

**Interim Report – High Sheldon Wind Farm
Avian and Bat Monitoring Plan
April 15 – July 15, 2010**

Prepared for:
High Sheldon Wind Farm
Invenergy, LLC

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Sheldon Energy LLC requested that Western EcoSystems Technology, Inc. (WEST) conduct post-construction monitoring studies at the High Sheldon Wind Farm, Wyoming County, New York, during the 2010 field season (April 15 – October 31). The High Sheldon Wind Farm (Sheldon) Avian and Bat Post-construction Monitoring study search effort commenced on April 15, 2010. Results from April 15 through July 15 are reported in this first interim report. No statistical analysis has been performed herein and all data reported here will be analyzed within the annual final report prepared for the study following completion of annual field studies. Studies were completed in accordance with the study plan agreed upon with the New York Department of Environmental Conservation (NYSDEC; Tidhar 2010).

Standardized Carcass Searches

A sample of 25 turbines (~33%) was selected for use as study plots (Figure 1). As per the study plan, 17 turbines were searched weekly, and 8 turbines were searched daily during standardized carcass searches completed during the study period (Table 1). A total of 945 turbine searches were conducted during the first 92 search periods (April 15 through July 15).

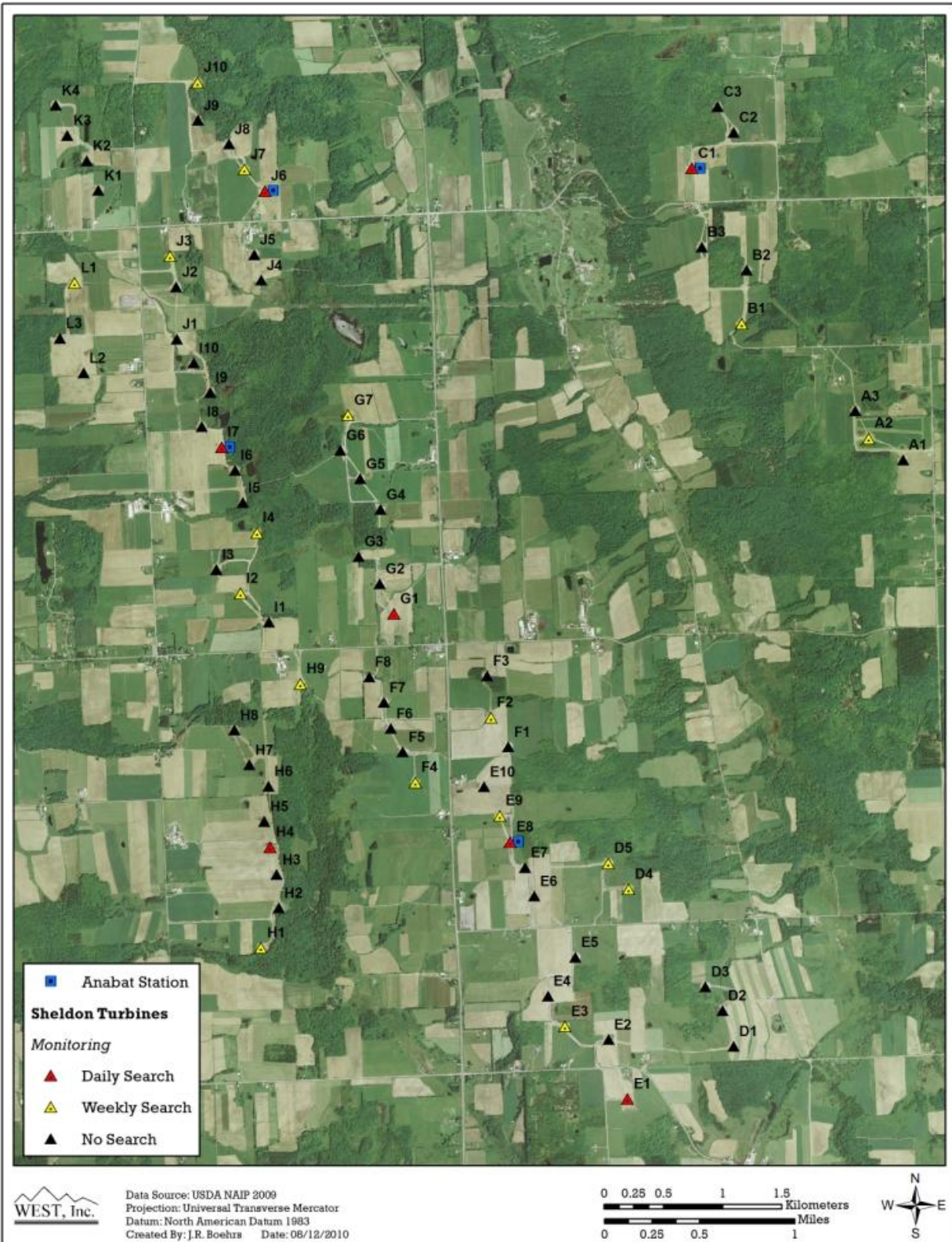


Figure 1. Map of the High Sheldon Wind Farm and search plots included in the 2010 monitoring study.

Table 1. Carcass search frequency for the first period of study of the Sheldon Wind Energy Facility monitoring study.

