2007	Coos	Coos Cty, NH	forest edge	20	19	4/30	6/1	5	0.3	Stantec Consulting Inc. 2007. Spring 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Windpark in Coos County, New Hampshire by Granite Reliable Power, LLC. Prepared for Granite Reliable Power, LLC.
2007	Coos	Coos Cty, NH	forest edge	30	35	4/28	6/1	8	0.2	Stantec Consulting Inc. 2007. Spring 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Windpark in Coos County, New Hampshire by Granite Reliable Power, LLC. Prepared for Granite Reliable Power, LLC.
2007	Coos	Coos Cty, NH	forest edge	15	35	4/28	6/1	12	0.3	Stantec Consulting Inc. 2007. Spring 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Windpark in Coos County, New Hampshire by Granite Reliable Power, LLC. Prepared for Granite Reliable Power, LLC.



Appendix B Table 2. Summary of available fall bat detector surveys (results reported for individual detectors)

Year	Project	Project Location	Habitat	Height (m)	Tree or Low Tower detectors (10 m or below)				Reference	
					Detector Nights	Start	End	Calls		Rate
2007	Rollins	Rollins, Penobscot Cty, ME	forest edge	3	114	7/12	11/2	12291	107.8	Stantec Consulting Services Inc. 2007. Fall 2007 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2007	Rollins	Rollins, Penobscot Cty, ME	forest edge	3	53	8/2	10/16	5360	101.1	Stantec Consulting Services Inc. 2007. Fall 2007 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2007	Rollins	Rollins, Penobscot Cty, ME	forest edge	3	107	7/12	11/2	8996	84.1	Stantec Consulting Services Inc. 2007. Fall 2007 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2005	Lempster	Lempster, Sullivan Cty, NH	forest edge	7.5	34	9/20	10/31	27	0.8	Woodlot Alternatives, Inc. 2005. Summary of fall 2005 Lempster bat survey. Memorandum to Jeff Keeler (CEI) from Bob Roy (Woodlot Alternatives, Inc.) dated November 18, 2005.
2005	Lempster	Lempster, Sullivan Cty, NH	forest edge	2	42	9/20	10/31	2	0	Woodlot Alternatives, Inc. 2005. Summary of fall 2005 Lempster bat survey. Memorandum to Jeff Keeler (CEI) from Bob Roy (Woodlot Alternatives, Inc.) dated November 18, 2005.
2006	Lempster	Lempster, Sullivan Cty, NH	forest edge	10	29	9/9	10/24	2	0.1	Woodlot Alternatives, Inc. 2007. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Lempster Mountain Wind Power Project in Lempster, New Hampshire. Prepared for Lempster Wind, LLC.
2006	Lempster	Lempster, Sullivan Cty, NH	forest edge	3	44	9/9	10/24	384	8.7	Woodlot Alternatives, Inc. 2007. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Lempster Mountain Wind Power Project in Lempster, New Hampshire. Prepared for Lempster Wind, LLC.
2005	High Sheldon	Sheldon, Wyoming Cty, NY	field	2	49	8/1	10/4	5535	113	Woodlot Alternatives, Inc. 2006. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed High Sheldon Wind Project in Sheldon, New York. Prepared for Invenery.
2005	Howard	Howard, Steuben Cty, NY	field	2	25	8/3	8/27	1493	51.5	Woodlot Alternatives, Inc. 2005. A Fall 2005 Survey of Bird and Bat Migration at the Proposed Howard Wind Power Project in Howard, New York. Prepared for EverPower Global.
2005	Jordanville	Jordanville, Herkimer Cty, NY	field	2	34	8/12	9/22	124	4.4	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Jordanville Wind Project in Jordanville, New York. Prepared for Community Energy, Inc.

