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December 15, 2011

Mathieu Leblanc
Environmental Assessment Officer
Natural Resources Canada
615 Booth Street, Room 160
Ottawa, Ontario K1A 0E9

Dear Mr Leblanc,

Re: Comments on 5th Post-Construction Monitoring Report for the Wolfe Island EcoPower Centre

This letter contains Environment Canada's (EC) comments on the fifth post-construction monitoring report (hereafter referred to as the Report) for the Wolfe Island EcoPower Centre covering the period of January to June 2011. This is the fifth in a series of reports that are intended to document the impacts of the project on birds and bats. Thank you for the opportunity to review and comment on the documentation.

The field surveys conducted during this reporting period included:

- bird and bat mortality monitoring, and
- disturbance effects monitoring in relation to:
 - winter raptors,
 - staging and foraging migratory waterfowl,
 - breeding waterfowl, and
 - breeding grassland, woodland and marsh birds.

Based upon our review of the Report, we believe the surveys and the analysis were conducted in a manner consistent with the methodologies described in the February 2010 version of the Post-Construction Follow-up Plan (PCFP) that has been developed for the project. EC is generally supportive of the recommendations that are contained in the Report.

The remainder of this letter contains EC's specific comments and recommendations following our review of the Report.

1. Mortality Monitoring – Birds

The Report indicates that 31 avian fatalities were spread among 20 species during the reporting period. When corrected for searcher efficiency, scavenging, and area searched, the avian mortality level for the reporting period was 1.7 birds/turbine or 0.74 birds/MW. When combined with the results of the 4th Monitoring Report, the estimated avian mortality for an entire year (July 1, 2010 to June 30, 2011) was 10.0 birds/turbine or 4.34 birds/MW. This level of mortality is below the notification threshold of 11.7 birds/MW specified in the PCFP when the need to consider adaptive management is initiated.

EC is puzzled by the substantial decrease in mortality levels to both birds and bats during this reporting period (Jan to June) compared to the same reporting period one year ago. The results indicate that one-fifth the number of bat carcasses and half the number of bird carcasses were found in 2011 compared to the same period in 2010. The reasons for the large decrease from the mortality levels of the three previous reporting periods are unknown but merit further monitoring.

a. Comparison to other Wind Facilities in North America

Section 4.1.1 on page 4.1 references two published reports that EC would like to add further context to as follows:

- “A recent summary of available mortality rates for birds, raptors and bats has been prepared by the National Wind Coordinating Committee (“NWCC”) (Strickland et al., 2011), who reports bird mortality rates of up to 14 birds per MW per year.”
 - It is certainly true that one facility in the summary did report bird mortality rates of 14 birds/MW/yr; however, this seems to be an unusual case. The remaining 62 facilities in the summary all reported mortality rates below 8 birds/MW/yr, and 42 of these were less than or equal to 3 birds/MW/yr.
- *“When the results of the Reporting Period (January-June) are combined with the estimated mortality rate for the period July to December 2010 (3.60 birds per MW), the resultant estimated mortality rate is 4.34 birds per MW per year.”*
 - This level of mortality is approaching the level of <4 fatalities/MW/yr reported by most NA facilities (NWCC, 2010).

b. Bobolink

Three Bobolink fatalities were recorded during the 5th Reporting Period, and 2 Bobolink fatalities were recorded during the 4th Reporting Period, so the combined Bobolink mortality for the entire year (4th and 5th Reports combined) was five. When corrected for searcher efficiency, scavenger rates and the percentage of area searched the annual estimated Bobolink fatality total for the period covered by the 4th and 5th Reporting Periods is 38.9.

EC agrees with the conclusion in the Report that this level of mortality likely will not have a significant population effect on the 1000-1500 Bobolinks estimated to occur in the study area (i.e., a 3-4% loss), or on the provincial population estimated to consist of ~800,000 individuals (i.e., a 0.00005% loss). The population estimate for the study area is likely a conservative one, because it was based on surveys of territorial birds in spring, and would not account for young birds fledged later in the summer. It is therefore likely that the percentage of the local population affected (i.e., 3-4%) would be lower if these additions of young were accounted for. In any case, EC believes the loss of grassland habitat in the study area due to permanent or temporary crop rotation (e.g., a reduction of grassland by almost half in the Northwest Search Area alone from 2007 to 2011) would have a far greater impact on the local Bobolink population than mortality caused by collision with wind turbines.

2. Grassland Breeding Bird Point Counts and Area Searches

EC agrees with the conclusion contained in the Report (p. E6) that indicates disturbance effects monitoring of grassland birds should continue in 2011. Grassland birds have remained common in the two areas where intensive area searches have been conducted. Grassland birds have declined at roadside count stations, perhaps because of road-related disturbance impacts. EC considers the potential adverse impacts to grassland birds to be a high post-construction monitoring priority on Wolfe Island.

