

Environmental Review Tribunal
Tribunal de l'environnement



ISSUE DATE: August 03, 2016

CASE NO.:

15-084

PROCEEDING COMMENCED UNDER section 142.1(2) of the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended

Appellant: Association for the Protection of Amherst Island
Approval Holder: Windlectric Inc.
Respondent: Director, Ministry of the Environment and Climate Change
Subject of appeal: Renewable Energy Approval for Amherst Island Wind Project
Reference No.: 7123-9W9NH2
Location: Various locations
Municipality: Loyalist Township
Upper Tier: County of Lennox and Addington
ERT Case No.: 15-084
ERT Case Name: Association for the Protection of Amherst Island v. Ontario (Environment and Climate Change)

Heard: December 4, 9-11, 2015 and February 2-5, 25, 26, 29, March 1-3, 18, 21-24, 31, April 1, 19, May 11-13 and June 7, 2016 variously in Bath, Stella and Toronto, Ontario

APPEARANCES:

Parties

Counsel/Representative*

Association for the Protection of Amherst Island

Eric Gillespie, Priya Vittal, Graham Andrews

Director, Ministry of the Environment and Climate Change

Andrew Weretelnyk, Andrea Huckins

Windlectric Inc.

John Terry, Arlen Sternberg, Dennis Mahony,
Tyson Dyck, Jeremy Opolsky

Participants

Amy Caughey

Self-represented

Cataraqui Region Conservation
Authority

Tom Beaubiah*

Presenter

Kingston Field Naturalists

Bill Evans*

Eric Welbanks

Self-represented

DECISION DELIVERED BY JUSTIN DUNCAN AND ROBERT V. WRIGHT

REASONS

Overview

[1] On August 24, 2015, Ian Greason, Director, Ministry of the Environment and Climate Change (the “MOECC”) issued Renewable Energy Approval No. 7123-9W9NH2 (the “REA”) to Windlectric Inc. (the “Approval Holder”), granting approval for the construction, installation, operation, use and retiring of a Class 4 wind facility with a total nameplate capacity of 74.3 megawatts, consisting of 26 wind turbines, a transformer substation and a temporary ready-mix Concrete Batching Plant (collectively the “Project”). These would be located on Amherst Island with additional components for the Project located on the mainland of Loyalist Township, County of Lennox and Addington, Ontario.

[2] On September 8, 2015, the Association for the Protection of Amherst Island (the “Appellant” or “APAI”) appealed the REA to the Environmental Review Tribunal (the

“Tribunal”) on the grounds that the Project will cause serious harm to human health and serious and irreversible harm to animal life and the natural environment.

[3] Amherst Island is located approximately 10 kilometres (“km”) west of Kingston in Lake Ontario. It is located 3 km from the shore and is currently only accessible by ferry from the town of Millhaven. Amherst Island is approximately 16 km long and 7 km wide. The island is approximately 66 square kilometers in total area. The Island has approximately 400 permanent residents and its population grows to 1000 in the summer.

[4] The preliminary hearing was held in Bath, Ontario, on October 15, 2015. The Tribunal granted participant and presenter status to various individuals and organizations, and dealt with procedural matters regarding the hearing and the steps leading up to the hearing.

[5] The Tribunal heard evidence from the parties, participants and presenters over twenty-five hearing days and heard final submissions on June 7, 2016.

[6] For the reasons that follow, the Tribunal finds that the Appellant has not proved that engaging in the Project in accordance with the REA will cause serious harm to human health or serious and irreversible harm to plant life, animal life or the natural environment.

Relevant Legislation

[7] The following provisions of the *Environment Protection Act* (“EPA”) set out the jurisdiction of the Tribunal on this appeal, the onus of proof of the Appellant and the discretionary remedial powers of the Tribunal if it determines that engaging in the Project in accordance with the REA will cause the prescribed harm.

Environmental Protection Act

Interpretation

1. (1)

In this Act,

“natural environment” means the air, land and water, or any combination or part thereof, of the Province of Ontario;

...

PART I ADMINISTRATION

Purpose of Act

3. (1) The purpose of this act is to provide for the protection and conservation of the natural environment.

...

PART XIII APPEALS TO TRIBUNAL

...

Hearing re renewable energy approval

142.1 (1) This section applies to a person resident in Ontario who is not entitled under section 139 to require a hearing by the Tribunal in respect of a decision made by the Director under section 47.5.

...

Grounds for hearing

(3) A person may require a hearing under subsection (2) only on the grounds that engaging in the renewable energy project in accordance with the renewable energy approval will cause,

- (a) serious harm to human health; or
- (b) serious and irreversible harm to plant life, animal life or the natural environment.

...

Hearing required under s. 142.1

145.2.1 (1) This section applies to a hearing required under section 142.1.

What Tribunal must consider

(2) The Tribunal shall review the decision of the Director and shall consider only whether engaging in the renewable energy project in accordance with the renewable energy approval will cause,

- (a) serious harm to human health; or
- (b) serious and irreversible harm to plant life, animal life or the natural environment.

Onus of proof

(3) The person who required the hearing has the onus of proving that engaging in the renewable energy project in accordance with the renewable energy approval will cause harm referred to in clause (2) (a) or (b).

Powers of Tribunal

(4) If the Tribunal determines that engaging in the renewable energy project in accordance with the renewable energy approval will cause harm referred to in clause (2) (a) or (b), the Tribunal may,

- (a) revoke the decision of the Director;
- (b) by order direct the Director to take such action as the Tribunal considers the Director should take in accordance with this Act and the regulations; or
- (c) alter the decision of the Director, and, for that purpose, the Tribunal may substitute its opinion for that of the Director.

Same

(5) The Tribunal shall confirm the decision of the Director if the Tribunal determines that engaging in the renewable energy project in accordance with the renewable energy approval will not cause harm described in clause (2) (a) or (b).

Issues

[8] The issues to be determined on this appeal are:

1. whether engaging in the Project in accordance with the REA will cause serious harm to human health; and
2. whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to plant life, animal life (birds, bats and Blanding's turtle in particular) or the natural environment.

Issue No. 1: Whether engaging in the Project in accordance with the REA will cause serious harm to human health.

[9] The Appellant alleges that emissions from the operation of the wind turbines will cause serious harm to human health and supports the allegation of the participant Amy

Caughey that emissions from the cement batch plant, to be used primarily for the construction of the turbine foundations, will also cause serious harm to human health.

A. Operation of the Wind Turbines

Evidence

a. Appellant

[10] The Appellant called one expert witness to testify about harm to human health. Dr. Carl Phillips was qualified to give opinion evidence in the area of public health with knowledge of epidemiology and related health sciences including scientific epistemology and methodology.

[11] Dr. Phillips completed a Masters and Ph.D. in Public Policy from Harvard University, a postdoctoral fellowship in health policy research at the University of Michigan, and a postdoctoral fellowship in philosophy of science at the University of Minnesota. He has been a professor of public health, including evidence based medicine programs, at various universities in the United States and the University of Alberta in Canada. He is currently the Chief Scientific Officer of the Consumer Advocates for the Smoke-Free Alternatives Association.

[12] Dr. Phillips testified about epidemiological evidence generally regarding harm to human health and wind turbines. He based his opinions upon information about individual health from sources such as studies and the media. He described these as “case-crossover studies”.

[13] Dr. Phillips testified that a recent study by independent experts (I. J. Onakpoya et al., “The effect of wind turbine noise on sleep and quality of life: A systematic review and meta-analysis of observational studies”, *Environ Int* 2015 Sep 16;82:1-9 [“Onakpoya (2015)”]), determined that “evidence from cross-sectional studies supported

the conclusion that exposure to wind turbine noise may be associated with increased frequency of annoyance and sleep problems.” He said that this study is more reliable than studies and reviews (such as the two referred to below) funded by the wind industry.

[14] Dr. Phillips testified that “400 permanent residents and 600 seasonal residents would all be within a 2 km radius from at least one IWT [industrial wind turbine] when they were at their residences, with most being far less than 1500 m away from the nearest IWT.” He then applied a “conservative estimate of 5% of persons exposed being affected” and concluded that this will result in at least 20 persons being seriously harmed by emissions from the Project’s wind turbines because they will suffer from:

sleep disorders, general distress, mood disorders, headache, fatigue, inability to concentrate, and related outcomes at the border of the psychological and physical, as well as specific conditions related to the functions of the ear, including tinnitus and vestibular (balance) problems.

[15] Dr. Phillips relied upon individual self-reported, or testimonial, health complaints regarding wind turbines and referred to them as Adverse Event Reports (“AER”s). He used the term “AERs” by analogy to information submitted to regulatory agencies in cases of suspected associations between the administration of medication and adverse side effects. It is his view that the large number of AERs in relation to industrial wind turbines is a reliable indicator of an association between turbines and health impacts.

[16] It was Dr. Phillips opinion that AERs are compelling evidence and useful because: (a) reports are similar across most reports and focus on stress caused by the presence of turbines; (b) the sheer number of AERs suggest the problem is restricted to a few rare, highly-susceptible individuals living close to turbines; and (c) they provide case-crossover study data that allow one to observe effects of transitioning from a state of no exposure to one of exposure.

[17] In cross-examination, Dr. Phillips acknowledged that he did not collect or examine AER in any systematic way but that he estimates that there are likely

thousands of such reports contained at various locations electronically. He also acknowledged that one of the problems with the AERs he relies upon are that they are not combined with any noise profile data, an explanation of the type of geography at issue, or the turbine technology being used that would allow anyone to assess how the AERs might be correlated with any particular aspect of wind turbines.

b. Approval Holder

[18] With regards to the health issue, the Approval Holder called two witnesses: Dr. Kenneth Mundt and Dr. Robert McCunney.

[19] Dr. Mundt was qualified as an expert epidemiologist. He is an adjunct professor in epidemiology at two universities in the United States and a principal in a consulting company. He has worked in the field for almost 30 years in various capacities. He is an editor and peer reviewer for various scientific journals.

[20] Dr. Mundt testified: “these individual complaints – also referred to by Dr. Phillips as ‘testimonials’ – are complaints, and do not constitute scientific studies or objective observations. They are not the product of any standard research methodology, and not part of or themselves epidemiological studies.” It was Dr. Mundt’s opinion that such complaints, and AERs, have potential reporting biases and they should not be relied upon in determining causation.

[21] Dr. McCunney was qualified by the Tribunal as a medical doctor specializing in occupational and environmental medicine with particular expertise in health implications of noise exposure. Dr. McCunney has 34 years of clinical, research and educational work in occupational and environmental medicine. He is a research scientist at the Massachusetts Institute of Technology Department of Biological Engineering where he co-teaches a course on epidemiology. He has clinical practice at Brigham and Women’s Hospital in Boston, and evaluates and treats people exposed to occupational

and environmental hazards. He lectures at Harvard School of Public Health on the subject of noise and hearing.

[22] Dr. McCunney is a co-author of two reviews of peer-reviewed scientific literature about wind turbines and human health that were published in 2009 and 2014. Dr. Mundt is a co-author of the 2014 publication.

[23] These two reviews of wind turbine noise and health effects are consistent in their findings that: “The body of accumulated knowledge provides no evidence that the audible or sub-audible sounds emitted by wind turbines have any direct adverse physiological effects” (from the 2009 review); and, “No cohort or case-control studies were located, but among the cross-sectional studies of better quality, no clear or consistent association is seen between wind turbine noise and any reported disease or other indicator of harm to human health” (from the 2014 review). Drs. McCunney and Mundt said that the findings in the 2009 and 2014 reviews are also consistent with another recent publication (Feder K, et al., “An assessment of quality of life using the WHOQOL-BREF among participants living in the vicinity of wind turbines”, 2015 Environ Res 142: 227-238), and other relevant scientific literature.

[24] Dr. Mundt stated that the current scientific evidence, as per the literature, “does not establish that residential exposure to wind turbines causes any disease or any harm to human health, let alone serious harm. At most, the literature reports an association (or correlation) between sound pressure levels and self-reported or perceived annoyance”. Dr. McCunney states that the studies show that “noise associated with wind turbines, including infrasound and low-frequency sound, is not a health risk.” They share the opinion that the Project will not cause harm to human health.

[25] Dr. McCunney said that Dr. Phillips’ “case-crossover studies” are “similar to ‘case reports’, but they lack consistency of rigor of published case reports. Published case reports can be useful as hypothesis generating tools, but cannot determine causation.”

[26] Dr. McCunney testified that Dr. Phillips' analogy of individual complaints to AERs is not accurate or helpful because agencies, such as the United States Food and Drug Administration and Health Canada, make it clear that such data cannot be used to determine causation. Dr. McCunney said AERs can be "signals" that may prompt further study of causation but alone, they are not sufficient.

[27] Drs. Mundt and McCunney dispute Dr. Phillips' estimate that five per cent of a population exposed to wind turbines will suffer serious harm because, they assert, it is based on an unproven assumption of causation. Drs. Mundt and McCunney testified that there is still no evidence that wind turbines cause serious harm to human health.

[28] In cross-examination, Dr. McCunney acknowledged that it is possible to determine the cause of a disease without determining the specific causal mechanisms involved. He provided the clear examples of asbestos exposure and cancer, and smoking and cancer.

c. Director

[29] The Director did not call any evidence on the health issue.

Submissions

[30] The Appellant argues:

By any reasonable measure, the conclusion that a minimum of 20 persons will suffer serious AERs through the operation of this Project is sufficient, in the respectful submission of the Appellant, to conclude that on the balance of probabilities this Project will cause serious harm to human health.

[31] The Appellant argues that the reviews co-authored by Drs. McCunney and Mundt have an inherent bias as they are funded by the Canadian Wind Energy Association ("CanWEA").

[32] The Appellant also argues that Dr. Mundt also relies upon the Onakpoya (2015) study but that he does so selectively, which the Appellant submits is not impartial or independent and also reflects bias.

