



**Environmental Protection Operations Division -Ontario
Environmental Assessment Section
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File No.: 2002-060

January 10, 2011

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

Dear Mr Leblanc,

Re: Comments on 3rd Post-Construction Monitoring Report for the Wolfe Island EcoPower Centre

This letter contains Environment Canada's (EC) comments on the third post-construction monitoring report (hereafter referred to as the Report) for the Wolfe Island EcoPower Centre covering the period of January to June 2010. This is the third 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:
 - wintering 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 supports the proposed change to the winter mortality searches for the reasons outlined in the Report. We recommend that scavenging trials be conducted as soon as possible to make sure that scavenging rates remain low. We would appreciate receipt of this information when it is available. If scavenging and/or mortality rates from this year are significantly elevated from those reported last year we would like to re-visit and discuss this change to the winter mortality surveys. EC recommends that the monitoring continue as described in the PCFP with the modification to the winter mortality monitoring schedule that has been recommended in the Report.

Outlined in the remainder of this letter are EC's specific comments and recommendations following our review of the Report.



Mortality Monitoring – Birds:

Reporting Period:

Based on the information presented in the Report, we understand that 66 carcasses involving 28 different bird species were collected during the reporting period. Bird fatalities were distributed uniformly through the spring period with fewer fatalities in February and March and none reported in January. The total corrected estimate for this six month period is 2.78 birds/MW or 6.39 birds/turbine.

Annual Rate:

The estimated avian mortality rate for the first full year of operation at Wolfe Island, from 1 July 2009 to 30 June 2010, was 5.82 birds/MW or 13.38 birds/turbine. A recent summary of 45 wind farms across North America showed annual mortality ranging from 0 birds/MW to 14 birds/MW (NWCC, 2010). In comparison to the wind farms in the summary, the estimated annual avian mortality rate at Wolfe Island is within the range of others from Canada and the US but is the fifth or sixth highest mortality level reported from 45 wind farms in North America. As identified in the Report, it is important to note that the study at Wolfe Island includes winter mortality which represents about 10% of the estimated total. The majority of the other North American studies have not included data collected in the winter.

The annual avian mortality estimate for the Wolfe Island Wind project, when presented in terms of birds per turbine, may seem surprisingly high; however, the turbines for this project are rated for high generation capacity at 2.3 MW each. When mortality is calculated on a per MW basis the levels at Wolfe Island (5.82 birds/MW) are comparable to levels reported at other North American wind projects. Further, the annual mortality per MW rate reported from the Wolfe Island project is well below the notification threshold of 11.7 birds/MW that require the proponent to explore adaptive management options described in the PCFP.

The annual avian mortality levels that have been reported at Wolfe Island are certainly high compared to other North American wind facilities; however, they are not entirely unexpected given that the area is important for breeding, wintering and staging birds. As mentioned earlier, a recent summary of 45 wind farms across North America showed annual mortality ranging from 0 birds/MW to 14 birds/MW (NWCC, 2010). The NWCC's summary concluded that current turbine-related fatalities are unlikely to affect population trends of most North American songbirds.

A similar level of avian mortality was reported from three wind energy sites in New York State, where it was concluded that such a rate, if it did not include endangered species, was unlikely to have population level effects, even when cumulative impacts from many wind plants were considered (Jain et al. 2009). This conclusion seems reasonable as avian mortality at wind farms is typically spread among many species (at least 48 species at Wolfe Island).

Swallows and Martins:

Swallows and martins accounted for about one-quarter of the avian fatalities at Wolfe Island. Mortality at a single site such as Wolfe Island does not have significant population level impacts on these species. But cumulative impacts from many wind farms in Ontario and elsewhere across the species' breeding/staging range might exert such impacts. Aerial insectivores are of high conservation concern because of steep and widespread population declines. We believe this issue bears continued, close monitoring in the years to come and this is why we have specifically recommended mortality monitoring during the crucial staging period in late summer on Wolfe Island. It should be noted that the levels of swallow and martin mortality recorded at Wolfe Island have not been duplicated at wind farms elsewhere in the province where staging numbers are much lower and habitat conditions are different. The breeding strongholds for Purple Martin in Ontario are Essex and Lambton Counties (and Niagara Region), but there have been no fatalities of this

species recorded at wind projects located in, or near, those regions (no turbines are currently operating in the Niagara Region).

The Wolfe Island mortality rate is strongly influenced by the mortality of swallows and martins, primarily in July and August. Large numbers of Tree Swallows congregate on Wolfe Island during the summer, prior to fall migration. Swallows and martins comprised 41 of the 165 (24.5%) observed bird fatalities, however, this number is small relative to the estimated 10,000 Tree Swallows reported to use the site in the IBA Site Summary for Wolfe Island (IBA Canada, undated) and the estimated Ontario population of 400,000. The latter population estimate may be conservative because it does not include young of the year; the estimate was based on surveys of adults at the outset of the breeding season. EC recommends that future reports note what percentage of the aerial insectivores casualties consisted of juvenile birds.

Bobolink:

Nine Bobolink fatalities occurred at nine different turbines over the full year's monitoring. The estimated annual Bobolink mortality is 73 birds when corrected for scavenging trials and searcher efficiency; this is 5-7% of the 1000 – 1500 adult Bobolink that the proponent's consultant, Stantec, estimated to be in the study area during the breeding season. As noted in the Report, the majority of Bobolink fatalities occurred in late July or August which suggests they may have been recently fledged young. The potential impacts to the population would probably be lower if the victims were recently fledged birds rather than older adults with nests. The total number of Bobolink on Wolfe Island after July 1 would be higher because of the additions of young birds from successful nests, so the percentage of the population affected in the study area (5-7%) would likely be lower to account for these additions. EC recommends that future reports note the percentage of Bobolink fatalities that involve juvenile birds.

Chimney Swift:

TransAlta notified EC of a single Chimney Swift mortality that was discovered during a carcass search on May 11, 2010. This species is listed as a Schedule 1 threatened species under SARA. Based upon the information that was provided by the proponent about this event, we understand the individual was likely a migrant. EC believes that the Chimney Swift mortality was a chance event, and, as such adaptive management options do not exist to address the situation. EC agrees based upon the reasons presented in the Report that there is no basis to identify a future threat to individuals of this species as a result of the project.

Summary

Thank you for providing us with the third 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
M. Austen, Environment Canada

J. Fischer, Environment Canada
G. Perfect, TransAlta

References:

NWCC. 2010. *Wind Turbine Interactions with Birds, Bats, and their Habitats: A Summary of Research Results and Priority Questions*. National Wind Coordinating Collaborative. Available at:
<http://www.nationalwind.org/publications/bbfactsheet.aspx>

Jain, A., P. Kerlinger, R. Curry, L.Slobodnik, J.Quant, and D. Pursell. 2009. Noble Bliss Windpark Avian and Bat Fatality Study: Annual Report for the Noble Bliss Windpark, LLC Postconstruction Bird and Bat Fatality Study – 2008. Prepared for: Noble Environmental Power, LLC by Curry and Kerlinger, LLC.