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2 March, 2014

Ms. Susanne Edwards  
Senior Project Evaluator  
Ministry of the Environment  
Operations Division  
Environmental Approvals Branch  
2 St. Clair Avenue West, Floor 12A  
Toronto, ON M4V 1L5

Re: Comments regarding approval for a renewable energy project, EBR # 012-0774

Dear Ms. Edwards:

Please find below my comments on the proposed Renewable Energy Approval by Windlectric Inc. for the Amherst Island Wind Energy Project, proposed to be located on Amherst Island, Loyalist Township, Ontario. This project has been attributed EBR Registry number 012-0774.

I am a wildlife biologist with 14 years of experience in habitat ecology and population ecology on a variety of species, including turtles. I hold a bachelor of science in biology, a master's degree in natural resources management, and a Ph.D. in wildlife ecology. My Ph.D. research and dissertation were on spotted and Blanding's turtles. I have published several peer-reviewed scientific articles on Blanding's turtles. I am currently an assistant professor of environmental science at Alfred University, New York.

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First, I will comment on the Natural Heritage Assessment & Environmental Impact Study prepared by Stantec Consulting, and dated November 2012.

#### 3.1.7.1. Seasonal Concentration Areas of Animals (Methods)

From Table 3.1, about Turtle Wintering Areas: *"Vegetation community classifications were utilized to assess features within 120 m of the Project Location that would support turtle wintering areas. Specialized site investigations were conducted to identify potential turtle wintering areas."*

Given that the main defining feature of a wintering area for the turtle species of concern is water that is deep enough not to freeze all the way through, it is surprising that water depth was not a measured criterion here. “Specialized site investigations” are referred to here but not described.

### 3.1.7.2. Rare Vegetation Communities or Specialized Habitats (Methods)

From Table 3.2, about Turtle Nesting Areas: *“Exposed mineral soil (sand or gravel) areas adjacent (<100 m) ...Best nesting habitat for turtles is close to water, away from roads and sites. As lands within the Study Area consisted primarily of cultivated agricultural cropland, the search for turtle nesting habitat focused on watercourses and any marshy wetlands within 120 m of the Project Location.”*

The Ecoregion 6e criteria to identify turtle nesting areas are deficient. Turtles nest in a wide variety of substrates, and are not tied to sand or gravel mineral soils. I have observed numerous nests in loamy soils, dredged silt, and organic humus. In regions where gravel and sand are rare or absent, turtles still occur and do not appear to be limited in their nesting sites, as long as open areas with good sun exposure are available. In that respect, the Ontario Ministry of Natural Resources’ *Significant wildlife habitat technical guide* (2000, p.47) is better suited for identifying turtle nesting areas, as it states that “preferred nesting habitats are usually on relatively soft substrates such as sand or fine gravel that allow turtles to easily dig their nests, and are located in open, sunny areas”. Here, there is no suggestion that turtle nests should be surveyed for solely in sand and gravel substrates.

Also, given the movement abilities of several of the turtle species in the area, particularly Blanding’s turtles and snapping turtles, they quite often reach nesting sites well away from water; the statement about best nesting habitats is misleading and the limitation to searches in areas near watercourses and marshy wetlands is completely unjustifiable.

Finally, the field work dates reported for turtle nesting surveys (essentially, the field dates for ELC surveys), do not include a single date within the nesting window of these turtles, which is concentrated in June.

### 3.2.6.1. Seasonal Concentration Areas of Animals (Results)

The results in the Turtle Wintering Area section cannot be interpreted well since the methods described to locate these sites are inappropriate or at least unclear.

### 3.2.6.2. Specialized Habitats (Results)

From Table 3.6:

No nest site has been reported. However, no proper nesting site surveys have been done, as evaluations have been limited to sand and gravel substrates in proximity to streams and wetlands. There appears to have been no nesting surveys conducted during the Blanding’s turtle nesting season, in June.

Second, I would like to address specific comments on the Species at Risk Report prepared by Stantec Consulting (Redacted Version), dated February 2013.

#### Section 2.0. Species at Risk Records Review.

The absence of recent Blanding's turtle records discovered during the records review phase is uninformative. Very few people will submit observations to the Natural Heritage Information Center. I would not anticipate this type of records review to produce much useful data about this secretive species. In addition, from the report it appears that a promising local source of data, the Kingston Field Naturalists', was asked to contribute information about birds, but not about turtles.

#### Section 3.1.1.1. Terrestrial Species Surveys

The method described here states that habitat assessments were done, but there is no methodology presented here that can be construed as a turtle survey. Blanding's turtle survey methodology is described in detail in a MNR document titled *Survey Protocol for Blanding's Turtle (Emydoidea blandingii) in Ontario* (MNR, Species at Risk Branch, 2013). The methods reported by Stantec here do not constitute a Blanding's turtle survey, or a survey of the turtle species of concern for that matter. The field work listed in Table 3.1 of the Species at Risk Report includes no language about Blanding's turtle surveys, only the generic reference "wildlife habitat assessment".

Even the chance of incidental observations while doing ELC surveys were minimal at best. Field work for ELC surveys only includes a single date (May 18 2012) that's acceptable for Blanding's turtle surveys (as per MNR guidelines cited above). On the only acceptable survey date, it was 5°C and "80% cloudy"; conditions under which it is very unlikely Blanding's turtles would be out of the water and observable. The MNR guidelines stipulate minimum weather conditions for Blanding's turtle survey, and the conditions on May 18 2012 clearly do not qualify as adequate.