[33] The Approval Holder argues that the Appellant has not met the onus under the *EPA* s. 145.2.1(2)(a) health test, and that the Appellant's evidence and concerns do not establish that the Project will result in any harm, much less serious harm, to human health. The Approval Holder's summary of the evidence of Drs. Mundt and McCunney is that the individual complaints that Dr. Phillips relied upon are not reliable because "they are most often prepared without medical records, diagnostic information or an updated medical evaluation that can assess symptoms properly to formulate a diagnosis."

[34] The Approval Holder argues that the Tribunal should prefer the evidence of Drs. Mundt and McCunney to the evidence of Dr. Phillips as they are better qualified to give opinion evidence on the issues in this case. The Approval Holder's response to the Appellant's bias allegation is that CanWEA did not take part in editorial decisions or reviews of the manuscripts and they were independently reviewed.

[35] The Approval Holder and the Director submit that the current state of scientific knowledge has not changed: it has not been demonstrated that noise from industrial wind farms directly causes serious harm to human health and, at best, it shows an association between such noise and annoyance.

[36] The Director did not call any evidence on the health issue, but relies upon the Approval Holder's evidence and also argues that the Appellant has not met the onus of the health test.

[37] The Director argues that Dr. Phillips' conclusions are based upon self-reported effects gleaned from the media and not any established epidemiological evidence, studies or opinions. The Director submits that the Appellant's health appeal is general,

not site specific, and based on the limited evidence of one expert witness that annoyance from wind turbine noise causes serious harm to human health. The Director asserts that this is far less evidence than on other appeals that have been dismissed.

[38] The Director submits that the Appellant has not put forward any scientific studies or evidence that have not previously been considered and, therefore, does not successfully challenge the “consensus scientific view about the impact of commercial wind turbines on human health” discussed in *Dixon v. Ontario (Director, Ministry of the Environment)*, [2014] O.J. No. 6170, and *Fohr v. Ontario (Ministry of the Environment and Climate Change)*, [2015] O.E.R.T.D. No. 43 (“*Fohr*”), at paras. 94 and 101.

Discussion, Analysis and Findings

[39] There is an extensive body of Tribunal decisions, and some Ontario court decisions, on the issue of wind turbines and whether they cause serious harm to human health. Those decisions cross-reference, and to some extent build upon, one another. However, each case must also be decided on the basis of its own evidence. Sometimes, as a matter of convenience, the parties to a proceeding have agreed that evidence in a previous proceeding may be used without the witness testifying in person; for example, they may agree that a witness statement or transcript of the evidence of a witness may suffice. That is not the case here.

[40] The Appellant’s health case is based on Dr. Phillips’ evidence that relies largely upon numerous self-reported individual health reports made by individuals living near wind turbines and, additionally, his analysis of expert literature.

[41] The Appellant argues that there is such an overwhelming number of health complaints that they establish, conservatively and at a minimum, that industrial wind turbines will cause serious harm to the health of at least five per cent of the people who are exposed to them. The Appellant then applies this five per cent multiplier to the 400

permanent residents on Amherst Island and concludes that the Project will cause serious harm to at least 20 of the permanent residents, which is a significant number.

[42] There are a number of leaps in the logic of the Appellant's submission that the analysis of Dr. Phillips demonstrates that the consensus scientific view is incorrect or should be changed. Decisions of the Tribunal and the courts have relied upon the "consensus scientific view" about the impact of industrial wind turbines on human health to support the setback distance and noise level standards applied to wind turbines in renewable energy application approvals, and, additionally, in respect of proof of causation in the context of whether engaging in a project "will cause serious harm to human health". The Tribunal has held previously that no study has yet proven or disproven that turbines cause serious harm to human health (See for example, *Fohr* at paras. 92-101).

[43] The Approval Holder and the Director argue that the consensus scientific view has not changed. They rely upon the evidence of Drs. Mundt and McCunney, the 2009 and 2014 reviews of the scientific literature in particular, as the best evidence that the scientific consensus remains that there is no proof that industrial wind farms cause serious harm to human health. The Tribunal does not find that their evidence was biased as alleged by the Appellant.

[44] Dr. Phillips does not assert that use of the 5 per cent multiplier is a "consensus" scientific view. The Tribunal agrees with the evidence of Dr. McCunney that Dr. Phillips' approach is incomplete in the sense that the self-reported health complaints that he relies upon have not been assessed with any rigour and do not approach the reliability of an epidemiological study upon which one can make conclusions about causation.

[45] At this point, it appears that Dr. Phillips' approach is tantamount to a hypothesis that AERs can be used as a potential tool to estimate in advance the number of people who will have serious health impacts from any wind project. The Tribunal finds that Dr. Phillips' conclusion that the Project will cause serious harm to the health of at least 20

people is not based on evidence that is sufficiently reliable to alter the general consensus scientific view that there is not yet evidence that turbines cause serious harm to human health.

[46] Absent the testing of Dr. Phillips' hypothesis, the Tribunal has no evidence about specific sound levels or other emissions from the operation of the Project and how those emissions can be expected to impact the health of residents of Amherst Island. While Dr. McCunney acknowledged that it is possible to determine the cause of a disease without determining the specific causal mechanisms involved, the scientific consensus is not at that stage in regard to industrial wind turbine emissions and harm to human health. At this point, it would be a further leap to make a finding on Dr. Phillip's hypothesis regarding a particular project without receiving evidence upon, and considering, the particular circumstances of the project.

[47] The Tribunal has consistently held that the "will cause" legal test in the *EPA* is not the same as scientific causation, although scientific opinions are a very important building block for the Tribunal's findings. For example, see *Kroeplin v. Ontario (Ministry of the Environment)*, [2014] O.E.R.T.D. No. 24, at para. 197, where the Tribunal found that it could draw inferences of causation even if there is scientific uncertainty. Similarly, in *Fohr*, the Tribunal said, at para. 32: "The Tribunal does not demand proof to a scientific standard and is capable of weighing evidence, drawing inferences and applying common sense in the absence of scientific certainty." Even so, there is much less expert and lay evidence in this case, and no evidence of such harm to specific residents of Amherst Island, in comparison to other renewable energy approval appeals where the Tribunal has found that appellants have not met the onus of proving the *EPA* harm to health test.

[48] The Tribunal finds that the Appellant has not brought sufficient evidence to meet its statutory onus under the *EPA* of proving that the operation of the Project's wind turbines will cause serious harm to human health.

B. Operation of Concrete Batch Plant

Evidence

a. Participant

[49] The participant Amy Caughey based her evidence on the information in the REA and the lead-up approval process, and her own analysis of publicly available information. She testified that she is concerned that noise (including impulsive sounds of high-intensity and short duration), dust and other emissions from the operation of the temporary ready-mix concrete batch plant, to be used primarily for the construction of the wind turbine foundations Project, will cause serious harm to human health. She is particularly concerned about the potential health impacts on school children attending Amherst Island School, the only school on the island. She referred to the United Nations Convention on the Rights of the Child and the rights of children to their own culture, health and safety. She believes that the Batch Plant Acoustic Report failed to consider the school as a noise receptor, that the Approval Holder did not obtain an Environmental Compliance Approval (“ECA”) for the batch plant, and that the cumulative effects of all emissions were not fully considered.

b. Appellant

[50] The Appellant did not call a witness to give evidence regarding the batch plant, although the Appellant cross-examined the Approval Holder’s witnesses on this issue and relied upon the testimony of Ms. Caughey.

c. Approval Holder

[51] Alex Tsopelas is the Approval Holder’s Project manager. He oversees construction, planning, budgeting, and wind resource analysis; consultations with

landowners, municipalities and First Nations; all permitting processes; and the siting of turbines, roads and collection infrastructure.

[52] Mr. Tsopelas testified that the batch plant will operate for a maximum of 120 days over a period of approximately 18 months. It will primarily be used for the wind turbine foundations. He said the “quick dry” nature of the material means that the plant has to be in close proximity to the Project turbine locations.

[53] Mr. Tsopelas said that the boundary of the batch plant site would be 592 m from the closest boundary of the school. The actual batch plant operations would be approximately 705 m away from the school property and 843 m from the school building.

[54] Bridget Mills was qualified as an engineer with expertise in air quality assessment. She is a Principal and Senior Environmental Engineer at BCX Environmental Consulting (“BCX”). She has 25 years of experience that has included preparing air emissions inventories and modeling ports in the aggregate sector, including over 100 air quality studies for ready-mix concrete batching plants. She also advises facilities on compliance with conditions of operating permits. She was involved in the preparation of an Emission Summary and Dispersion Modelling (“ESDM”) Report for the approval of the Project’s concrete batch plant.

[55] Ms. Mills testified that O. Reg. 359/09 does not require an ESDM Report for the Project’s temporary batch plant. She said that BCX was instructed to use a conservative air dispersion model that is more stringent than the standards currently in force in Ontario. However, the modeling still excludes some emissions that the MOECC considers low risk, including “fugitive dust” from onsite roadways and wind erosion of stockpiles, though a dust management plan is required. The dust management plan was attached to the ESDM Report, and was approved by the MOECC as part of the REA. Ms. Mills’ opinion is that the dust management plan meets industry standards and should minimize fugitive dust emissions.

[56] Ms. Mills testified that under worst reasonable case operating conditions, the batch plant would comply with the applicable MOECC air quality standards (Schedule 3 to Ontario Regulation 419/05) at the batch plant site boundary, and that at the school property, the emissions concentrations would be “a fraction of the Ministry’s standards.” Ms. Mills’ opinion is that the batch plant will not cause any air quality impacts on the school property.

[57] Dr. McCunney also gave the opinion that emissions from the batch plant, including crystalline silica, will be below MOECC allowable limits and that they will not be harmful to children at the school or anyone else at such low levels.

[58] Shant Dokouzian was qualified as an engineer with expertise in noise and the design, impact assessment, including risk and public safety assessment, and post-construction monitoring of wind farms. He is Team Leader for Development and Engineering Services at DNV GL (an international consulting company). He conducts pre and post-construction noise impact and compliance assessments.

[59] Mr. Dokouzian testified that the Amherst Island School was included in the acoustic assessment for the batch plant, and it was determined that daytime noise levels at the school will be within acceptable limits contained in MOECC Guideline NPC-300. He said that the assessment deals with both stationary and traffic noise from the batch plant operation. He testified that the outdoor daytime noise level at the school during batch plant operations will be between 40 and 45 dBA, and it is anticipated that the worst case indoor noise levels would be between 25 and 30 dBA. Mr. Dokouzian’s opinion is that this is a very low sound level.

[60] Mr. Dokouzian explained that he does not expect there to be impulsive sounds from the batch plant, one of Ms. Caughey’s concerns.

d. Director

[61] The Director did not call any evidence on this issue.

Submissions

[62] Ms. Caughey submits that there is no evidence in regards to the Project and the school that: the adjacent sensitive land use was considered; noise and vibration were assessed; and cumulative impacts were considered and assessed, e.g., fugitive emissions from the transportation of materials and vehicle travel to and from the batch plant.

[63] The Appellant's closing submissions support Ms. Caughey's concerns. The Appellant additionally submits that there is insufficient evidence of mitigation measures in respect of batch plant operations (e.g., there is no evidence of an ECA or a fugitive dust management plan), and the impacts of impulsive noise, truck traffic, construction, truck refueling and other similar noise emissions, and their cumulative effects, have not been considered or assessed.

[64] Without acknowledging that it has an obligation to disprove harm, the Approval Holder submits that it brought evidence to demonstrate "that the operation of the temporary concrete batch plant will not harm human health and that all necessary approvals were obtained."

[65] The Approval Holder submits that Ms. Caughey's concerns are about the approval process and not within the Tribunal's jurisdiction. The Approval Holder further argues that, at their highest, Ms. Caughey's concerns are that serious harm may result from the Project, not, as required under the harm to health test, that engaging in the Project in accordance with the REA will cause serious harm to human health. The Approval Holder submits that the Participant and Appellant have not met the onus of proving the requisite harm under the *EPA* test.

[66] The Approval Holder further submits that the batch plant has received all necessary approvals, and will meet or exceed all provincial air quality requirements.

[67] The Director supports the Approval Holder's submissions. The Director adds:

The concerns of Ms. Caughey were sincere concerns but they are not sufficient to demonstrate that the project will cause serious harm to human health. In any event, the evidence of the Approval Holder's experts demonstrates that the temporary batch plant has been approved to operate in accordance with Ministry air standards and will not cause serious harm to human health.

Discussion, Analysis and Findings

[68] The batch plant is subject to terms and conditions in the REA, including limits on noise and emissions set out in Schedule D. It will be used temporarily – a maximum of 120 days over a period of approximately 18 months. The batch plant and school will be 592 m apart from boundary to boundary, and the actual batch plant operations will be 705 m from the school boundary.

[69] Ms. Caughey did not lead additional evidence regarding her concerns and relied on her analysis and critique of the Approval Holder's work.

[70] The Tribunal finds that the evidence of the Approval Holder's witnesses on this issue (Mr. Tsopelas, Ms. Mills, Dr. McCunney and Mr. Dokouzian) to be credible and responsive in addressing each of Ms. Caughey's concerns. The Tribunal finds that the possible impacts of the Project on the Amherst Island School have been considered and addressed in the REA, and that the batch plant would meet or exceed provincial air quality requirements. The Tribunal finds that it has not been established that either noise or other emissions from the batch plant, either alone or in combination with other emissions, will result in any harm to children attending the school.

[71] The Tribunal concludes that Ms. Caughey, whose arguments are supported by the Appellant, has not established that the operation of the concrete batch plant as part of the Project and in accordance with the REA will cause serious harm to human health.

Issue No. 2: Whether engaging in the Project in accordance with the REA will cause serious and irreversible harm to plant life, animal life (birds, bats and Blanding's turtle in particular) or the natural environment.