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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2005	Marble River	Churubusco, Clinton Cty, NY	field	10	34	8/1	10/11	150	4.4	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Marble River Wind Project in Clinton and Ellenburg, New York. Prepared for AES Corporation.
2005	Marble River	Churubusco, Clinton Cty, NY	field	2	18	8/1	10/11	113	6.3	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Marble River Wind Project in Clinton and Ellenburg, New York. Prepared for AES Corporation.
2005	Top Notch	Fairfield, Herkimer Cty, NY	field	2	34	8/19	9/21	44	1.3	Woodlot Alternatives, Inc. 2005. A Summer and Fall 2005 Radar and Acoustic Surveys of Bird and Bat Migration at the Proposed Top Notch Wind Project in Fairfield, New York. Prepared for PPM Atlantic Renewable.
2005	West Hill	Munnsville, Madison Cty, NY	field	2	30	8/1	10/21	10	0.3	Woodlot Alternatives, Inc. 2005. Summer and Fall 2005 Bird and Bat Surveys at the Proposed Munnsville Wind Project in Munnsville, New York. Prepared for AES-EHN NY Wind, LLC.
2005	Horse Creek	Clayton, Jefferson Cty, NY	forest edge	2	33	8/19	9/20	154	4.7	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Clayton Wind Project in Clayton, New York. Prepared for PPM Atlantic Renewable.
2005	Moresville	Stamford, Delaware Cty, NY	forest edge	2	58	8/15	10/15	280	4.8	Woodlot. 2007. A Spring and Fall 2005 Radar and Acoustic Survey of Bird Migration at the Proposed Moresville Energy Center in Stamford and Roxbury, New York. Prepared for Invenery, LLC. Rockville, MD.
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	2	13	8/9	8/21	148	11.4	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	5	4	8/9	8/21	1	0.3	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	3	13	8/9	8/21	524	40.3	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	10	13	8/9	8/21	1576	121.2	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.
2008	New Creek	New Creek, Grant Cty, WV	forest edge	1.5	64	8/15	10/17	565	38.3	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	Buckeye	Buckeye, Champaign Cty, OH	field	2	17	8/16	9/3	682	256.5	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Buckeye	Buckeye, Champaign Cty, OH	field	2	19	8/16	9/3	95	13.1	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Allegany	Allegany, Cattaraugus Cty, NY	forest edge	2	85	8/16	11/14	62	9	Stantec Consulting Services. 2008. Summer-Fall 2008 Acoustic Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Highland, ME	Highland, Somerset Cty, ME	forest edge	5	17	8/12	8/28	3731	219.5	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2008	Highland, ME	Highland, Somerset Cty, ME	forest edge	5	23	8/11	9/2	37	1.6	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2008	Highland, ME	Highland, Somerset Cty, ME	forest edge	8	17	8/11	8/27	5475	322.2	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2008	Highland, ME	Highland, Somerset Cty, ME	forest edge	5	29	8/11	9/8	2197	75.8	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2008	Highland, ME	Highland, Somerset Cty, ME	forest edge	2	23	8/11	9/2	73	3.2	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.

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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2009	Sisk	Sisk (Kibby Expansion) Franklin Cty, ME	forest edge	5	66	8/11	10/15	7	0.6	Stantec Consulting Services. 2009. Fall 2009 Nocturnal Migration Survey Report. Prepared for TRC Engineers LLC.
2009	Stetson	Stetson, Washington Cty, ME	forest edge	4	97	7/10	10/14	57	6.2	Stantec Consulting Services. 2010. Stetson I Mountain Wind Project Year 1 Post-Construction Monitoring Report, 2009. Prepared for First Wind Management, LLC.
2009	Stetson	Stetson, Washington Cty, ME	forest edge	6	72	7/13	10/14	26	3.8	Stantec Consulting Services. 2010. Stetson I Mountain Wind Project Year 1 Post-Construction Monitoring Report, 2009. Prepared for First Wind Management, LLC.
2009	Stetson	Stetson, Washington Cty, ME	forest edge	1.8	94	7/13	10/14	951	91.2	Stantec Consulting Services. 2010. Stetson I Mountain Wind Project Year 1 Post-Construction Monitoring Report, 2009. Prepared for First Wind Management, LLC.
2009	Stetson	Stetson, Washington Cty, ME	forest edge	7	86	7/10	10/14	67	5.9	Stantec Consulting Services. 2010. Stetson I Mountain Wind Project Year 1 Post-Construction Monitoring Report, 2009. Prepared for First Wind Management, LLC.
MET Tower Detectors										
2008	New Creek	New Creek, Grant Cty, WV	forest edge	40	64	8/15	10/17	34	9.1	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	New Creek	New Creek, Grant Cty, WV	forest edge	20	64	8/15	10/17	46	16.9	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	New Creek	New Creek, Grant Cty, WV	talus slope	0	64	8/15	10/17	241	35.8	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	New Creek	New Creek, Grant Cty, WV	forest edge	40	58	8/15	10/17	55	10.6	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC

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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2008	New Creek	New Creek, Grant Cty, WV	forest edge	20	64	8/15	10/17	84	22.2	Stantec Consulting Services Inc. 2008. Spring, Summer, and Fall 2008 Bird and Bat Migration Survey Report: Visual, Radar, and Acoustic Bat Surveys for the New Creek Mountain Project. Prepared for AES New Creek, LLC
2008	Buckeye	Buckeye, Champaign City, OH	field	40	19	8/16	9/3	14	4.7	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Buckeye	Buckeye, Champaign City, OH	field	20	19	8/16	9/3	46	24.3	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Buckeye	Buckeye, Champaign City, OH	field	40	19	8/16	9/3	16	6.5	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Buckeye	Buckeye, Champaign City, OH	field	20	19	8/16	9/3	33	13.9	Stantec Consulting Services Inc. 2009. Spring, Summer, and Fall 2008 Bird and Bat Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Allegany	Allegany, Cattaraugus City, NY	forest edge	40	85	8/16	11/14	15	2.6	Stantec Consulting Services. 2008. Summer-Fall 2008 Acoustic Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Allegany	Allegany, Cattaraugus City, NY	forest edge	20	91	8/16	11/14	55	10.4	Stantec Consulting Services. 2008. Summer-Fall 2008 Acoustic Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Allegany	Allegany, Cattaraugus City, NY	forest edge	12	91	8/16	11/14	41	5.5	Stantec Consulting Services. 2008. Summer-Fall 2008 Acoustic Survey Report. Prepared for EverPower Wind Holdings, Inc.
2008	Highland, ME	Highland, Somerset City, ME		45	54	8/28	10/20	21	0.4	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2008	Highland, ME	Highland, Somerset City, ME		25	53	8/29	10/20	10	0.2	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2008	Highland, ME	Highland, Somerset City, ME		45	48	9/3	10/20	17	0.4	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.

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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2008	Highland, ME	Highland, Somerset Cty, ME		25	54	8/28	10/20	15	0.3	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2008	Highland, ME	Highland, Somerset Cty, ME		45	42	9/9	10/20	4	0.1	Stantec Consulting Services. 2009. Fall 2008 Bird and Bat Migration Survey Report: Radar and Acoustic Avian and Bat Surveys for the Highland Wind Project Highland Plantation, Maine. Prepared for Highland Wind LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	129	4/2	10/27	72	5.5	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	4	184	3/30	10/27	816	43	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	10	178	3/30	10/27	454	25.5	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	2	191	3/30	10/27	898	58	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	n/a	197	4/2	10/27	207	6.2	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	10	180	4/1	10/27	245	7.4	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.

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2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	210	4/1	10/27	706	27.3	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	166	4/1	10/27	218	6.8	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	15	204	3/31	10/27	103	8.9	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	10	184	4/27	10/27	236	15.5	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	211	3/31	10/27	325	12.8	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	181	3/31	10/27	701	51.6	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	VCWF	Vermont Community Wind Farm, Orleans Cty, VT	forest edge	5	211	3/31	10/27	1219	105.8	Stantec Consulting Services. 2009. Fall 2009 Bird and Bat Survey Report. Nocturnal Radar, Acoustic, and Diurnal Raptor Surveys performed for the Vermont Community Wind Farm Project in Rutland County, Vermont. Prepared for Vermont Community Wind Farm, LLC.
2009	Sisk	Sisk (Kibby Expansion) Franklin Cty, ME	forest edge	20	60	8/12	10/14	3	0.5	Stantec Consulting Services. 2009. Fall 2009 Nocturnal Migration Survey Report. Prepared for TRC Engineers LLC.
2009	Sisk	Sisk (Kibby Expansion) Franklin Cty, ME	forest edge	20	62	8/13	10/13	4	0.4	Stantec Consulting Services. 2009. Fall 2009 Nocturnal Migration Survey Report. Prepared for TRC Engineers LLC.

