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File No.: 2002-060

February 24, 2014

Benoit Lacasse  
Senior Environmental Assessment Officer  
Natural Resources Canada  
580 Booth Street, 11-C4-2  
Ottawa, Ontario K1A 0E4

Dear Mr Lacasse,

**Re: Comments on 7<sup>th</sup> Post-Construction Monitoring Report for the Wolfe Island EcoPower Centre**

This letter contains Environment Canada's (EC) comments on the seventh post-construction monitoring report (hereafter referred to as the Report) for the Wolfe Island EcoPower Centre covering the period of January to June 2012. This is the seventh 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, and
  - breeding grassland 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 as well as our overall thoughts on the monitoring that has occurred since May 2009.

**1. Mortality Monitoring – Birds**

The Report indicates that 20 avian fatalities were spread among 13 species during the reporting period. When corrected for searcher efficiency, scavenging, and area searched, the avian mortality level for the reporting period was 2.1 birds/turbine or 0.93 birds/MW. When combined with the results of the 6<sup>th</sup> Monitoring Report, the estimated avian mortality for an entire year (July 1, 2011 to June 30, 2012) was 6.02 birds/turbine or 2.62 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.

#### a. Avian Monitoring Results

The avian mortality estimate over a twelve-month period from July 2011 to June 2012 was 6.0 birds/turbine or 2.6 birds/MW. These results fall in the mid-range of fatality rates reported from Ontario (Friesen 2011) and from more than 60 other projects across the United States (Strickland et al. 2011). The relatively low avian fatality results suggest that it is highly unlikely that population level effects have occurred during this time.

The monitoring results provide no indication of a large mortality event at this facility during the reporting period. The maximum number of avian carcasses found at a single turbine during one visit was two, at T5 on 16 May (Appendix E). The maximum number of bird carcasses found at the facility during one visit was four: 2 Eastern Kingbirds, 1 American Redstart, and 1 Bobolink on 16 May at three different turbines (Appendix E). The absence of large multi-fatality events at Wolfe Island is consistent with the pattern reported from other Ontario wind energy facilities (Friesen 2011).

The last three Monitoring Reports (5<sup>th</sup>, 6<sup>th</sup>, and 7<sup>th</sup>) have reported avian mortality levels that are significantly lower than those from the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> Monitoring Reports. The reason(s) for the decline is unclear. The same third-party consulting firm (independent of TransAlta or Stantec) has conducted all of the mortality searches which suggest that a consistent methodology has been used throughout the searches.

EC is of the view that it is highly unlikely that, at the estimated mortality levels reported over three years of monitoring, the Wolfe Island facility is having a significant population impact on migratory bird populations. Compared to other sources of avian mortality (Machans and Elliot 2011), the effects are relatively small.

#### b. Bobolink Fatalities

Three Bobolink (BOBO) fatalities were recorded during the 7<sup>th</sup> Reporting Period. When these birds are combined with the 4 BOBO fatalities during the July to December 2011 time period (6<sup>th</sup> Report), the 7 fatalities result in an annual estimated corrected mortality of 49 BOBO (Sec. 4.1.1, p. 4.2, para. 5). EC agrees with the Report's conclusion that this level of mortality does not have a significant population effect on the 1000-1500 Bobolinks estimated to occur in the study area, or on the estimated provincial population of approximately 800,000 individuals. The loss of grassland habitat in the study area due to crop rotation (e.g. a reduction of grassland by almost half in the Northwest Search Area alone from 2007 to 2011), or the loss of nests through haying operations, would have a far greater impact on the local Bobolink population than mortality caused by collision with wind turbines.

#### c. Winter Raptor Mortality and Disturbance Monitoring

The winter survey methodologies were consistent with EC recommendations. Wintering raptor numbers in 2011/12 were slightly lower than during the same period of the pre-construction surveys in 2006 but higher than in the previous two years. Record high numbers of Snowy Owls and Short-eared Owls were observed in 2011/12.

One would expect that the presence of 86 wind turbines would have some negative impacts of raptors, either directly through mortality or indirectly through disturbance/avoidance. Raptors are colliding with the turbine structures (although most of the mortality is occurring outside of winter) and it is almost certain that some habitat displacement has occurred in the immediate vicinity of turbines. Nevertheless, the large number of diurnal and dusk raptor surveys conducted over the past three years (Appendix C: Tables 3:12-14) suggests that large numbers of raptors still occur on the island in some years (there is much between-year variability as there is in other places such as Amherst Island where there are no turbines) and that many raptors still frequent areas of Wolfe Island that have a high turbine density. One of the early concerns over Short-eared Owls

and their susceptibility to collision because of their aerial manoeuvres has not been borne out, as no fatalities to this species have been reported up to the end of the seventh monitoring period.

#### d. Grassland Bird Abundance and Distribution

Considerable effort was devoted to assessing whether grassland birds were displaced by turbines. Over 200 grassland point counts (consisting of both roadside counts and paired counts at two different distances from turbines) were conducted over the three years of post-construction monitoring. In addition, two large grassland areas searches, covering a total of 394ha, were surveyed during pre-construction and repeated during each of the three years of post-construction monitoring. The Report concluded: " ...overall, grassland birding birds remain abundant within the project area and within fields containing WTG's." It seems reasonable to conclude that, based on the methodology and associated results, the wind turbines have not had a significant adverse impact on the distribution and abundance of grassland birds.

## **2. Editorial Comments**

Page 4.1 contains two errors that we recommend are corrected as follows:

- 3<sup>rd</sup> paragraph:
  - It is noted that 30 birds were found between January and June in 2012. EC recommends that the report be revised to note that 20 birds were found during this period as evidenced by the collected data.
- 4<sup>th</sup> paragraph:
  - The 6<sup>th</sup> Report estimated 1.69 birds/MW and not 1.61 birds/MW as indicated in the Report. When combined with the 7<sup>th</sup> Report (0.93/MW), the twelve-month total should be 2.62/MW and not 2.54 birds/MW as noted in the Report. EC recommends that the Report be revised to present the correct twelve month mortality total.

## **3. Summary**

Thank you for providing us with the seventh Wolfe Island Ecopower Centre post-construction monitoring report for review. EC has been pleased to have the opportunity to review the seven semi-annual bird and bat monitoring reports that have been prepared for the Wolfe Island Wind Farm from May 2009 to June 2012. The contribution made to our knowledge about the impact of wind farms on migratory birds in Ontario has been invaluable.

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  
M. Dawson, TransAlta  
L. Friesen, Environment Canada

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## **References**

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Kerlinger, P., J. L. Gehring, W. P. Erickson, R. Curry, A. Jain, and J. Guarnaccia. 2010. Night migrant fatalities and obstruction lighting at wind turbines in North America. *Wilson Journal of Ornithology*. 122 (4): 744-754.

Machans, C. and R. Elliot. 2011. Estimates of human related bird mortality from major sectors in Canada, and their biological relevance. Symposium introduction to the Society of Canadian Ornithologists annual meeting, August 6, 2011. Moncton, NB.

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