[72] The Appellant argues that the Project will result in serious and irreversible harm to birds (primarily Bobolink and raptors/owls), bats, and Blanding's turtle.

[73] Before addressing each of these matters, the Tribunal wishes to address an overarching issue relating to mitigation. The Appellant has urged the Tribunal to ignore all mitigation identified and to consider mitigation only as part of a potential remedy stage of the hearing.

[74] The Tribunal finds that its jurisdiction in relation to mitigation is constrained by the language of s. 145.2.1(2) of the *EPA*, which mandates that the Tribunal "shall consider only whether engaging in the renewable energy project in accordance with the renewable energy approval" will cause serious and irreversible harm to plant life, animal life or the natural environment. Any mitigation measures required in the REA itself, or in documents incorporated by reference into the REA, must be considered in the Tribunal's analysis. On the other hand, if a mitigation measure is first identified and proposed in the course of the hearing, and it was not contained in the REA, it would be arguable that the Tribunal ought to ignore such measures in its analysis under s. 145.2.1(2). Any mitigation incorporated into the Tribunal's analysis below falls into the former category and has been fully considered by the Tribunal as a result.

[75] In addition, throughout the hearing, the Appellant has been highly critical of the Approval Holder's assessment work of Amherst Island and its failure to find any Blanding's Turtles and its assessment of bird and bat habitat. However, the Tribunal

notes that under O. Reg. 359/09, the Approval Holder was not required to assess and characterize the entire island. Rather, what was required was a site investigation considering natural features within 120 m of the Project location. Project location is defined in the regulation as follows:

“project location” means, when used in relation to a renewable energy project, a part of land and all or part of any building or structure in, on or over which a person is engaging in or proposes to engage in the project and any air space in which a person is engaging in or proposes to engage in the project;

[76] The Tribunal has considered this definition as part of its assessment of whether the Project will intersect with areas used by birds, bats and Blanding’s Turtle, based on the characteristics of the Project location and the behaviour of the various species, as described by the experts.

A. Birds

As per the evidence and submissions of the parties and a participant on birds, the Tribunal first considers the possible impacts of the Project on Bobolink and then raptors, including owls.

i. Bobolink

Evidence

a. Participant

[77] Bill Evans testified at the hearing as the representative of the participant Kingston Field Naturalists (“KFN”). He was qualified by the Tribunal as an expert in nocturnal bird migration and avian impacts from tall man-made structures. He is the Executive Director of Old Bird Inc. and has assessed impacts of wind energy projects on birds, including pre- and post-construction monitoring, since 1994.

[78] Mr. Evans' evidence focused on Bobolink, listed by the Ontario *Endangered Species Act, 2007* ("ESA") as a "threatened" species at risk ("SAR") in Ontario. Bobolink is a passerine, or perching, medium-sized member of the blackbird family commonly found in agricultural fields such as those on Amherst Island. They have relatively high reproductive and mortality rates. Modern farming practices have greatly reduced their breeding habitat, e.g., the harvesting of early growth hay during Bobolink breeding season. On Amherst Island, Bobolink nest in farmed hayfields and pasture land.

[79] Mr. Evans' opinions are largely based on a study conducted for the Ministry of Natural Resources and Forestry ("MNRF") by Kurt Hennige, President of the KFN. Mr. Evans estimated that the Bobolink population on Amherst Island is approximately 2,800 birds, or about 6.3 per cent of the total Kingston area Bobolink population of 44,000 birds. In his opinion, the Bobolink population of Amherst Island is a significant fraction of the local/regional population. He describes the island as a "stronghold" for Bobolink.

[80] Mr. Evans testified that Bobolink has declined over the past 10 years in Eastern Canada. He said that it is threatened by incidental mortality from agricultural operations, habitat loss, habitat fragmentation, pesticide exposure and bird control at wintering habitat areas.

[81] Mr. Evans used the wind turbines on nearby Wolfe Island as a comparison and estimated that the Project will kill at least 32.4 Bobolink per year, or 1.16 per cent of the population on the island, and possibly up to 5 per cent of the population per year given the higher density of breeding Bobolink on Amherst Island than Wolfe Island.

[82] In his opinion, the Project's wind turbines and access roads will reduce and fragment Bobolink habitat and cause direct and indirect Bobolink mortality.

[83] Mr. Evans added that road construction for the Project will remove 70 hectares of Bobolink habitat on the island, which could potentially cause a reduction of 28 Bobolink breeding pairs, and fracture remaining habitat.

[84] Mr. Evans testified that the proposed compensation habitat that the Approval Holder will create as part of the requirements of its *ESA* permit for Bobolink is not optimal because of adjacent roads and fragmentation, and, in any event, it will not reduce wind turbine collisions.

[85] In Mr. Evans' opinion:

given the ongoing decline in Bobolink populations, compounded with the additional mortality from the direct and indirect effects of this Project, the population loss due to the reduction in available breeding animals will lead to serious and irreversible harm and the likely collapse of this Island stronghold.

b. Appellant

[86] Dr. Shawn Smallwood was qualified by the Tribunal as an ecologist with expertise in avian wildlife behavior and conservation. He has experience assessing and monitoring wind energy projects, and has published a number of peer-reviewed papers about this.

[87] Dr. Smallwood analyzed the post-construction mortality data from the Wolfe Island (Ontario) and Altamont Pass (California) wind projects, and concluded that the predicted impacts of the Amherst Island Project on birds would equal the impacts of the Altamont Pass Wind Resource Area even though the Project only has about one-half of the nameplate capacity of Altamont Pass.

[88] Dr. Smallwood's view is that the search radius for bird carcasses of 50 m used by the Approval Holder, and at most projects in Ontario, is far too small, and much smaller than that used for similar sized projects in the United States. He said that searches should be at least 120 m from turbines and performed more frequently. In his view, the

Wolfe Island post-construction mortality surveys are not comparable to other wind farms because they have a low reporting bias, and, consequently, as Stantec's fatality estimates for Amherst Island are based in part on the Wolfe Island surveys, they are too low.

[89] Adjusting for a broader search area for carcasses, Dr. Smallwood estimated that annual fatalities at Amherst Island would be 61 Bobolinks, 2305 bats, 38 raptors and 1193 birds of all types. His opinion is that such collision mortality impacts of the Project will cause serious and irreversible harm to birds.

[90] Dr. Smallwood opined that the Project's proposed mitigation measures for birds are inadequate and will be ineffective based on his experience assessing mitigation measures of other wind projects.

[91] Regarding the compensation properties for Bobolink, Dr. Smallwood calculates that while the mitigation measures could add 216 fledglings annually, but no adults, they would not compensate for habitat loss and direct collision mortality over the length of the Project.

[92] In cross-examination, Dr. Smallwood acknowledged that the Wolfe Island project would likely be a good comparator to the Project at issue and he relied upon Stantec bird fatality data for Wolfe Island. However, he added additional adjustments to total birds and bats killed based on the area searched by Stantec at Wolfe Island. He also acknowledged that Wolfe Island consists of 86 turbines, while 26 are proposed on Amherst Island.

c. Presenter

[93] Eric Welbanks is a member of executive of the unincorporated group Citizens of Amherst Island for Renewable Energy ("CAIRE"). He testified that members of CAIRE have worked with the Approval Holder to identify mitigation measures to reduce the

impact of the Project and they are aimed at protecting the Amherst Island environment, including the identification of locations for compensation habitat for Bobolink.

d. Approval Holder

[94] Andrew Taylor was qualified by the Tribunal as an expert terrestrial ecologist/biologist with expertise in assessing impacts of wind energy projects on wildlife. He is a Senior Ecologist and Project Manager at Stantec with experience in pre- and post-construction bird surveys, monitoring plans and studies for over twenty wind energy projects. He has conducted post-construction mortality monitoring at eight wind projects in Ontario.

[95] Mr. A. Taylor said that all of the wind projects that he has worked on involving agricultural grassland landscapes have involved assessments regarding Bobolink and owls. He has authored reports for five years in respect of pre- and post-construction bird studies for Wolfe Island, and oversaw the pre-construction wildlife studies for Amherst Island.

[96] Dr. Paul Kerlinger was qualified by the Tribunal as an expert on birds and the impacts of wind energy projects on birds. He has a Ph.D. in biology and specialized in bird behavior, ecology and research design/statistics. He has taught and conducted avian research, including with the New Jersey Audubon Society, and published books and peer-reviewed papers on birds. Over the past 20 years, his work has included assessing the impacts of communications towers and wind energy projects on birds, including grassland birds such as Bobolink and owls. He has conducted numerous post-construction bird fatality studies at wind farms, including at Altamont Pass.

[97] Dr. Eric Bollinger was qualified by the Tribunal as an expert on grassland birds, including Bobolink. He is a member of the American Ornithologists' Union and a biology professor at Eastern Illinois University. His 1988 Ph.D. thesis was about Bobolink in

agricultural landscapes, and he has researched and written about Bobolink and their habitat since then, including 14 peer-reviewed articles and numerous presentations.

[98] Mr. A. Taylor testified that the purpose of the Natural Heritage Assessment and Environmental Impact Study, conducted by Stantec at the early stage of the Project under O. Reg. 359/09 and MNRF policies (in particular the Natural Heritage Assessment Guide for Renewable Energy Projects), was to assess potential risk to the natural environment, significant natural features and wildlife habitat. This included records reviews and field surveys for grassland birds. This work resulted in the conclusion that there are approximately 3,720 hectares of existing Bobolink habitat on Amherst Island. Mr. Evans' estimate was similar at approximately 3,480 hectares.

[99] The evidence of the Approval Holder's witnesses is that Bobolink density in the grassland habitat on the island is an average of 1.8 pairs per hectare, or 3.6 breeding adults per hectare, similar to that on Wolfe Island. The Approval Holder argues that Mr. Evans' estimate of 0.4 pairs per hectare is too low and not accurate as it was based on a KFN study by Mr. Hennige of a small area of the island used for cattle grazing. Another study by Mr. Hennige indicated a density of 2.2 pairs per hectare that is closer to the Stantec findings.

[100] The Approval Holder obtained an *ESA* permit from MNRF on August 25, 2015 under the authority of s. 17(2)(c) of the *ESA* to permit the Approval Holder to damage and destroy the habitat of Bobolink, Eastern Meadowlark and Eastern Whip-poor-will, required by condition L1 of the REA. Condition 4 of the permit requires, among other things: the creation and management of a 123 hectare Bobolink and Eastern Meadowlark Habitat Enhancement Site to offset the permanent removal of 16 hectares of habitat and the temporary disturbance of 107 hectares of habitat; specific seed mixtures to improve the compensation habitat; and protection from mowing and grazing animals during breeding season.

[101] In addition, there is an Operation Management Plan (“OMP”) that has additional monitoring and mitigation measures during the Project’s operation, e.g., limitations on maintenance activities.

[102] The Approval Holder’s summary of the evidence of its witnesses is “that the impact to the Bobolink on the island will be minimal even before compensation is considered, and that after compensation is taken into account, there will be a net benefit to the Bobolink on the island.”

e. Director

[103] The Director called Kathleen Pitt as a witness. Ms. Pitt was qualified to give opinion evidence as a biologist. She provided fact and technical evidence as the MNRF staff member who processed the Approval Holder’s application for a permit for the Project under the *ESA* for Bobolink, Eastern Meadowlark and Whip-poor-will.

[104] Ms. Pitt testified that the Approval Holder will establish and be required to maintain 123 hectares of “Habitat Enhancement Sites” under an *ESA* permit for the 20 year operating life of the Project. She said that the habitat blocks are intended to be large enough to function as high quality breeding habitat and to be protected as such for the duration of the Project, which would not occur with natural succession. She added that the *ESA* permit will prevent the Approval Holder from carrying out construction and habitat restoration activities during the breeding, nesting and foraging seasons.

Submissions

[105] KFN and the Appellant submit that there will be direct harm to Bobolink in the form of turbine collision mortality, and indirect harm in the form of lost breeding habitat. They argue that the Approval Holder’s bird carcass post-construction surveys will substantially underestimate the bird fatalities caused by the Project, and that the

proposed mitigation measures are inadequate and will be ineffective. They submit that the Project will cause serious and irreversible harm to Bobolink.

[106] The Approval Holder argues that Dr. Kerlinger's research, and Mr. A. Taylor's studies at Wolfe Island, demonstrate that any Bobolink displacement as the result of the Project would be "minor and short-lived" and Bobolink habitat would not be fragmented by the access roads on private land.

[107] The Approval Holder asserts, based on Mr. A. Taylor's opinion, that the Project would have a minimal impact on Bobolink habitat because, of the 39.6 hectare infrastructure footprint for the life of the Project, only 16 hectares would overlap with the 3,720 hectares of potential Bobolink habitat. The Approval Holder argues that although there would be an additional 107 hectares of Bobolink habitat disturbed temporarily during construction, it would become available again after 2 years. The Approval Holder argues that Mr. Evans overestimates a loss of 70 hectares of Bobolink habitat because he incorrectly added in buffer zones for the access roads.

[108] The Approval Holder argues that the estimated yearly Bobolink mortality is not significant (29 Bobolink per year by the Approval Holder's witnesses, 32.4 per year by Mr. Evans, and 61 per year by Dr. Smallwood). The Approval Holder argues that even the calculations most favourable to the Appellant's position (a population of 2,800 as opposed to 20,088, and annual mortalities of 61 as opposed to 29) would not have a significant impact because of the "relative reproductive resilience of the Bobolink." Dr. Bollinger underscored that the decline in Bobolink population making it a threatened species is due to the large loss of nests as the result of modern farming practices.

[109] The Approval Holder argues that the *ESA* permit and OMP requirements will result in an overall annual increase in the number of Bobolinks on Amherst Island. While Dr. Smallwood's evidence is that there will still be a net loss of 12 Bobolink annually despite the mitigation measures, the Approval Holder says that the correct estimate is a net gain of 186 birds.