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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2009	Sisk	Sisk (Kibby Expansion) Franklin Cty, ME	forest edge	45	16	9/29	10/14	0	0	Stantec Consulting Services. 2009. Fall 2009 Nocturnal Migration Survey Report. Prepared for TRC Engineers LLC.
2009	Stetson	Stetson, Washington Cty, ME	turbine clearing	83	68	7/10	10/14	10	0.2	Stantec Consulting Services. 2010. Stetson I Mountain Wind Project Year 1 Post-Construction Monitoring Report, 2009. Prepared for First Wind Management, LLC.
2009	Stetson	Stetson, Washington Cty, ME	turbine clearing	83	92	7/10	10/14	8	0.3	Stantec Consulting Services. 2010. Stetson I Mountain Wind Project Year 1 Post-Construction Monitoring Report, 2009. Prepared for First Wind Management, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	forest edge	15	41	8/22	10/17	20	3.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	forest edge	15	63	8/21	10/22	14	1.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	Middle Met	45	72	8/11	10/21	28	3.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	Middle Met	22	70	8/13	10/21	362	11.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	Middle Met	2	39	8/13	10/20	96	6.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	North	45	71	8/13	10/22	30	3.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	North	22	70	8/13	10/21	28	3.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.
2009	Tenney	Tenney, Grafton Cty, NH	North	2	40	8/18	10/21	58	5.0	Stantec Consulting Services Inc. 2009. 2009 Spring, Summer, and Fall Avian and Bat Surveys for the Groton Wind Project. Prepared for Groton Wind, LLC.

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Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2007	Ball Hill	Villenova, Chautauqua Cty, NY	field	40	77	7/30	10/14	246	3.2	Stantec Consulting Services Inc. 2008. A Fall 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Ball Hill Windpark in Villenova and Hanover, New York. Prepared for Noble Environmental Power, LLC and Ecology and Environment, Inc.
2007	Ball Hill	Villenova, Chautauqua Cty, NY	field	20	77	7/30	10/14	295	3.8	Stantec Consulting Services Inc. 2008. A Fall 2007 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Ball Hill Windpark in Villenova and Hanover, New York. Prepared for Noble Environmental Power, LLC and Ecology and Environment, Inc.
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	45	46	8/22	10/18	7	0.2	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	20	58	8/22	10/18	93	1.6	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	45	59	8/22	10/19	18	0.4	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.
2007	Record Hill	Roxbury, Oxford Cty, ME	forest edge	20	59	8/22	10/19	252	5.1	Stantec Consulting Services Inc. 2007. Fall 2007 Migration Report: Visual, Acoustic and Radar Surveys of Bird and Bat Migration Conducted at the Proposed Record Hill Wind Project in Roxbury, Maine. Prepared for Independence Wind, LLC.
2005	Dans Mountain	Loarville, Allegany Cty, MD	forest edge	11	53	8/1	9/22	574	10.8	Woodlot Alternatives, Inc. 2005. Fall 2005 Bat Echolocation Surveys at the Proposed Dan's Mountain Wind Project in Frostburg, Maryland. Prepared for US Wind Force.
2005	Dans Mountain	Loarville, Allegany Cty, MD	forest edge	23	31	8/1	9/22	388	12.5	Woodlot Alternatives, Inc. 2005. Fall 2005 Bat Echolocation Surveys at the Proposed Dan's Mountain Wind Project in Frostburg, Maryland. Prepared for US Wind Force.