3. Winter Raptor Monitoring

A relatively large number of winter raptors were present on Wolfe Island from November to March (higher numbers than the previous year but lower than in 2007-08). Winter raptor abundance is well known to vary annually for a number of 'natural' reasons. The Report concluded that raptors were not avoiding the greater wind plant area although there was some evidence of retraction by Short-eared Owl in the northwest end of the island. EC has identified the Short-eared Owl (designated as a federal Species of Concern) as a priority species meriting special monitoring attention. EC recommends that the winter raptor survey and Short-eared Owl evening survey be continued. It is encouraging to note, however, that a high number of Short-eared Owls are present on the island in winter (e.g. 42 individuals were observed on Jan 6).

a. Raptor Scavenging Rates

EC believes that more study related to raptor scavenging rates is likely warranted. Smallwood (2010) reported that scavengers removed 0-67% of large-bodied raptors put out in winter and summer. It would be prudent, therefore, to conduct robust raptor scavenging trials throughout the year at the Wolfe Island Wind Plant using large-bodied raptors.

Table 3.4 in Appendix B indicates only two raptor carcasses were used during the January trial and four during the May trials. We understand TransAlta will endeavor to complete more scavenger removal trials with larger sample sizes throughout the year provided large-bodied raptor mortalities are available for use. If possible, based on availability, we understand such a scavenger removal trial will be conducted in March 2012.

4. Waterfowl

a. Inland Foraging

The Report notes that waterfowl concentration areas were generally similar in 2007, 2010, and 2011, and that foraging waterfowl use days do not appear to have declined, nor did the species composition change. There does not appear to be any evidence that the presence of the wind turbines is having a negative effect on the numbers of waterfowl moving inland to feed.

Given that foraging waterfowl use days did not appear to have declined, and further given both the current healthy population status of Canada Geese which made up the majority of the field foraging observations, and the abundance of agricultural habitat in southern Ontario, EC does not believe there would be a serious population-level concern at this time even if avoidance was occurring.

EC therefore recommends that no additional studies of inland foraging behaviour need to be conducted, as is suggested in the Report (p. E6).

b. Movement Routes

The Report notes that waterfowl foraging flights followed more or less the same routes in 2007, 2010, and 2011. Birds exhibited avoidance behaviour when approaching turbines, but since the avoidance resulted mainly in minor adjustments to avoid individual turbines, this would not be expected to have any serious impact on the birds (e.g., in terms of energetics). Since there does not appear to be any evidence that the presence of the wind turbines is having an adverse effect on waterfowl movement routes over Wolfe Island, EC recommends that no additional studies of waterfowl movement routes need to be conducted, as is suggested in the Report (p. E6).

c. Breeding Pair Surveys

Mallards and Canada Geese have been the predominant nesters in the five wetlands that have been surveyed; three other species have occurred in low abundance in both pre- and post-construction surveys. The report notes that there does not appear to be any avoidance of turbines by breeding waterfowl. This is not particularly surprising, since generally, the turbines are set back from wetland areas where these birds were monitored. Since the surveys indicate no adverse impacts due to the presence of the turbines, EC recommends that no additional surveys of breeding waterfowl need to be conducted.

d. Aerial Surveys

The Report notes that waterfowl use of offshore areas was similar in 2008, 2009, 2010, and 2011, and that waterfowl use days for swans, geese and large dabblers were highest in 2011, and appears to be increasing. EC acknowledges these findings and is interested in reviewing the results of the aerial surveys from this fall before making a recommendation concerning the need for future aerial surveys.

5. Wetland Breeding Bird Point Counts and Area Searches

Breeding bird density and diversity has varied between years (2007, 2010, and 2011) but not in dramatic fashion or in a way that suggests significant adverse impacts from wind turbines. EC therefore recommends that no additional studies of wetland breeding birds need to be conducted.

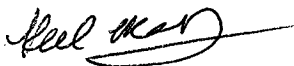
6. Woodland Breeding Bird Point Counts and Area Searches

Breeding bird density and diversity has varied between years (2007, 2010, and 2011) but not in dramatic fashion. There does not appear to be any evidence that the presence of wind turbines is having an adverse impact on woodland breeding birds. EC therefore recommends that no additional studies of woodland breeding birds need to be conducted.

Summary

Thank you for providing us with the fifth Wolfe Island Ecopower Centre post-construction monitoring report for review. Please let me know if you have any questions concerning the comments and recommendations we have provided in this letter. We look forward to the opportunity to review the next bi-annual monitoring report.

Sincerely,



Rob Read
Environmental Assessment Officer

cc: R. Dobos, Environment Canada
E. Prevost, Ontario Ministry of Natural Resources
E. Rezek, Environment Canada

J. Fischer, Environment Canada
G. Perfect, TransAlta
L. Friesen, Environment Canada

References

National Wind Coordinating Committee. 2010. Wind Turbine Interactions with Birds, Bats, and their Habitats: A Summary of Research Results and Priority Questions. Spring 2010. www.nationalwind.org.

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