[110] The Approval Holder submits that the evidence of the Appellant and the participant, Mr. Evans, does not support a finding of serious, let alone serious and irreversible harm to Bobolink.

[111] The Director argues that Dr. Smallwood did not give any specific evidence on the population or habitat of Bobolink on Amherst Island and that his evidence was speculative in comparison to the Director the evidence of Ms. Pitt, and Drs. Bollinger and Kerlinger. The Director submits that their evidence establishes that the Habitat Enhancement Sites have been well-designed and that managed grassland habitat will create higher densities of Bobolink because natural succession would otherwise replace it in approximately five years and the existing habitat is not high quality. The Director submits that the ESA permit requirements mitigate these problems as well as restricting potentially harmful activities during Bobolink breeding and nesting. The Director submits that Bobolink will not be caused serious harm and their situation will actually improve.

Discussion, Analysis and Findings

[112] The Tribunal received varied evidence from well-qualified witnesses on, among other things, the size of the Bobolink population on Amherst Island, the carcass survey methodology for mortality from bird strikes with operating turbines, and the effectiveness of the proposed compensation habitat. The Tribunal found the witnesses knowledgeable and competent and does not make findings of credibility in favour of, or against, any particular witness.

[113] It is not disputed that Bobolink is a threatened species in decline in Ontario. Also, the amount of potential Bobolink habitat on the island is not in dispute and the estimates of potential direct mortalities are not extremely different. There is a large discrepancy in the evidence of the size of the Bobolink population on Amherst Island and, therefore, the likely impacts of the Project in terms of mortalities and habitat. There is an enormous difference between the participant's estimate of an island

population of 2,800 Bobolink and the Approval Holder's estimate of over 20,000 Bobolink.

[114] The proposed mitigation measures, and primarily the compensation lands, are key regarding Bobolink. Despite the large variance in the estimated number of Bobolink that use the island, after taking into account mitigation measures such as the compensation lands, the participant's estimate is that the Project will result in a net loss of 12 Bobolink compared to the Approval Holder's estimate of a net gain of 186 Bobolink. The compensation lands are quite a large area in total and thought has been given to the size of the parcels, as reflected in the requirements in the *ESA* permit, so that fragmentation should not be an issue. It is also important that natural succession will be managed to maintain habitat for the species.

[115] KFN and the Appellant must prove that the alleged harm is both serious and irreversible (*Ostrander Point GP Inc. v Prince Edward County Field Naturalists* [2015] O.J. No. 1988, at para. 47, "*Ostrander*"). "There is no one-size-fits-all approach to the relevant factors that can be used for all types of renewable energy projects in all locations for all types of environmental features that may be affected. Under s. 145.2.1(2)(b) of the *EPA*, the Tribunal utilizes a relevant factor-based analysis conducted within the context of the circumstances and evidence of each case" (*Lewis v Ontario (Ministry of the Environment)* [2013] O.E.R.T.D. No. 70, at para. 12).

[116] Given that Bobolink are a threatened and declining species, there is a strong argument that the loss of any additional Bobolink is a serious matter. In some cases, a loss of a single member of a species at risk could be serious harm within the meaning of the *EPA* s. 145.2.1(2)(b) harm test. However, in this case there is a significant population of Bobolink on the island, even on KFN's smaller estimate of 2,800 birds.

[117] The Tribunal finds it more likely than not that the end result of the mitigation measures regarding Bobolink will mean that the Project will, at worst, have a neutral impact on the species on Amherst Island. If in fact there is a net loss of approximately

12 Bobolink per year, even after mitigation, as alleged by the participant, the Tribunal does not have sufficient evidence before it to make a finding that this would be serious harm to the island population of Bobolink. In addition, the Tribunal finds that there will be a net gain of Bobolink habitat on the island.

[118] KFN and the Appellant also have the onus of demonstrating that the harm to Bobolink from the Project is irreversible. The Tribunal finds that taking into account the proposed mitigation measures incorporated into the REA, including the provisions of the *ESA* permit and the OMP, KFN and the Appellant have not met the onus of proving that engaging in the Project in accordance with the REA will cause serious and irreversible harm to Bobolink.

ii. Raptors/Owls

[119] The parties' evidence and submissions on raptors focused on owls.

Evidence

a. Participant

[120] Tom Beaubiah appeared for the participant, the Cataraqui Region Conservation Authority ("CRCA"). He was qualified by the Tribunal as an expert biologist. He is employed by the CRCA.

[121] Mr. Beaubiah testified that there is a high number of raptors, including owls, on Amherst Island. He explained that Amherst Island, as a result of the hay fields, which support large numbers of rodents, and the wind-swept fields which keep snow cover to a minimum, represents ideal overwintering raptor habitat. He further explained that Amherst Island's winter raptor population has resulted in the island being identified as internationally significant.

[122] Mr. Beaubiah is concerned that the Project will result in loss of raptor habitat, particularly highly productive breeding and foraging habitat, and displacement of raptors from their habitat. He said that Owl Woods on the eastern end of the island is significant wildlife habitat for Long-eared, Short-eared, Northern Saw-whet, Great Horned and Snowy owls. Because of the relatively high raptor density on Amherst Island, a major concern of Mr. Beaubiah and the CRCA is that a reduction in habitat, wintering habitat in particular, will have a greater impact on the local population. Mr. Beaubiah testified that the Approval Holder's Natural Heritage Assessment reports are deficient. He said that the lack of behavioural studies and prey surveys means there is a corresponding lack of post-construction mitigation measures and this will likely cause serious and irreversible harm to raptors, including owls.

b. Appellant

[123] Dr. Smallwood's evidence on birds is discussed in the previous section. His experience is with the impacts on Burrowing owls, Golden Eagles and other raptors at the Altamont Pass wind farm in California. He explained that although raptor strikes with turbines are fairly low where turbines are adequately spaced out, raptors do suffer strikes with turbines in high wind conditions where they are unable to fully control their movements.

c. Approval Holder

[124] Dr. Kerlinger said that he has particular knowledge about owls as the result of a three-year Natural Sciences and Engineering Research Council of Canada post-doctoral fellowship at the University of Calgary, additional owl research and published articles about this work.

[125] Dr. Kerlinger and Mr. A. Taylor testified that owls show good awareness and avoidance of wind turbines. When hunting, owls are either on perches close to the

ground or in low level flight, whereas the turbine blade sweep zone is at least 45 m off the ground for this Project.

[126] Mr. A. Taylor testified that there have been no owl mortalities at Wolfe Island, nor have any been reported in post-construction surveys at other Ontario wind projects.

[127] Although there is a higher raptor density on Amherst Island than Wolfe Island, Dr. Kerlinger said that there are fewer turbines on Amherst Island and they are approximately 10 m higher off the ground. Dr. Kerlinger distinguished the owl fatalities at Altamont Pass in California based on his experience with Burrowing Owls at Altamont where, according to Dr. Kerlinger, the situation is different because of the low turbine blade height and the higher density of turbines. In Dr. Kerlinger's opinion, "it is more likely than not that owls will not be killed by the Project."

[128] Mr. A. Taylor testified that the range of owl species is the same on Wolfe Island and Amherst Island. He added that experience from Wolfe Island indicates that wind turbines do not displace owl foraging habitat and owl displacement is a very low risk.

[129] Mr. A. Taylor and Dr. Kerlinger said that the four wind turbines near Owl Woods will be at least 500 m from where owls roost, and will not create a barrier for the owls because of their spacing (at least 100 m tip-to-tip). Further, the bottom of the turbine blade tips will be very high off the ground (about 45 m). Dr. Kerlinger testified that many owl species "habituate to human activity" and, for example, although Owl Woods is very popular with "birders" that has apparently not scared the owls away from that location.

[130] Dr. Kerlinger and Mr. A. Taylor said that as so little grassland will be removed for the Project, it is unlikely to have any material impact on the local vole population, the owls' favourite prey.

d. Director

[131] The Director did not call any evidence on raptors, including owls.

Submissions

[132] Mr. Beaubiah, on behalf of the CRCA, is mainly concerned that the Approval Holder's studies and surveys were so deficient that there is insufficient information to determine if owls will be killed by the turbine blades, owls will be displaced from their habitat, or their vole hunting will be affected. He argues that the lack of information will also prevent adequate post-construction mitigation measures such that the Project will result in serious and irreversible harm to raptors, including owls.

[133] Mr. Beaubiah further submits that there is such a high density of raptors on the island that any decrease in habitat because of the Project, wintering habitat in particular, will have a disproportionately high impact on these birds, also causing serious and irreversible harm.

[134] The Appellant supports Mr. Beaubiah's submissions and relies upon the evidence of Dr. Smallwood that raptors, including owls, will suffer from strikes with turbines.

[135] The Approval Holder argues that the evidence on owls of Mr. A. Taylor and Dr. Kerlinger should be preferred to that of Mr. Beaubiah and Dr. Smallwood because the latter are relatively inexperienced in dealing with owls and their habitat and they did not conduct any field work at the Project site.

[136] The Approval Holder asserts that there is no evidence of material risk of harm to owls from the Project, let alone serious and irreversible harm. The Approval Holder argues that Mr. Beaubiah has merely expressed concerns, and there is no evidence that the Project will cause serious and irreversible harm to raptors, including owls.

[137] The Approval Holder argues that Mr. Smallwood simply asserted that “owls will be killed” without providing any relevant evidentiary base. The Approval Holder submits that the Tribunal should prefer Dr. Kerlinger’s evidence that the situation of Burrowing owl fatalities at the Altamont Pass wind farm in California is not comparable to the proposed Project on Amherst Island.

[138] The Director submits that: “The concerns raised by Mr. Beaubiah, although sincerely held, do not provide sufficient evidence for this Tribunal to make a finding that there will be harm, serious harm and irreversible harm to the Owl Woods area”, and that his concerns “do not rise to the standard of being able to demonstrate causation and as such the environmental test has not been made out in regards to the wintering raptors at Owl Woods.”

Discussion, Analysis and Findings

[139] It is not disputed that Amherst Island has a high density of raptors. As indicated, the parties focused largely on owl species. There was little evidence and submissions on Amherst Island raptors generally.

[140] The Tribunal finds that the concerns and evidence of the participant CRCA and the Appellant do not achieve the *EPA* s. 145.2.1(2)(b) “serious and irreversible harm” threshold. The Tribunal finds the Approval Holder’s evidence that owls, largely due to their behaviour of flying below the blade swept area, are not at serious risk from the Project more convincing. There was insufficient evidence to make any findings regarding other raptors.

[141] Additionally, the Tribunal notes that the conditions contained in the REA are intended to ensure that monitoring is undertaken for both habitat disturbance (Condition K3(1) and (4) regarding raptor and Short-eared owl habitat disturbance for example) and any raptor mortality (Condition K4) arising from the Project, and adjustments made

to mitigate the effects of the Project in the unlikely event that mortality should arise to a threshold set out in the REA (Conditions K5 and K8 to K11).

B. Bats

Evidence

a. Appellant

[142] Dr. Christina Davy was qualified by the Tribunal as a conservation biologist with expertise in conservation genetics and turtle and bat ecology. She testified in response to Mr. A. Taylor's witness statement and the proposed mitigation measures for bats.

[143] Little Brown Myotis, Northern Long-eared Myotis, and Tricolored bat species are listed as "endangered" under Ontario's *ESA* and federally. It is not disputed that these vulnerable species are declining in Ontario because of White-nose Syndrome ("WNS"). This disease is caused by a fungus that interrupts their hibernation with fatal results. The Little Brown bat population in particular has been decimated in Ontario.

[144] Dr. Davy's opinion is that Little Brown Myotis, Northern Long-eared Myotis, and Tricolored bat species are vulnerable to any additional mortality, and the proposed mitigation measures will not protect them, or their habitat, on Amherst Island. Dr. Smallwood testified in his evidence on birds that there could be approximately 2,305 bat mortalities annually based on comparative figures with Wolfe Island and elsewhere.

[145] Dr. Davy said that Stantec failed to conduct proper bat surveys, i.e., the surveys were not undertaken in the primary season in which bats use maternity colonies (May and early July), and did not use methods likely to detect bats, e.g., acoustical surveys. Her understanding is that Stantec thought there is no significant presence of bats on the island because habitat surveys and Ecological Land Classification ("ELS") surveys did not indicate that there might be bat hibernacula and maternity roosts in the Project area.

Dr. Davy said this resulted in no effective mitigation measures being developed for the Project.

[146] Dr. Davy testified that research work by Toby Thorne, a master's student with the University of Western Ontario, entitled "The Role of Islands in the Migration of Bats Across Lake Erie and Lake Ontario ..." and published in January 2015, confirmed that bats, including species at risk bats, use Amherst Island as habitat. In her view, and based on Daryl Cowell's evidence on karst topography, the bat habitat on Amherst Island likely includes hibernation sites, maternity colonies and roost sites.

[147] Mr. Cowell was qualified by the Tribunal as a professional geoscientist with expertise in karst. He concludes from his hydrogeological analysis and field study that there are various karst features within a kilometer or less of Project infrastructure. It is not disputed that karst features can be indicative of bat hibernacula depending upon additional factors such as the size of crevasses, caves, thermal regulation, presence of water, etc. Mr. Cowell said that Amherst Island's karstic features have been recognized by the Cataraqui Regional Conservation Authority (that the island is part of the Gull River Formation, which is characterized by karst), and it is described as having karst features in a March 2013 report of the Loyalist Township included with the evidence submitted by Ms. Caughey.

[148] In addition to karst features being an indicator of bat habitat that Stantec did not investigate, Dr. Davy says that Stantec also did not consider the possibility of maternity roosts in buildings, which Little Brown bats commonly use.