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2007	Rollins	Rollins, Penobscot Cty, ME	forest edge	40	95	7/12	11/2	66	0.7	Stantec Consulting Services Inc. 2007. Fall 2007 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2007	Rollins	Rollins, Penobscot Cty, ME	forest edge	20	106	7/12	11/2	155	1.5	Stantec Consulting Services Inc. 2007. Fall 2007 Bird and Bat Migration Survey Report: Visual, Radar and Acoustic Bat Surveys for the Rollins Wind Project. Prepared for First Wind Management, LLC.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	45	72	6/20	10/25	18	0.3	Woodlot Alternatives, Inc. 2006. Summer/Fall 2006 Survey of Bat Activity at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development Inc.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	45	76	6/20	10/25	0	0	Woodlot Alternatives, Inc. 2006. Summer/Fall 2006 Survey of Bat Activity at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development Inc.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	20	44	6/20	10/25	4	0.1	Woodlot Alternatives, Inc. 2006. Summer/Fall 2006 Survey of Bat Activity at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development Inc.
2006	Kibby	Kibby, Franklin Cty, ME	forest edge	45	20	6/20	10/25	0	0	Woodlot Alternatives, Inc. 2006. Summer/Fall 2006 Survey of Bat Activity at the Proposed Kibby Wind Power Project in Kibby and Skinner Townships, Maine. Prepared for TransCanada Maine Wind Development Inc.
2006	Redington	Redington, Franklin Cty, ME	forest edge	15	21	8/10	10/24	0	0	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Redington Wind Project. Prepared for Maine Mountain Power.
2006	Redington	Redington, Franklin Cty, ME	forest edge	15	48	8/10	10/24	0	0	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Redington Wind Project. Prepared for Maine Mountain Power.
2006	Redington	Redington, Franklin Cty, ME	forest edge	30	29	8/10	10/24	0	0	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Redington Wind Project. Prepared for Maine Mountain Power.
2006	Redington	Redington, Franklin Cty, ME	forest edge	30	37	8/10	10/24	0	0	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Redington Wind Project. Prepared for Maine Mountain Power.
2006	Stetson	Stetson, Penobscot Cty, ME	forest edge	30	73	6/28	10/16	8	0.1	Woodlot Alternatives, Inc. 2007. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Stetson Mountain Wind Power Project in Washington County, Maine. Prepared for Evergreen Wind V, LLC.

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2006	Stetson	Stetson, Penobscot Cty, ME	forest edge	30	76	6/28	10/16	170	2.2	Woodlot Alternatives, Inc. 2007. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Stetson Mountain Wind Power Project in Washington County, Maine. Prepared for Evergreen Wind V, LLC.
2006	Stetson	Stetson, Penobscot Cty, ME	forest edge	15	105	6/28	10/16	108	1	Woodlot Alternatives, Inc. 2007. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Stetson Mountain Wind Power Project in Washington County, Maine. Prepared for Evergreen Wind V, LLC.
2006	Stetson	Stetson, Penobscot Cty, ME	forest edge	15	107	6/28	10/16	651	6.1	Woodlot Alternatives, Inc. 2007. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Stetson Mountain Wind Power Project in Washington County, Maine. Prepared for Evergreen Wind V, LLC.
2005	Lempster	Lempster, Sullivan Cty, NH	forest edge	15	42	9/20	10/31	14	0.3	Woodlot Alternatives, Inc. 2005. Summary of fall 2005 Lempster bat survey. Memorandum to Jeff Keeler (CEI) from Bob Roy (Woodlot Alternatives, Inc.) dated November 18, 2005.
2006	Lempster	Lempster, Sullivan Cty, NH	forest edge	40	43	9/9	10/24	16	0.4	Woodlot Alternatives, Inc. 2007. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Lempster Mountain Wind Power Project in Lempster, New Hampshire. Prepared for Lempster Wind, LLC.
2006	Brandon	Brandon, Franklin, Cty, NY	field	12	62	7/25	10/4	1287	20.8	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Brandon and Chateaugay Windparks in Western New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2005	High Sheldon	Sheldon, Wyoming Cty, NY	field	15	65	8/1	10/4	335	5.2	Woodlot Alternatives, Inc. 2006. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed High Sheldon Wind Project in Sheldon, New York. Prepared for Invenery.
2005	High Sheldon	Sheldon, Wyoming Cty, NY	field	30	58	8/1	10/4	137	2.4	Woodlot Alternatives, Inc. 2006. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed High Sheldon Wind Project in Sheldon, New York. Prepared for Invenery.
2005	Howard	Howard, Steuben Cty, NY	field	30	13	8/3	8/19	30	2.3	Woodlot Alternatives, Inc. 2005. A Fall 2005 Survey of Bird and Bat Migration at the Proposed Howard Wind Power Project in Howard, New York. Prepared for EverPower Global.
2005	Howard	Howard, Steuben Cty, NY	field	27	15	8/3	8/14	30	2	Woodlot Alternatives, Inc. 2005. A Fall 2005 Survey of Bird and Bat Migration at the Proposed Howard Wind Power Project in Howard, New York. Prepared for EverPower Global.
2005	Jordanville	Jordanville, Herkimer Cty, NY	field	15	34	8/12	9/22	143	4.2	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Jordanville Wind Project in Jordanville, New York. Prepared for Community Energy, Inc.