#### Section 3.2.4.2. (Results)

From the report, p. 3.10: *"Most wetlands in proximity to the project location consist of green ash swamps and reed canary grass meadow marsh. These wetlands do not provide the standing water required by turtle species for most of their life processes."*

The last sentence is misleading and an unjustified assumption. Green ash swamps and reed canary grass meadow marshes can certainly be Blanding's turtle habitat. This species rely on a variety of wetlands to fulfill the requirements of its annual cycle; the described wetlands may not provide the standing water required by turtle species FOR SOME of their life processes, but it can provide habitat for processes like foraging, aestivating, and even wintering, as reed canary meadow marshes can contain deeper section of mud and water that do not freeze to the bottom.

P. 3.10: *"Blanding's Turtles nest in upland areas of exposed soil, often some distance from the open water. However, all project components within 1 km of Long Point Marsh are situated in hay, pasture or*

*fallow fields with dense ground cover. Site investigations did not identify any potential turtle nesting sites in proximity to the project location, with the potential exception of existing roadsides.”*

The authors of the report suggest that only potential nesting sites within 1 km of Long Point Marsh should be evaluated. There is no biological justification for that distance, and there is no evidence that nesting turtles would in fact depart from Long Point Marsh. These are unjustified assumptions. No turtle surveys were done, and no habitat assessment was done outside the project boundaries, so it makes no sense to limit this nesting site evaluation to within an arbitrary distance from an arbitrary location.

Finally, from the same page: *“Over the course of all field surveys, no observations of either Blanding’s Turtle or Eastern Musk Turtle were made.”* This statement is repeated in Table 3.15.

No weight should be assigned to this statement, as no turtle survey was done, and none of the ELC surveys were done during the window of time and weather when Blanding’s turtles could be observed.

Blanding’s turtles are present on the island and are observed by residents, as evidenced by the table and photos in the 9 August 2013 letter from P. Large to K. Pitt from the MNR.

Note 1: Despite the lack of surveys, Tables 2.1 and 3.15 contain statements about suitable habitat for Blanding’s turtles on Amherst Island. One statement reads: *“The suitable habitat on Amherst Island occurs in the coastal marshes.”* I see no basis for this statement.

Note 2: In a May 12, 2011 letter from Andrew Taylor (Stantec) to Eric Prevost (Southern Region Renewable Energy Coordinator, MNR), found in Appendix G of the NHA, one can read: *“Historic records of endangered and threatened species also occur from the Study Area, including Blanding’s Turtle, Whip-poor-will, Least Bittern and Henslow’s Sparrow. Site investigations in 2011 will assess the presence and identify habitat of these species.”* This was not done; no assessment of the presence of Blanding’s turtles was reported.

#### Section 3.2.4.3. (Conclusion)

From the report, p. 3.10: *“Although no observations of Blanding’s Turtle or Eastern Musk Turtle were made, there is potential for these species to occur in the large coastal marsh in the southwestern portion of the island. The closest project components to these open water communities within the wetland are over 75 m away, which is considered a generous buffer to avoid impacts to these wetland communities. There is potential for Blanding’s Turtle to stray from the wetlands into upland habitats in search of nesting sites, however, field studies did not identify any potential turtle nesting sites along the project location. Potential impacts and mitigation measures are discussed in Section 9.0 [sic]. With the implementation of these mitigation measures, no impacts to turtle species are anticipated.”*

Here again the statement that no observations were made should be qualified by the fact that no surveys were done. Here again the baseless assertion that these species should occur in the coastal marshes is repeated. Even if it were true, Blanding’s turtles do not “stray” from wetlands, they use the uplands as movement (and sometimes aestivation) habitats. They use uplands as they move from wetland to wetland, and these movements are often much longer than 75 m. A 75m buffer is absolutely

not a “generous buffer” to avoid impacts to wetland communities. Insofar as Blanding’s turtles are considered part of a wetland community, simple buffers around wetlands are insufficient.

In my opinion, impact to Blanding’s turtles should be very much anticipated because of:

- Their extensive movements overland through all the land cover types present on the island;
- Their extensive use of a variety of wetland types, including many within the project site, and;
- Their vulnerability to the much augmented traffic volumes on island roads.

## Section 7.2. Recommended Mitigation Measures

The proposed mitigation measures on the project site will, in my opinion, reduce the risk of damage to turtle habitat, and the risk of road mortality.

However:

- Many wetlands, including temporary wetlands and forested swamps, were not recognized as Blanding’s turtle habitat even though they probably are. The mitigation measures do not address the potential loss of and damage for these wetlands.
- No evidence is provided to show the effectiveness of training, speed limits and signage planned for the project roads. Driver inattentiveness and carelessness could lead to occasional roadkill. The difficulty of safely stopping a heavy load-hauling truck can also cause roadkill, despite a driver’s best intentions. Blanding’s turtles are particularly susceptible to these kinds of rare road mortality events.
- The large increase in truck traffic on roads outside the project is ignored and is very much a threat to Blanding’s turtles.

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To conclude, some general comments about the project proposal and the associated risks to turtle species of concern and Blanding’s turtles:

As a whole, the documents reviewed here do not present an appropriate evaluation of the presence and habitat use of Snapping, Northern Map, Midland Painted, or Blanding’s turtles, on Amherst Island. These documents do not evaluate properly the impacts to be expected to these species if the project was completed. Specifically, the documents report:

- Inadequate surveys for species of concern and at-risk turtles, their habitat, their wintering sites, and their nesting sites.
- Improper and unjustified assumptions about their habitat, wintering sites, and nesting sites.
- Improper or absent assessment of the risks associated with habitat damage or loss and with road mortality.

Best regards,

A handwritten signature in blue ink, reading "Frederic Beaudry". The signature is written in a cursive, flowing style with a large initial 'F' and a long, sweeping underline.

Frederic Beaudry, Ph.D.