[149] Regarding insect foraging, that is essential for bats, Dr. Davy pointed out that there are 21 wetlands on the island and, for example, there are three wetlands in proximity to proposed turbine S30. She also referred to research that bats use a variety of habitats where they forage for insects that come from nearby rivers, streams, ponds and lakes, and that there can be wider ranging swarms of mayflies and midges at various times, particularly on the South Shore.

[150] Dr. Davy testified that roosting sites could potentially be destroyed during construction of the Project, and bats foraging for insects could be killed by the turbine blades during operation.

[151] Dr. Davy's opinion is that any added bat mortality from turbine blade collisions over the life of the Project and lack of adequate mitigation measures, following upon the WNS devastation of hibernating bats, will expedite extirpation of Little Brown Myotis and Northern Long-eared Myotis on Amherst Island.

b. Approval Holder

[152] Dr. Scott Reynolds was qualified by the Tribunal as an expert in bats and the impact of wind energy projects on bats. He testified that there might be a small population of Little Brown Myotis on Amherst Island, but said that it is unlikely that there is a large resident population on the island because of the agricultural landscape, the WNS effect, and the lack of hibernacula on the island or close by. He does not expect there to be a significant level of bat activity near the proposed turbine locations because the Project would be located in agricultural field habitat that is not preferred by the myotis species.

[153] Dr. Reynolds said that it is even less likely that Northern Myotis are present in the Project location because of their preference for forested habitat for roosting and foraging, and because they are not commonly present in Southern Ontario.

[154] Dr. Reynolds testified that even if the myotis species are present, they have a low mortality risk because they fly and forage close to the ground. He added that even where the Northern Myotis species are present, there has not been a single mortality recorded in post-construction surveys at other wind energy projects. He referred to there not being a single Northern Myotis fatality at Wolfe Island in three and one-half years of post-construction monitoring. He said that is also true of Little Brown Myotis in

the most recent three years of post-construction monitoring after WNS. There was Little Brown Myotis mortality in 2009 (13 bats), prior to WNS, but Dr. Reynolds said this was still a low percentage relative to the large number of Little Brown bats in that area at that time. There was bat mortality at Wolfe Island in 2011 but not of those species. Dr. Reynolds said that there has only been a “handful” of Little Brown Myotis at other wind projects in Ontario over the past three years.

[155] Dr. Reynolds’ opinion is that the mitigation measures take a strong science-based approach to protecting bats. He referred to the Mitigation Operation Plan dated November 20, 2015 that supplements the REA conditions for the purpose of protecting the SAR bats. He highlighted increased post-construction monitoring in the period of highest risk to the myotis species, precautionary blade rotation cut-out from the outset of the Project in low wind conditions when bats are most active, notification to MNRF in the event of a single mortality, and increased curtailment of a turbine where there is a second bat mortality by raising the wind speed at which the turbine will begin to operate. Dr. Reynolds said that the curtailment mitigation measures have been proven to be effective.

[156] Mr. A. Taylor was qualified by the Tribunal as an ecologist/biologist with expertise assessing the impacts of wind energy projects on bats. As stated above, he is a Senior Ecologist with Stantec.

[157] Mr. A. Taylor testified that the records review indicated that there are no known hibernacula on Amherst Island and no indicators of potential habitat, such as karst topography and exposed bedrock. He said that the nearest known hibernaculum is not on the island and over 25 km away.

[158] Mr. A. Taylor added that the myotis species prefer foraging near wetlands where insects are found, and the Project turbines have been sited outside such areas. He added that the open windswept nature of the island is favourable to flying insects.

[159] Dr. Reynolds and Mr. A. Taylor conclude that as the Project site is primarily agricultural fields, it is not preferred foraging habitat for any of Little Brown Myotis, Northern Long-eared Myotis and Tricolored bats, and lacks forested habitat for Northern Long-eared Myotis and Tricolored bats.

[160] Dr. Kent Novakowski was qualified by the Tribunal as a hydrogeologist with expertise in fractured rock. He is the Head of the Civil Engineering Department at Queen's University and a senior consulting hydrogeologist. He testified on a panel with Grant Whitehead who was qualified by the Tribunal as a professional geoscientist with expertise in hydrogeology. He is a senior hydrogeologist and project manager at Stantec. They did not agree with Mr. Cowell that Amherst Island has karstic features. They said that the subsurface data for Amherst Island indicates that it is shale-limestone and not karst terrain. For example, they consider a feature described by Mr. Cowell as a "sinkhole" to be "more likely a buried streambed or escarpment that would date back to the last glaciation." They also came to a different conclusion regarding the interpretation of a 2007 Trow Report of the Western Cataraqui Region, which includes Amherst Island, and two well logs of a dry well next to a "yielding" well. Mr. Cowell described this as "a prime example of karst aquifer", and Messrs. Novakowski and Whitehead said that this is common to other underlying formations, such as layers of clay/shale which inhibits the formation of karst.

c. Director

[161] The Director did not call any evidence on bats or karst.

Submissions

[162] The Appellant argues that Stantec did not conduct adequate surveys for the presence of endangered bat species on Amherst Island, even if there is no "significant habitat" for bats generally. The Appellant submits that the evidence of its witnesses

“suggest that there is more likely than not, the presence of bat habitat and bats on Amherst Island, including the various myotis species.”

[163] The Appellant argues that even a small number of bat fatalities is still significant for species that have been decimated by WNS and are now endangered. The Appellant argues that “incidental bat mortality will occur with the Project and that this would be scientifically significant for Little Brown Bats, when considered at a local scale.” The Appellant argues that it “is more likely than not that the Project will cause harm to Little Brown Bat at a local scale” and that “even the small-scale impacts on these remaining bats will lessen the species’ chances of recovery over the lifespan of the Project.” The Appellant submits that the Project will cause serious and irreversible harm to the three endangered bat species that hibernate as they are vulnerable and their populations are in decline, Little Brown bats in particular.

[164] The Approval Holder argues that Stantec’s initial surveys and conclusion that there are no maternity roosts and hibernacula on the island was confirmed by a subsequent visit by a Stantec representative, in response to Mr. Cowell’s evidence. The Approval Holder further argues that even if the island has karstic features, they are not suitable for use by bats.

[165] The Approval Holder argues that the acoustic monitoring conducted by master’s student Toby Thorne, as referenced by Dr. Davy, focused on migratory bat species and was inconclusive regarding Little Brown and Northern Long-eared Myotis. The Approval Holder further argues that Mr. Thorne’s research indicated that overall Amherst Island has relatively low levels of summer bat activity.

[166] The Approval Holder argues that Mr. Cowell is not a bat expert and even if Amherst Island is in the process of karstification, he is only speculating that there are karstic features on the island that could serve as bat hibernaculum. In addition to initial surveys, Stantec biologists went back to the island to specifically look for bat hibernacula. Mr. Taylor said that the additional survey results confirmed his “conclusion

that these features provide no potential for bat hibernacula.” Dr. Reynolds testified that he saw no features that would indicate bat hibernacula when he went to the island, and that the features identified by Mr. Cowell are not appropriate.

[167] The Approval Holder submits that Dr. Davy raised a concern about potential destruction of roosting sites and/or maternity colonies during construction whereas the responding experts affirmatively stated that there would be no such destruction. Dr. Davy raised the possibility that bats may roost in buildings, but Dr. Reynolds testified that there is no evidence that construction activities would have a negative impact. In addition, he suggested that house-roosting bats may be more adapted to noise disturbance.

[168] The Approval Holder submits that it is not expected that bats will be at turbine locations and, therefore, it is very unlikely that there will be any mortality of the three species of particular concern here. The Approval Holder asserts that this conclusion is supported by three years of post-construction monitoring at Wolfe Island subsequent to the devastation of the bat populations by WNS, e.g., no Little Brown or Northern Long-eared Myotis mortalities.

[169] The Approval Holder submits that the Appellant’s evidence is mere speculation and does not prove that there will be any mortality, let alone meet the onus of proving serious and irreversible harm.

[170] The Approval Holder further submits that should there be any bat mortality, then the conditions in the REA and the Mitigation Operation Plan are much more protective of bats than those for other projects, including curtailment of turbines in low wind conditions and further curtailment in the event of an additional mortality.

[171] The Approval Holder argues that their stronger expert evidence and the recent data from other wind project sites such as Wolfe Island show that there is low mortality risk to Little Brown and Northern Long-eared Myotis bat species from the Project.

[172] The Approval Holder submits that in respect of bats, a crucial distinguishing feature of the proposed Project on Amherst Island from the one proposed for the “White Pines project” in Prince Edward County considered in *Hirsch v. Ontario (Ministry of the Environment and Climate Change)* (ERT Case No. 15-068, February 26, 2016) (“*Hirsch*”) is that almost all of the turbines and access roads will be in agricultural grasslands (hay and pasture fields) and not in the vicinity of forest edges. The Approval Holder adds that larger wetlands are abundant throughout the White Pines project. The Appellant disputes that this is supported by the evidence and argues that there are 14 wind turbines that have woodland and wetland within 120 m.

[173] The Approval Holder further argues that the situation here is different than at the White Pines project because, as Dr. Reynolds and Mr. A. Taylor have testified, the risk of bat mortality is low and there are more stringent mitigation measures that would prevent any population level impacts. The Approval Holder submits that the REA contains conditions to protect bats generally and Little Brown and Northern Long-eared Myotis specifically, including incorporating obligations under the *ESA* and its regulation, and that there is an operational mitigation plan for this purpose. The Approval Holder submits that contrary to White Pines (*Hirsch*), and of particular note regarding mitigation, there is “upfront curtailment from the outset of the Project at all turbines during the active bat season.” The turbine blades will be locked at low wind speeds when bats are most active and at risk. The Mitigation Operation Plan requires notification to the MNRF and additional curtailment at higher wind speeds where mortality has occurred.

[174] The Approval Holder argues that Dr. Davy’s testimony on bats was brief, general, did not indicate particular areas where bats would be present, and could only say that Little Brown and Northern Long-eared Myotis are potentially present. The Approval Holder argues that Dr. Davy admitted on cross-examination that she did not take the mitigation measures into account in her testimony about the potential impacts of the Project. The Approval Holder submits that Dr. Davy’s concern that the Project “could” cause serious and irreversible harm does not meet the statutory test.

[175] The Approval Holder submits that the weight of the evidence is that harm will not occur to Little Brown and Northern Long-eared Myotis bats, and further argues that even if there is some small amount of incidental mortality, it has not been demonstrated that such harm is both serious and irreversible to the population of those bats either at the local or provincial scale. The Approval Holder argues that Dr. Reynolds testified that even if there are mortalities at the Project, that would not alter the population trajectory of Little Brown of Northern Long-eared Myotis in the area and so would not cause serious and irreversible harm.

[176] The Director argues that Dr. Davy testified that there is only a “potential” for destruction of roosting sites and/or maternity colonies during construction and mortality due to collisions with the turbine blades. On the other hand, the Director submits, Dr. Reynolds testified that bats are not likely to be on the island and, in any case, Little Brown Myotis and Northern Long-eared Myotis are unlikely to collide with turbine blades because they forage below blade rotation height. He further testified that potential impacts to habitat are unlikely because there is no significant habitat on the island and it is not suitable for maternity colonies. The Director argues that the mitigation and protective conditions take a cautious approach.

[177] There was some evidence of bat presence on Amherst Island in Mr. Thorne’s acoustical study referenced by Dr. Davy, although no resident testified to that effect. Also, Dr. Reynolds conceded that there is some bat presence on the island. The Tribunal finds, on a balance of probabilities, that some bats forage at Amherst Island and, therefore, there are both bats and some habitat to support their life processes.

[178] The Thorne acoustical study shows some presence of at least two of the three species of endangered bats identified by the Appellant. It was Dr. Davy’s evidence that this study shows the species use Amherst Island as foraging and/or migration habitat. The evidence and submissions of the parties focused primarily on the Little Brown Myotis and Northern Long-eared Myotis species. Dr. Reynolds agreed that there might be a low level of Little Brown Myotis on the island. On balance, the Tribunal finds that it

is more likely than not that there is some presence of Little Brown Myotis on Amherst Island. There is limited evidence of Northern Long-eared Myotis and Tri-colored bats using the island as habitat.

[179] The evidence that there are bat hibernacula, roosting sites, or maternity colonies on the island is weaker still. The Tribunal does not need to make a finding as between the conflicting expert evidence on karst features on Amherst Island because the evidence does not establish a link between the disputed features and bat habitat, other than the possibility that bat habitat can include karst features. The Tribunal finds that there was insufficient evidence to demonstrate that there is bat habitat (other than for foraging) on Amherst Island as the result of karst features that might be used by the hibernating bat SAR identified by the Appellant as being of concern.

[180] Likewise, as there is insufficient evidence of physical, land-based bat habitat on the island, the evidence cannot support a finding that such bat habitat will be destroyed or disturbed during the construction of the Project.

[181] It was not disputed that there will be some bat mortalities from the wind turbine blades. The Tribunal notes that in the White Pines project in *Hirsch* it was found that bat mortality data contradicts Dr. Reynolds evidence that myotis bats are less susceptible to turbine blade mortality because they forage close to the ground. The Tribunal also notes that given the general devastation of the myotis species by WNS, and the likelihood that there is not a large population of these species anywhere, at least in Ontario, it is not surprising that they have not been visually observed at Amherst Island. Nevertheless, the Tribunal must decide each case on the evidence before it, and in this case there is only evidence of a very small population of myotis bats and insufficient evidence to determine that there will be bat mortalities of any of the three species of concern, including Little Brown Myotis. There was also no evidence that bat mortalities in general would be at a level that would cause serious and irreversible harm to a bat species.

[182] This case is distinguishable from the White Pines project in *Hirsch* both because of the disparity in the evidence of harm to bats and the proposed turbine curtailment mitigation measures discussed above. The unique pro-active curtailment mitigation measures to be deployed from the outset of the operation of the Project are an encouraging development for the protection of bats. The Tribunal finds, based on the evidence heard, that a large proportion of potential bat mortality will be addressed as a result of this mitigation.