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2005	Jordanville	Jordanville, Herkimer Cty, NY	field	30	41	8/12	9/22	255	6.2	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Jordanville Wind Project in Jordanville, New York. Prepared for Community Energy, Inc.
2005	Marble River	Churubusco, Clinton Cty, NY	field	20	39	8/1	10/11	243	6.2	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Marble River Wind Project in Clinton and Ellenburg, New York. Prepared for AES Corporation.
2005	Top Notch	Fairfield, Herkimer Cty, NY	field	15	34	8/19	9/21	30	0.9	Woodlot Alternatives, Inc. 2005. A Summer and Fall 2005 Radar and Acoustic Surveys of Bird and Bat Migration at the Proposed Top Notch Wind Project in Fairfield, New York. Prepared for PPM Atlantic Renewable.
2005	Top Notch	Fairfield, Herkimer Cty, NY	field	30	34	8/19	9/21	99	3	Woodlot Alternatives, Inc. 2005. A Summer and Fall 2005 Radar and Acoustic Surveys of Bird and Bat Migration at the Proposed Top Notch Wind Project in Fairfield, New York. Prepared for PPM Atlantic Renewable.
2005	West Hill	Munnsville, Madison Cty, NY	field	15	47	8/1	10/21	179	3.8	Woodlot Alternatives, Inc. 2005. Summer and Fall 2005 Bird and Bat Surveys at the Proposed Munnsville Wind Project in Munnsville, New York. Prepared for AES-EHN NY Wind, LLC.
2005	West Hill	Munnsville, Madison Cty, NY	field	30	52	8/1	10/21	106	2	Woodlot Alternatives, Inc. 2005. Summer and Fall 2005 Bird and Bat Surveys at the Proposed Munnsville Wind Project in Munnsville, New York. Prepared for AES-EHN NY Wind, LLC.
2006	Steuben	Hartsville, Steuben Cty, NY	field	15	76	7/26	10/10	119	1.6	Environmental Design and Research (RD&R). 2006. Draft Environmental Impact Statement for the Cohocton Wind Power Project. Town of Cohocton, Steuben County, New York, Prepared for Canandaigua Wind Partners, LLC.
2006	Steuben	Hartsville, Steuben Cty, NY	field	30	49	7/26	10/10	84	1.7	Environmental Design and Research (RD&R). 2006. Draft Environmental Impact Statement for the Cohocton Wind Power Project. Town of Cohocton, Steuben County, New York, Prepared for Canandaigua Wind Partners, LLC.
2006	Wethersfield	Wethersfield, Wyoming Cty, NY	field	15	54	7/25	10/9	0	0	Woodlot Alternatives, Inc. 2006. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.