Approximate Time Period	Description
<i>First Study Period</i>	
~April 15 – July 15 2010	- 17 turbines searched weekly (7-day interval)
	- 8 turbines searched daily (1-day interval)

Thirteen bird fatalities were found during the study period, April 15th through July 15th (Table 2). Bird fatalities consisted of unidentified passerine (4), turkey vulture (2), American crow (1), killdeer (1), rock pigeon (1), sharp-shinned hawk (1), unidentified bird (1), unidentified large bird (1), and yellow-bellied flycatcher (1). Eleven bat fatalities were found during the study period, consisting of silver-haired bat (6), and hoary bat (5).

Table 2. Results of Sheldon Standardized Casualty Searches (Apr 15-Jul 15, 2010).

Sample No.	Species	Date	Turbine
BIRDS			
041510-ROPI-E1-1	rock pigeon	4/15/2010	E1
041510-TUVU-I6-1	turkey vulture	4/15/2010	I6
041510-UNPA-E8-1	unidentified passerine	4/15/2010	E8
042310-UNPA-E8-1	unidentified passerine	4/23/2010	E8
042810-UNPA-E8-1	unidentified passerine	4/28/2010	E8
043010-UNID-J7-1	unidentified bird	4/30/2010	J7
050410-UNPA-I4-1	unidentified passerine	5/4/2010	I4
051210-AMCR-D5-1	American crow	5/12/2010	D5
052510-KILL-I4-1	killdeer	5/25/2010	I4
052510-TUVU-I4-1	turkey vulture	5/25/2010	I4
060410-YBFL-A2-1	yellow-bellied flycatcher	6/4/2010	A2
060910-UNLB-D5-1	unidentified large bird	6/9/2010	D5
061410-SSHA-F4-1	sharp-shinned hawk	6/14/2010	F4
BATS			
052610-HOBA-E8-1	hoary bat	5/26/2010	E8
052910-HOBA-J10-1	hoary bat	5/29/2010	J10
052910-SHBA-E8-1	silver-haired bat	5/29/2010	E8
053110-SHBA-H4-1	silver-haired bat	5/30/2010	H4
060710-SHBA-G1-1	silver-haired bat	6/7/2010	G1
060710-SHBA-F4-1	silver-haired bat	6/7/2010	F4
061010-SHBA-I6-1	silver-haired bat	6/10/2010	I6
061210-HOBA-E1-1	hoary bat	6/12/2010	E1
061410-SHBA-F4-1	silver-haired bat	6/14/2010	F4
070810-HOBA-H9-1	hoary bat	7/8/2010	H9
071210-HOBA-J2-1	hoary bat	7/12/2010	J2

Incidental Carcass Detections

In addition to fatalities found during standardized casualty surveys, one bird and four bat fatalities were found incidentally during the study period (Table 3). These consisted of one bobolink, two silver-haired bats, and two hoary bats. These were found by WEST bio-technicians while traveling to scheduled survey plots or reported by maintenance personnel to WEST. Those found incidentally on study plots will be included in final fatality rate calculations incorporating searcher efficiency and scavenger removal results.

Table 3. Incidental Casualties (Apr 15-Jul 15, 2010).

Sample No.	Species	Date	Turbine
BIRDS			
061710-BOBO-D4-1	bobolink	6 /17/2010	D4
BATS			
053110-SHBA-K2-1	silver-haired bat	5 /31/2010	K2
053110-SHBA-K2-2	silver-haired bat	5 /31/2010	K2
071410-HOBA-H6-1	hoary bat	7 /14/2010	H6
071410-HOBA-A3-1	hoary bat	7 /14/2010	A3

Search Plot Delineations and Vegetation Management

Search plots were delineated by a WEST Research Biologist to exclude areas of unsuitable vegetation/ground cover (e.g. woodlands) during the establishment of search plots prior to the start of the survey period. Vegetation management recommended to reduce vegetation height to increase detection rates of carcasses during standardized carcass searches was implemented at the search plots during the study period. A third-party contractor employed by Sheldon completed mowing operations upon direction from WEST at all search plots throughout the survey period.

Scavenger Removal and Searcher Efficiency Trials

Nine scavenger removal trials and 21 searcher efficiency trials were conducted during the study period. Trial birds and bats were randomly placed within study plots which are composed of road, bare ground, crops, clover, grassland, and gravel. Rock pigeons and unidentified birds were used as large birds; house sparrows, song sparrows, unidentified birds, and unidentified quail were used as small birds; and unidentified mice were used as bat surrogates¹, for experimental bias trials.

The mean length for removal of scavenger removals for the 36 large bird carcasses, 63 small bird carcasses, and 23 bat carcasses deployed during spring 2010 was 4.4 days, 3.5 days, and 4.5 days, respectively.

Thirty-three large birds were placed for searcher efficiency evaluation, (32 carcasses available for detection), 31 (96.9%) of which were detected. Eighty-six trial small birds were placed for

¹ In accordance with requests made by NYSDEC and the USFWS, mice were used as surrogates for bats during scavenger removal and searcher efficiency trials.

searcher efficiency evaluation (74 carcasses available for detection), 43 (58.1%) of which were detected. Thirty-eight trial bats were placed (33 available for detection), 18 (54.5%) of which were detected.

Breeding Bird Surveys

Breeding bird surveys were completed during the peak breeding bird season (late June – early July) by qualified ornithologists employed by WEST. No preliminary summary or analyses have been performed at this time; data entry is proceeding on schedule.

Acoustic Bat Surveys

Acoustic bat surveys were completed during the reporting period using four AnaBat Sd1 detectors deployed at four turbines included as daily search plots in the fatality monitoring study (C1, J6, I7, E8: Figure 1). No preliminary summary or analyses have been performed at this time; data entry is proceeding on schedule.

Please address any questions regarding this report to:

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