[183] The Appellant's argument is that even a small number of mortalities and small amount of habitat disruption will, over the life of the Project, cause serious and irreversible harm to bats. As indicated, the evidence is that there is a limited presence of SAR bats on the island, and the evidence is that bats use the island only for foraging and/or migration. To conclude, the Tribunal finds that the Appellant has not demonstrated on the evidence that engaging in the Project in accordance with the REA will cause serious and irreversible harm to bats, including Little Brown Myotis, Northern Long-eared Myotis, and Tricolored bat species.

C. Blanding's Turtle

[184] Blanding's Turtle is an aquatic species that is listed as threatened under the *ESA*. It is undisputed that Blanding's Turtles generally stay close to their resident wetlands but that occasionally, female turtles may travel great distances to lay eggs. It is undisputed that adult female Blanding's Turtles are key to the species' survival and are the most vulnerable to road mortality as they travel to lay eggs.

[185] Despite early disputes amongst the parties and witnesses about the presence of Blanding's Turtle, it is now undisputed that Blanding's Turtle is present on Amherst Island.

[186] The Tribunal has considered the evidence of the expert witnesses in relation to whether there is karst, limestone bedrock that has been eroded by dissolution, present

on the Amherst Island. The evidence on the presence of karst was intended to address the question of whether bat and Blanding's Turtle habitat exists on Amherst Island or not. No detailed evidence was tendered linking potentially karstic areas to any specific disputed areas of potential Blanding's Turtle habitat. As the parties are now in agreement that Blanding's Turtle is present on Amherst Island, the specific evidence received about hydrogeology and presence of karst on the island does not provide the Tribunal with any additional assistance in determining where Blanding's Turtle may specifically be located. The Tribunal finds that it is unnecessary to make a finding on the evidence received as to whether Amherst Island is karstic or not in respect of Blanding's Turtle habitat.

[187] The remaining dispute between the parties is where Blanding's Turtle is specifically located on Amherst Island, in what numbers, how the Project may impact those turtles and turtle habitat, and whether any such impact rises to the level of serious and irreversible harm.

Evidence

a. Appellant

[188] To begin, the Tribunal heard from Sherri Jensen, a resident of Amherst Island and member of APAI, who organized and documented APAI's efforts to make observations of Blanding's Turtle present on Amherst Island and to submit observations to the MNRF's Natural Heritage Information Centre (the "NHIC"). Ms. Jensen explained that she helped the NHIC set up a process to allow APAI members to submit photos of their observations to assist with species identification. She also explained that she assisted other members of APAI to pin-point GIS coordinates for approximately half of the APAI member sightings.

[189] Ms. Jensen personally observed Blanding's Turtles on Amherst Island and explained why she believed her observations were of Blanding's Turtles, including their yellow neck and distinctive shell shape.

[190] The Tribunal also heard from various additional residents and visitors to Amherst Island: Sharon Kuder, Bruce Burnett, Kurt Hennige, Elizabeth Harrison, Dr. John Harrison, Jill Caughey, Mike Walhout, Andrea Cross, Roxanne Guttin-Wronski, Kathy Horne, Dr. Anders Bennick, Kirsten Bennick, Eric Rebiere, John Moolenbeek, Deborah Barrett, Bonnie Livingstone, William Barrett, Dayle and Eloise Gowan, Lori Godden, Mark Ritchie, Cherry Allen, Valerie Wolfreys, Sarah Vanstone, Margaret and Stephen Webb, and Steven Hewitt. All of these witnesses testified about their observations of Blanding's Turtles at various locations on Amherst Island (the "APAI sightings"). All of these witnesses, including Ms. Jensen, indicated the location of their observations on a map of Amherst Island, including delineation of the various Project components (Exhibit 33B).

[191] As set out above, Mr. Cowell was qualified as a professional geoscientist with expertise in karst. On the basis of an order of the Tribunal, Mr. Cowell's evidence was permitted to be called on the basis that it be limited to providing evidence on the presence of karst and its maintenance of favourable bat and turtle habitat conditions.

[192] Mr. Cowell opined that Amherst Island is a young karst system and that various features across the island reveal the presence of karst. He opined that the karst system provides for the thermal regulation of water temperatures on the island. In cross-examination, Mr. Cowell acknowledged that he is not aware of where turtle habitat is specifically on Amherst Island however.

[193] Les Stanfield was qualified as an aquatic biologist with expertise in stream ecology and watersheds. He testified in relation to the presence and location of water bodies across Amherst Island. Mr. Stanfield explained that small water features can be highly variable on the landscape and temporally so, which renders them difficult to

recognize in the summer. Mr. Stanfield explained that Stantec excluded “grassed waterways” from assessment, resulting in an inadequate assessment of the full extent of the watershed on Amherst Island. In response to Nancy Harttrup and Steve Brown for the Approval Holder, he testified that they had erroneously excluded actively farmed areas and temporary flow from their criteria of where water bodies are located, thereby limiting the number of water bodies and identification of habitat for biota.

[194] He explained that it is important to consider the entire water network to assess the impact on wetlands and streams used by Blanding’s Turtles as the species uses water corridors for movement. Mr. Stanfield explained that a recent storm revealed that there are many locations on the island where flooding occurs thereby providing potential temporary corridors for Blanding’s Turtles.

[195] Local resident, Deborah Barrett, was called to authenticate photographs she took under the direction of Mr. Stanfield showing flooding at various locations following a storm event.

[196] In cross-examination, Mr. Stanfield explained that if something is flowing towards the dendritic network, then it should be considered a waterbody and that, as long as there is a channel, it can be considered a waterbody. Mr. Stanfield explained that he has significant concerns about the cumulative impacts of roads, turbine bases and collector lines on the Amherst Island flood plain.

[197] As set out above, Dr. Davy was qualified as a conservation biologist with expertise in conservation genetics and turtle and bat ecology. She explained that Blanding’s Turtle is a semi-terrestrial species that requires large buffers around marshy areas for survival. She explained that turtles can live 70-100 years and that some of the photos taken by APAI members show very old individuals. Blanding’s Turtles take approximately 25 years to reach maturity, and road mortality can lead to significant impacts by eliminating adults that are very valuable to the population’s survival.

[198] Dr. Davy opined that the entire island is a mosaic of habitat and that turtles undertake long migrations for foraging, breeding and overwintering. She opined that Stantec did not adequately identify turtle habitat.

[199] Dr. Davy explained that gravel road sides are used as nesting habitat. She opined that turtles are found near inland waterways on Amherst Island within the Project footprint and that impacts to turtles can be expected as a result. Dr. Davy also opined that road mortality is likely the most direct impact to be expected from the Project due to increased traffic and an increase in speeds.

[200] With regards to Stantec's survey work, Dr. Davy explained that MNRF guidelines for Blanding's Turtle were not followed and in particular, it was possible that nesting turtles were missed given the late timing of the survey work in June, whereas in some places in southern Ontario turtles may have finished nesting by the end of May.

[201] In cross-examination, Dr. Davy opined that the mitigation proposed will not reduce the harm associated with the Project sufficiently. Dr. Davy acknowledged that she had not conducted survey work on Amherst Island to determine the specific location of Blanding's Turtle habitat. She had suggested to APAI members that they conduct road surveys to supplement Stantec's surveys. She recommended that APAI members take photographs of turtle sightings since lay witnesses may provide false identification. She opined that the APAI photographs show at least 9 different individuals and up to 39.

[202] Dr. Davy also acknowledged that she has no knowledge of mortality rates for Blanding's Turtles on Amherst Island and also acknowledged that traffic volumes are low on the island relative to most of Ontario. She further acknowledged that there are no Project components closer than 500 m from a wetland.

[203] Roy Nagle was qualified as a herpetologist with expertise in turtles including Blanding's Turtle. Mr. Nagle explained that he worked with Dr. Justin Congdon as a primary field researcher at the ES George Reserve in Michigan studying Blanding's

Turtle, Snapping Turtle and Painted Turtle. Mr. Nagle testified that Dr. Congdon is considered the pre-eminent authority on Blanding's Turtle.

[204] Mr. Nagle explained that once Blanding's Turtles reach adulthood they have a 96 per cent survivorship if they are not impacted by roads. He also explained that females that reach 60-80 years of age have the greatest reproductive success, meaning that these older females are the most important to the species' survival. He explained that populations of Blanding's Turtle cannot tolerate more than three to four per cent increased mortality. He explained that adults often move between wetlands in the spring and summer to find food and to mate. He explained that females move one to two km to nest and then move back to their resident wetlands.

[205] Mr. Nagle recommended that a 2000 m radius of protection where no Project components would be located should be in place around resident wetlands to protect the species. He also expressed the view that the 11-day turtle survey work conducted by Stantec was insufficient to fully identify whether turtles are present at the Project location. He also testified that Dr. Roy Hasler, testifying on behalf of the Approval Holder, is incorrect that turtles nest near the water source they inhabit.

[206] In cross-examination, Mr. Nagle opined that the nesting season on Amherst Island likely lasts for two to three weeks and starts in early June but that it varies depending on annual climatic conditions. He explained that females normally lay eggs in the evening, often during rain. He explained that generally, nesting takes place in open areas where the sun can warm up eggs and that gravel can be used for nesting.

[207] Mr. Nagle explained that the turbines he is most concerned about are those closest to wetlands and those within 300 m of water bodies that are used by Blanding's Turtles, though he did not specifically identify water bodies on the island used by Blanding's Turtles, other than the coastal wetlands. He explained that a 300 m buffer around all water and 2000 m from resident wetlands would protect all nests.

[208] Mr. Nagle acknowledged that construction during the wintering period is a good measure for protecting the species. He also acknowledged that if road use frequency does not go up, that the Project would not result in increased risk of harm to the species.

[209] Mr. Nagle opined that the population of Blanding's Turtle on Amherst Island could not sustain a loss of 5-10 adult females and that a loss of one female a year on average over five years would be enough to result in the decline of the species.

[210] Mr. Nagle explained in his reply testimony that temporary wetlands, including ditches around fields and vernal pools, are often used by Blanding's Turtles during nesting migration. He also testified that about half of Blanding's Turtles at the ES George Reserve nest outside the reserve on agricultural fields. He also opined, in response to the population estimate provided by Dr. Ronald Brooks, on behalf of the Approval Holder, that 600 individual turtles is likely an overestimation because Stantec did not find any turtles on the island while APAI found turtles all over the island in small numbers.

[211] Kari Gunson was qualified to give expert opinion as a road ecologist. She explained that a road ecologist analyzes the interaction between roads and the environment. Ms. Gunson explained that there is a direct correlation between road density and lack of Blanding's Turtles in Ontario.

[212] In relation to the APAI sightings, she explained that citizen science data is generally opportunistic but that governments often use citizen science and rely upon it. She explained that 32 of 58 of the APAI sightings were within 500 m of the coastal wetlands and the remaining sightings were on the public road network.

[213] Ms. Gunson testified that the density of roads on Amherst Island is relatively low at 58 km for the entire island. She explained that road upgrades for the Project will include compaction of loose gravel, 6.8 km of widening, and 12 km of trenching next to

roads for collector lines. Additionally, 16 km of new access roads are to be constructed. It was her view that these were significant changes to the island and would result in additional road mortality, poaching and increased predation of Blanding's Turtles.

[214] Ms. Gunson opined that the addition of gravel on public roads and new access roads will lead to increased threat of road mortality as turtles are attracted to gravel for nesting.

[215] Ms. Gunson explained that it was her experience that silt fencing does not work as mitigation usually, that education and training are not known to be effective mitigation, and that roads will cause changes in water flow patterns and environmental quality outwards from the roadsides through the introduction of non-native plants and pollution, thereby impacting habitat quality.

[216] Ms. Gunson opined that the Project will cause serious and irreversible harm due to roads for four reasons: (a) greater exposure of turtles to harm; (b) increased road mortality; (c) lowered habitat quality; and (d) increased predation. Ms. Gunson estimated that there are likely 10-35 individual Blanding's Turtles on Amherst Island and that this population is likely to be extirpated as a result of the Project.

[217] In cross-examination, Ms. Gunson acknowledged that traffic volume, speed and land use adjacent to roads are all factors contributing to level of risk. She acknowledged that distance to water is the greatest predictor of risk of road mortality.

[218] Ms. Gunson also acknowledged that she was not aware of the types of farming practices or types of land use on lands on which the access roads will be placed. She also acknowledged that gravel roads will be maintained as gravel roads but that grading will occur on these roads to be used for the Project. She also disagreed with the evidence that public road upgrades will be removed.

[219] With regards to the APAI sightings, Ms. Gunson opined that it was among the best representation of citizen science she has ever seen. Ms. Gunson also acknowledged that the sightings did not represent a study to assess population numbers and nor did she conduct such a study.

[220] John Northcote was qualified to give opinion evidence as a transportation engineer and testified in relation to public road improvements planned by the Approval Holder to determine the potential for increases in traffic speeds and volumes. Mr. Northcote estimated that the changes in the curvature of the road at various locations on South Shore Road as a result of the road upgrades for the Project will result in an average speed increase of 17 km/h. He also opined that since travel time on South Shore Road will decrease, people will prioritize use of the road to travel to the south eastern portion of the island, resulting in a corresponding increase of 17 per cent in traffic volume on the road.

[221] Mr. Northcote also opined that it would not be feasible to remove some of the road widening areas on South Shore Road because gravel sloping would be placed into Lake Ontario to shore up the road. He opined that these additions would not be removed entirely. Mr. Northcote also expressed the view that it would be unusual for a municipality to have road improvements reversed when someone else has paid for them, and predicted that the municipality may require that the road improvements remain in place despite the commitments of the Approval Holder to remove them.

[222] In cross-examination Mr. Northcote acknowledged that traffic speed depends on a number of factors and not just the curvature of the road, including the variation of behaviour between individual drivers, posted speed limits, climatic conditions, the number of vehicles on the road, the physical character of the road and surrounding landscape and whether a particular road is paved or gravel.