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2006	Wethersfield	Wethersfield, Wyoming Cty, NY	field	30	26	7/25	10/9	22	0.8	Woodlot Alternatives, Inc. 2006. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Brandon	Brandon, Franklin, Cty, NY	field	25	72	7/25	10/4	464	6.4	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Brandon and Chateaugay Windparks in Western New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Centerville	Centerville, Allegany Cty, NY	field	15	48	7/25	10/10	2	0	Woodlot Alternatives, Inc. 2006. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Centerville	Centerville, Allegany Cty, NY	field	35	41	7/25	10/10	3	0.1	Woodlot Alternatives, Inc. 2006. A Fall 2006 Survey of Bird and Bat Migration at the Proposed Centerville and Wethersfield Windparks in Centerville and Wethersfield, New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Chateaugay	Chateaugay, Franklin Cty, NY	field	40	58	7/25	10/4	173	3	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Brandon and Chateaugay Windparks in Western New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Chateaugay	Chateaugay, Franklin Cty, NY	field	20	44	7/25	10/4	345	7.8	Woodlot Alternatives, Inc. 2006. Fall 2006 Bat Detector Surveys at the Proposed Brandon and Chateaugay Windparks in Western New York. Prepared for Ecology and Environment, Inc. and Noble Power, LLC.
2006	Cohocton/Dutch Hill	Cohocton, Steuben Cty, NY	field	15	43	8/12	10/11	46	1.1	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Cohocton Wind Power Project in Cohocton, New York. Prepared for UPC Wind Management, LLC.
2006	Cohocton/Dutch Hill	Cohocton, Steuben Cty, NY	field	30	47	8/12	10/11	57	1.2	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Cohocton Wind Power Project in Cohocton, New York. Prepared for UPC Wind Management, LLC.
2005	Clayton	Clayton, Jefferson Cty, NY	forest edge	30	0	8/19	9/20	0	0	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Clayton Wind Project in Clayton, New York. Prepared for PPM Atlantic Renewable.
2005	Munnsville	Munnsville, Madison Cty, NY	field	23	67	7/31	10/16	280	0.2	Woodlot Alternatives, Inc. 2005. Summer and Fall 2005 Bird and Bat Surveys at the Proposed Munnsville Wind Project in Munnsville, New York. Prepared for AES-EHN NY Wind, LLC.



Year	Project	Project Location	Habitat	Height (m)	Detector Nights	Start	End	Calls	Rate	Reference
2005	Munnsville	Munnsville, Madison Cty, NY	field	15	67	7/31	10/16	210	0.3	Woodlot Alternatives, Inc. 2005. Summer and Fall 2005 Bird and Bat Surveys at the Proposed Munnsville Wind Project in Munnsville, New York. Prepared for AES-EHN NY Wind, LLC.
2005	Moresville	Stamford, Delaware Cty, NY	forest edge	15	43	8/15	10/15	293	6.8	Woodlot. 2007. A Spring and Fall 2005 Radar and Acoustic Survey of Bird Migration at the Proposed Moresville Energy Center in Stamford and Roxbury, New York. Prepared for Invenery, LLC. Rockville, MD.
2005	Moresville	Stamford, Delaware Cty, NY	forest edge	30	54	8/15	10/15	285	5.3	Woodlot. 2007. A Spring and Fall 2005 Radar and Acoustic Survey of Bird Migration at the Proposed Moresville Energy Center in Stamford and Roxbury, New York. Prepared for Invenery, LLC. Rockville, MD.
2004	Liberty Gap	Franklin, Pendleton Cty, WV	forest edge	15	14	Sep	Nov	168	0.35	Woodlot Alternatives, Inc. 2005. A Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Liberty Gap Wind Project in Franklin, West Virginia – Fall 2004. Prepared for US Wind Force, LLC.
2004	Liberty Gap	Franklin, Pendleton Cty, WV	forest edge	30	14	Sep	Nov	165	0.19	Woodlot Alternatives, Inc. 2005. A Radar and Acoustic Survey of Bird and Bat Migration at the Proposed Liberty Gap Wind Project in Franklin, West Virginia – Fall 2004. Prepared for US Wind Force, LLC.
2004	Sheffield	Sheffield, Caledonia Cty, VT	forest edge	15	6	9/10	9/15	30	0.23	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2004	Sheffield	Sheffield, Caledonia Cty, VT	forest edge	30	5	10/17	10/21	0	0	Woodlot Alternatives, Inc. 2006. Avian and Bat Information Summary and Risk Assessment for the Proposed Sheffield Wind Power Project in Sheffield, Vermont. Prepared for UPC Wind Management, LLC.
2005	Mars Hill	Mars Hill, Aroostook Cty, ME	forest edge	20	22	8/31	9/21	25	n/a	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Mars Hill Wind Project in Mars Hill, Maine. Prepared for UPC Wind Management, LLC.
2005	Mars Hill	Mars Hill, Aroostook Cty, ME	forest edge	20	22	8/31	9/21	25	n/a	Woodlot Alternatives, Inc. 2005. A Fall 2005 Radar, Visual, and Acoustic Survey of Bird and Bat Migration at the Proposed Mars Hill Wind Project in Mars Hill, Maine. Prepared for UPC Wind Management, LLC.