[223] Mr. Northcote acknowledged that trees along South Shore Road, guard rails, proximity to the lake, utility poles, driveway entrances, and mailboxes will reduce the

speed at which people will tend to travel. He also acknowledged that in summer months people walking and biking on South Shore Road will reduce travel speeds.

[224] Mr. Northcote acknowledged that the existing traffic on South Shore Road is currently light at 5-6 cars per hour and an average speed of 39.45 km/h according to a study conducted at one location on the road by the municipality. He also acknowledged that there are a finite number of vehicles on the island and that any shift of traffic to South Shore Road will result in a corresponding decrease in traffic on other roads.

[225] Mr. Northcote also acknowledged that he did not do a similar analysis for road improvements at other locations and did not provide an estimate of any potential increase in speed or traffic at other locations where road improvements will be made for the Project.

b. Approval Holder

[226] Alex Tsopelas, Project Manager with the Approval Holder, explained features of the turbine technology to be used for the Project that are intended to prevent, detect and contain any oil leaks. He also explained that the construction is to be scheduled between September 1, 2016 and April 15, 2017 for the majority of the turbines while turbines S09, S03, S11 and S36, being the turbines closest to the coastal wetlands, are to be constructed sometime between November 1, 2016 and April 15, 2016 in order to avoid impacts to turtles. More specifically, Mr. Tsopelas explained that all access roads will have been built by February 2017 and turbines installed by March 2017 with commissioning to take place in March and April 2017.

[227] Mr. Tsopelas explained that public roads are generally in good condition for construction purposes. He stated that some increase in turning radius and road widening will be necessary, but that the Approval Holder has committed to removing these improvements following construction.

[228] In cross-examination, Mr. Tsopelas explained that 10 oversized truck loads will be necessary for each turbine in order to deliver turbine components, or 260 oversized truck loads in total. Mr. Tsopelas also provided evidence of the areas where road widening would likely be required on public roads: at an 's'-bend on 3rd Concession Road and at various locations along South Shore Road. He explained that he would have to await final survey work to be completed to provide more specificity.

[229] The Approval Holder called the following Amherst Island residents to testify: Gwen Lauret, Vince Eves, David Willard, Eric Welbanks, Wayne Fleming, Gary Osborne, Nancy Pearson, Charles Plank, Lance Eves, Gord Thompson, Karen Miller and David Feraday. All of these witnesses testified that they have never observed a Blanding's Turtle on Amherst Island. Several of these witnesses testified to having observed Snapping Turtles and Painted Turtles on their property and at other locations on the island however. Many of these witnesses are land owners who will have access roads and turbines on their land. Some of these land owners who actively farm their properties testified that they do not expect to travel more on their land as a result of the Project.

[230] Mr. A. Taylor, as set out above, was qualified as an expert terrestrial ecologist/biologist with expertise in assessing impacts of wind energy projects on wildlife. He explained that the Amherst Island portion of the Project will be located almost entirely (approximately 99 per cent) in hay and pasture fields with the mainland portion of the Project being located in existing industrial lands. He explained that 18 Stantec biologists conducted 1400 hours of survey work for the Project. Of these 1400 hours, 1275 hours were spent surveying for wildlife and 125 hours on Environmental Land Classification ("ELC") at the Project location. These 1400 hours only included the time in active surveying, which only formed part of Stantec staff time spend on the island. During all of the time Stantec spent on the island, no Blanding's Turtles were observed.

[231] Mr. A. Taylor opined that it is very unlikely that Blanding's Turtle will be present at the Project locations because these areas are unsuitable for nesting, overwintering or foraging as they are hay and pasture areas that are very dense and not suitable for turtles. Mr. A. Taylor also explained that although turtles may nest in row crops such as soy or corn, in other locations, that such nesting is not typically successful as the crops shade nests and eggs do not hatch.

[232] Mr. A. Taylor also explained that Stantec biologists surveyed all areas with standing water within 250 m of the Project location in June and July when turtles are moving to nest or forage. He explained that Stantec conducted 10 rounds of surveys for Blanding's Turtle although the MNRF guide only recommends five. He also explained that surveys were done in the morning when one would expect to find basking turtles. Stantec also conducted three additional surveys in the evening in June when one would expect to find nesting turtles. Mr. A. Taylor explained that he consulted with Dr. Ron Brooks for advice on how to properly conduct these surveys.

[233] Mr. A. Taylor opined that Blanding's Turtle is most likely concentrated in the Long Point Marsh, Nut Island Marsh and Webb's Bay Marsh (collectively the "coastal wetlands"). He explained that these areas are outside the Project location and are the best foraging areas on the island and represent the most suitable hibernation areas for Blanding's Turtle. Additionally, the sand dunes adjacent to the coastal wetlands represent ideal nesting areas.

[234] Mr. A. Taylor compared the Project to the existing wind turbine project on Wolfe Island. He conducted the wildlife surveys for that project at Wolfe Island and Blanding's Turtle were found at the coastal wetlands on that island while none were found in hay field areas. He opined that a similar situation could be expected to result on Amherst Island.

[235] Mr. A. Taylor explained that the APAI turtle sightings did not confirm any turtle presence at the Project location but confirmed that the majority of turtles are near the coastal wetlands.

[236] Mr. A. Taylor explained that the closest access road to the coastal wetlands will be the access road leading to turbines S09, S03 and S11 from 3rd Concession Road, which will be constructed 78 m away from the Long Point Marsh. He opined that it would be very rare for turtles to be on any access road as a result of their location in the middle of pasture and hay fields. He explained that in the unlikely event of a turtle being present on the Project location, the exclusionary fencing will prevent access during construction. Additionally, during operation, he explained that gated access will prevent any public access and that roads will be used for maintenance approximately twice a week and two additional times weekly for the initial three years of operation for post construction monitoring work to take place. He explained that any turtles that might be present on access roads would most likely be present outside of work hours as turtles nest in the evening. He also explained that since the Project will not alter farming practices, farmers will be unlikely to travel more frequently on their lands as a result of the Project.

[237] Mr. A. Taylor explained that the Project will not remove any Blanding's Turtle habitat and opined that he does not expect any harm as a result of the construction or operation of the Project. He explained that monitoring at a wind turbine project in Niagara and the Wolfe Island project has showed that no harm has resulted to Blanding's Turtle from construction or operation. He explained that the mitigation proposed here is greater than that implemented at either of those two projects.

[238] In cross-examination, Mr. A. Taylor explained that when he uses the phrase "Project location" he is using the definition from Ontario Regulation 359/09 ("O. Reg. 359/09") which he summarized as being where any infrastructure will be located, including temporary infrastructure, which in this case would include turbines, access roads, transmission lines, and collector lines among other items. Mr. A. Taylor

acknowledged that upgrades to existing public roads is not usually considered part of the Project location for assessment purposes. He also acknowledged that there is a possibility that turtles will cross the Project location, including collector line locations, but he stressed that collector lines will be built outside of the active season for turtles.

[239] Mr. A. Taylor, in response to questions about a Water Assessment and Water Body Report (Exhibit 94), explained that the report identifies more water bodies than what Blanding's Turtles would use and that Stantec had conducted a specific habitat assessment for turtles. He also explained that simply knowing where fish habitat is does not add to his understanding of where Blanding's Turtle habitat may be.

[240] Dr. Ronald Brooks was qualified as a herpetologist with expertise in turtles, including Blanding's Turtle. Dr. Brooks explained that Blanding's Turtle generally use interconnected wetlands of permanent water. He explained that exposed soil with direct sunlight is ideal for nesting and that turtles will travel a long distance to nest if the risks are low. In winter, turtles like water temperatures to be as low as possible in order to regulate their body temperatures. Turtles tend to avoid open water including rivers and streams. They also avoid pasture areas which are difficult to navigate and open areas where they can dry out. Dr. Brooks explained that Blanding's Turtles might nest in recently ploughed fields but will not stay there as there is no food available and they almost always require water to swallow their food.

[241] Dr. Brooks opined that it would be very unlikely for Blanding's Turtles to be present at the Project location as hayfields, pasture and row crop areas do not represent good habitat. It was his view that the Stantec searches and the testimony of the local residents testifying for the Approval Holder confirms this.

[242] Dr. Brooks also opined that any temporary wetlands near the Project will not support Blanding's Turtles. He acknowledged that generally areas could represent habitat if water lasted a long time and the area were connected to other water bodies.

[243] Dr. Brooks explained that he was consulted by Stantec about turtle survey work in 2015. He explained that 11 days of surveying was done in June 2015. He acknowledged that more days would have been better, but noted that Stantec did not just do basking surveys but also did nesting searches which improved the survey work.

[244] Dr. Brooks opined that Blanding's Turtle is most likely to be in the 600 ha of coastal wetlands as they have all the key requirements for turtle habitat. He explained that female turtles nest once every two to three years and close to wetlands but not their resident wetland. He explained that turtles do not go on long nesting forays through farmer's fields.

[245] He explained that turtles may travel long distances on the ES George Reserve as there are long interconnected wetlands there. He opined that the topography on Amherst Island is different and he does not expect turtles to travel as far.

[246] Dr. Brooks viewed the APAI sightings as useful only as confirmation that Blanding's Turtles are present on Amherst Island and that it was not useful to estimate population numbers. He explained that most of the APAI sightings were near the coastal wetlands but he could not fully explain the inland sightings. He opined that most of the APAI sightings were likely female turtles traveling for the purpose of nesting.

[247] Dr. Brooks opined that he does not expect the Project to harm turtles. He explained that the construction period from September to March would pose very little risk to turtles. He explained that although some turtles may remain active in September, they focus their activity in their resident wetlands prior to hibernation at that time. Dr. Brooks opined that access roads will not cause harm and that mitigation measures add a layer of protection in the unlikely event that turtles are present.

[248] Dr. Brooks explained that the greatest threat to Blanding's Turtles is highways that run through wetlands via a causeway thereby leading to road mortality. He

explained that he is not aware of any Blanding's Turtle mortality on Amherst Island, and does not expect any as a result of the Project.

[249] Dr. Brooks explained that nest predation is very high for all turtle species, and he does not expect that access roads will lead to increased nest predation.

[250] In relation to population numbers, Dr. Brooks explained that wetlands in Ontario similar to the coastal wetlands contain approximately one Blanding's Turtle per hectare. As the wetlands are 600 ha, he estimated that 600 individual turtles was a good estimate but that 100-600 was a good range as a population estimate. Dr. Brooks explained that a two to three per cent annual mortality would be problematic for the species, but such loss would have to be chronic to be irreversible. He opined that it is unlikely that any mortality would be chronic as a result of the Project.

[251] Shant Dokouzian was qualified as an engineer with expertise in the design, impact assessment, including risk and public safety assessment, and post-construction monitoring of wind farms. He was recalled to testify about oil and fuel spill risks associated with the Project. He opined that the various containment measures in place to capture any spills, lack of any gearbox oil in the particular turbines to be used, and the monitoring measures in place would make it very unlikely for any spills to escape and reach the ground.

[252] Kent Novakowski was qualified as a hydrogeologist with expertise in fractured rock and Grant Whitehead was qualified as a professional geoscientist with expertise in hydrogeology. They were heard as a panel on the issue of whether karst was present on Amherst Island thereby contributing to the regulation of water temperatures for Blanding's Turtle.

[253] Mr. Whitehead explained that testing has indicated that bedrock on Amherst Island was fairly tight with little weathering at or near surface and that it had low permeability. Mr. Novakowski testified that Amherst Island consists of a typical

limestone/shale formation that is common in Ontario and that the presence of shale in the limestone makes the rock less prone to karstification.

[254] Nancy Harttrup was qualified as an aquatic biologist and Steve Brown was qualified as an engineer with expertise in hydrogeology. They were heard as a panel in relation to the identification of water bodies and assessment of impacts.

[255] Ms. Harttrup testified that 41 sites on Amherst Island and 11 on the mainland were surveyed during the wet spring of 2011. The characteristics of any water body found during site investigations were delineated. The site investigation identified water bodies that were not identified in government databases.

[256] Mr. Brown responded to Dr. Stanfield's evidence that additional water bodies had not been identified at the Project Location. It was his opinion that most of the locations identified following the rain storm event showed temporary pooled water without any flow. It was his view therefore that there was nothing to suggest that the Project location is any different than other farm fields in Ontario. Mr. Brown explained that the following approach to Project construction will limit any impacts from the Project on water bodies: (a) no diversion of water by maintaining existing grades, (b) minimal impervious cover change results in little change to water flows, (c) maintaining current land use maintains water quantity and quality, and (d) erosion and sediment controls to be put in place for any disturbed areas.

[257] In cross-examination, Ms. Harttrup acknowledged that Stantec did not have access to all properties on Amherst Island so was unable to fully delineate and map the network of water bodies in fine detail but she confirmed that there was a continuous waterbody that appears to run from a swamp/wetland area towards the northeast end of the island to the coastal wetlands.

[258] Shawn Taylor was qualified as a road ecologist and biologist with expertise in the areas of ecological restoration and construction mitigation. He opined that the coastal

marshes are good Blanding's Turtle habitat and will not be impacted by the Project. He explained that the Nut Island Marsh is bordered by a forest which acts as a buffer from the closest access road which is 235 m away from the marsh.

[259] Mr. S. Taylor explained that the timing of construction, silt/exclusionary fencing, training of Project staff and signage will reduce the potential for impact to Blanding's Turtle. He opined that the construction of access roads will not add any mortality risk for Blanding's Turtle, particularly because there is no construction during most of the active season.

[260] Mr. S. Taylor explained that the exclusionary fencing to be used for the Project is superior in design to other types of fencing because it will be double layered with straw bales in between. He explained that turtles will not be able to get through such fencing in the unlikely event that they are present at the Project location during construction.

[261] Mr. S. Taylor explained that he had conducted a capture-release study at a road construction project in Ottawa: the Terry Fox Drive extension project. His study estimated that there were 104 adult female Blanding's Turtles present at that location. He also explained that there was no mortality to Blanding's Turtle as a result of similar mitigation measures adopted for that project.

[262] Mr. S. Taylor opined that the risk to Blanding's Turtle as a result of the access roads will be nil. He also opined that since the public road upgrades will be very minor and will be removed following construction, there will be no increased traffic volumes or speeds leading to increased mortality risk for Blanding's Turtle. Overall, it was his opinion that there would be no increased risk to Blanding's Turtle as a result of the Project.

[263] In cross-examination, Mr. S. Taylor explained that the range of Blanding's Turtle travel from their resident wetlands is likely 200-300 m. He explained that males rarely leave their home wetlands and younger adult females stay closer to their home

wetlands. He explained that older females tend to travel farther than younger ones for nesting. He estimated that occasionally older females might travel 2-4 km outside of the coastal wetlands to nest.

[264] Mr. S. Taylor also acknowledged that of 22 wetland features considered by Stantec in the Natural Heritage Assessment and Environmental Impact Study, all but for one of the wetlands had either a turbine base, substation, access road or collector line within 120 m that were assessed for impacts and mitigation.

[265] Dr. Caleb Hasler was qualified as a conservation scientist with expertise assessing the impacts of infrastructure projects on turtles. He was qualified in oral testimony but his evidence was tendered in writing.

[266] Dr. Hasler's evidence was that Blanding's Turtle do not forage, hibernate or inhabit the habitat that is present in the Project location. Further, Blanding's Turtle is rarely found away from water other than for nesting purposes, which typically occurs over a period of a few days and typically in close proximity to the water where they reside. It is possible that a turtle could occasionally traverse into the habitat in the Project location, but this is unlikely given the suitable and preferred habitat that exists for them elsewhere on the island.

[267] Dr. Hasler's evidence was that he would expect Blanding's Turtle to principally inhabit the coastal wetlands. There are some minor water sources located within the Project location, however these are largely composed of green ash swamps or reed canary grass meadow marshes, which do not contain standing water during the winter months, and thus would not be suitable habitat for Blanding's Turtle.

[268] Dr. Hasler's evidence was that if there is the occasional Blanding's Turtle that wanders into or through the Project location, the chances of it being harmed are very low as mitigation measures designed to reduce the risk of any harm to turtles, including

Blanding's Turtle, are in place for the Project. It was his view that these mitigation measures will be sufficient to ensure that no harm to Blanding's Turtle occurs.

[269] Finally, the Approval Holder called Mr. Ron Stewart in sur-reply to Mr. Northcote's evidence about public road improvements. He was qualified as an expert transportation engineer. It was his opinion that the road widenings on South Shore Road will not result in increased traffic speed. He explained that transportation engineers look at operating speed in addition to design speed. He explained that various factors impact operating speed, including at South Shore Road. He opined that existing lack of sightlines, the pitted and rutted gravel, guiderails and trees next to the road, and lack of banking of the road would impact travel speeds more than the alterations proposed by the Approval Holder.

[270] In relation to the municipal study of traffic volume and speed on South Shore Road, he testified that it was most likely conducted on a straight portion of the road and not at a curve, and that the average speed on the entire road would likely be less than 39.45 km/h. He opined that if at all, the changes proposed by the Approval Holder would likely lead to an increase of a few km/h at the curves. He also opined that traffic volumes will not change on South Shore Road as a result of the road widenings and alterations since the overall character of the road will not be changed.

c. Director

[271] As set out above, Ms. Pitt was qualified to give opinion evidence as a biologist. In relation to turtles specifically, Ms. Pitt testified that the MNRF considered whether the Project would kill, harm or harass individuals or eliminate the functionality of any habitat. The MNRF determined that an *ESA* permit would not be necessary in relation to Blanding's Turtle since there would be no likely impacts to the species as a result of the Project. Ms. Pitt confirmed that the MNRF had considered the APAI sightings accepted by the NHIC in assessing the necessity of an *ESA* permit.

[272] In cross-examination, Ms. Pitt explained that Stantec submitted their Blanding's Turtle survey protocol to MNRF which the Ministry accepted.

[273] Joe Crowley, the Species at Risk Herpetology Specialist in the Species Conservation Branch of the MNRF, was qualified as a herpetologist with expertise in Blanding's Turtle. He was permitted to testify in response to a comment by one of the APAI sighting witnesses called by the Appellant that MNRF had let the Approval Holder get away with not obtaining a permit under the *ESA* for impacts to Blanding's Turtle. He was permitted to opine on whether an *ESA* permit for Blanding's Turtle was required in the circumstances of this Project.

[274] Mr. Crowley testified that outside of the nesting season, Blanding's Turtle is found primarily in wetlands. He explained that most turtle movement would be confined to an area within 500 m of the coastal wetlands. During nesting, he explained, it is possible that females would move long distances and could be found away from the coastal wetlands however. These longer distance movements would not be through agricultural fields, however, and would be closer to aquatic features or more natural habitat areas.

[275] Mr. Crowley explained that the threat to turtles from roads falls on a range of intensity, depending on traffic volume, speed and the proximity of habitat. He explained that the greatest threat is from high volume highways with speeds in excess of 80 km/h. He opined that private roads with low volume traffic are not an issue.

[276] Mr. Crowley opined that the various mitigation measures incorporated into the REA for the access roads will result in a negligible risk to the local Blanding's Turtle population and, as a result, an *ESA* permit was not required by the Approval Holder for the Project in relation to Blanding's Turtle.

[277] In cross-examination, Mr. Crowley acknowledged that the APAI sightings clearly show that Blanding's Turtle is present on Amherst Island. However, he explained that

the best conclusion that can be drawn from the APAI sightings is that there is a concentration of turtles near the coastal marshes although the species is present throughout the island.

Submissions

a. Appellant

[278] The Appellant submits that the evidence demonstrates that Blanding's Turtles are highly likely to be present throughout Amherst Island and not only in the coastal wetlands in the southwest part of the island. The Appellant asserts that focusing studies, as the Approval Holder did, on the Project location where turbines are located is not particularly helpful with a species that regularly moves 250 m from a resident wetland, and up to six km on occasion for nesting.

[279] The Appellant submits that the Approval Holder's and Director's cases are built on the assumption that Blanding's Turtles do not move that far from the coastal wetlands. APAI submits this assumption has been proven wrong by the fact that about one third of the APAI sightings were outside of the coastal wetland areas.

[280] The Appellant submits that to explain the full extent of the sightings recorded by APAI witnesses, including the sightings not located near the coastal wetlands, turtles must either travel long distances or there must be wetlands throughout the island being used by turtles. The Appellant submits that it is more likely that there is wetland habitat within 250 m of most observations, as explained by Ms. Gunson and Dr. Davy.

[281] The Appellant submits that the Approval Holder failed to adequately delineate the full extent of the network of water bodies, both permanent and temporary, across Amherst Island and therefore failed to adequately assess the potential for impacts to Blanding's Turtle that may be using those water bodies as habitat.

[282] The Appellant argues that there are a myriad of wetland habitat areas in close proximity to the Project, and that no mitigation has been identified to protect these areas that are likely used by Blanding's Turtles.

[283] In terms of a population estimate for Blanding's Turtles, the Appellant submits that the evidence of the fact witnesses tendered by the Approval Holder, none of whom have ever observed a Blanding's Turtle on Amherst Island, suggests that the total population is low. Additionally, the Appellant argues that the 18 Stantec biologists conducting field surveys found no Blanding's Turtles further suggests that the population is low.

[284] Relying on the evidence of Dr. Davy and Mr. Nagle, the Appellant submits that 100 individual turtles is a good estimate at the upper end of the scale. Accepting the population as 100 individual turtles and that approximately one third of the population consists of adult females, the Appellant argues that a two to three per cent annual mortality of females means that the mortality of less than one adult female per year would lead to the extirpation of the species on the island.

[285] The Appellant argues that the main concern for Blanding's Turtle is road mortality but that predation and poaching are also issues arising as a result of road construction and improvements. The Appellant submits that adding gravel to existing roads and creating 25.5 km of new gravel access roads will attract nesting female turtles seeking to nest outside the coastal wetlands. The Appellant argues that but for the Project, the hayfields that will be used for the Project would remain as such and there would be no nesting habitat at these locations posing a mortality threat to nesting females.

[286] Further, the Appellant argues that although turbines will not be located in existing Blanding's Turtle habitat, many will be located within 120 m of delineated wetland areas or fish habitat that can serve as Blanding's Turtle habitat from which turtles may travel to access roads and turbine locations.

[287] With regard to upgrades to public roads, the Appellant submits that the evidence was that at least some of the improvements will not be removed and that gravel that attracts nesting turtles will remain in certain locations. Additionally, the Appellant argues that people will be able to continue to travel at increased speeds and increased volumes on roads where turtles have been observed as a result of improvements, thereby further increasing the risk of turtle mortality similar to the situation in *Hirsch*.

b. Approval Holder

[288] The Approval Holder submits that in order to be successful on this appeal that the Appellant would have to show that (a) Blanding's Turtle have significant or regular occurrence at the Project location, (b) that the Project will actually harm turtles, and (c) that mortality rates will be high enough and sustained at a level that would be irreversible. The Approval Holder submits that the Appellant has not established any of these three things and, therefore, the Appellant has not proven the Project will cause serious harm to Blanding's Turtles and/or harm that is irreversible.

[289] With regards to the issue of Blanding's Turtle occurrence at the Project location, the Approval Holder submits that the extensive survey work conducted on the Project location by Stantec biologists, in addition to the fact witness evidence tendered, shows that there are no Blanding's Turtles using the Project location. The Approval Holder submits that this makes sense because access roads and turbines are to be located in grassland hayfields which are not suitable turtle habitat. It is submitted that turtles may be found in row crop fields (such as corn fields) sometimes but no such areas are found on Amherst Island near the Project.

[290] The Approval Holder submits that there is no dispute that Blanding's Turtle is largely aquatic, but move over land between wetlands or to nest. It was also undisputed that typically nesting is done close to water and females make occasional long distance forays to nest.

[291] The Approval Holder submits that the coastal wetlands are clearly the most ideal habitat for Blanding's Turtle on Amherst Island, and that these areas are not impacted by the Project. It submits that APAI searches for turtles are a good indication that turtles are found mainly near the coastal wetlands since 44 of the 62 total sightings were in this area and, additionally, the 22 remaining sightings were near the coastline of Amherst Island and not near the Project location.

[292] The Approval Holder submits that both Mr. A. Taylor and Dr. Brooks explicitly indicated that no wetlands were identified in the ELC classification process as being suitable Blanding's Turtle habitat at the Project location.

[293] The Approval Holder also submits that 54 of the 62 APAI sightings were in the nesting season, outside of the proposed construction phase for the Project.

[294] The Approval Holder submits that Blanding's Turtles are unlikely to be present at the Project location, and are not be expected to occur there regularly so as to subject them to potential harm.

[295] On the issue of potential harm, the Approval Holder submits that the Appellant has not explained how mortality will occur even if a turtle is at the Project location.

[296] The Approval Holder submits that access roads built in grassland farm fields on private property with gated access, with very infrequent use of one to two visits per week during operation of the Project and with a speed limit of 15 km/h, will make it very unlikely that a turtle would be harmed in the unlikely event that it is present. The Approval Holder also submits that no evidence has been led as to how use of the access roads by farmers who own the lands will materially increase risk to turtles.

[297] The Approval Holder references the *Hirsch* decision at paras. 258 to 260 where the Tribunal found no serious harm would result from the construction and use of access roads. The Approval Holder submits that the panel in that appeal considered the same factors that should be applicable here. Additionally, the Approval Holder

submits that there is a lower risk of harm to turtles on Amherst Island because the Project is located in agricultural fields, whereas in *Hirsch*, two thirds of the project was known to be located in Blanding's Turtle habitat.

[298] With regards to use of public roads, the Approval Holder submits that there is low road usage from 400 year round residents and 800 summer residents on Amherst Island, and there has been no evidence of Blanding's Turtle mortality on any island road to date. Additionally, it is submitted that only a portion of the island's roads will be used for construction and operation of the Project. The Approval Holder relies on the fact that turbines will be delivered by mid-March and road alterations removed after that time prior to the turtles becoming active. Additionally, the Approval Holder submits that even if some road alterations were to remain, these alterations will not change traffic volumes, road usage or speeds.

[299] The Approval Holder submits that the Project will not increase the risk of poaching because the Project is not increasing public access on the island. It is also submitted that rates of nest predation are already high for turtles and the Project will not materially increase nest predation and impact the population of Blanding's Turtle.

[300] With regards to irreversibility, the Approval Holder submits that the evidence was that mortality would have to increase by two-three per cent for a number of years to impact the species.

[301] The Approval Holder submits that Dr. Brooks' estimate that the size of the Blanding's Turtle population is 100-600 individuals should be relied upon as he took into account the opportunistic sightings of APAL, which were likely all females, and population densities at other locations, including sites where there were approximately one turtle per hectare of wetland. Additionally, the Approval Holder points out that Mr. Nagle did not disagree with Dr. Brooks' range of 100-600 individuals entirely but merely testified that 600 was likely too high.

[302] The Approval Holder submits that considering this population range, at least two to three females would have to be killed yearly for several years by the Project to impact the population of Blanding's Turtles.

[303] The Approval Holder submits that Wolfe Island is an island very close to Amherst Island that has a similar characteristics and the experience there is a good predictor of risk. The Approval Holder argues that at the Wolfe Island wind project location, no Blanding's Turtle mortality or presence has been observed either during construction or over three years of operation.

[304] Finally, the Approval Holder submits that the White Pines project in *Hirsch*, where the Tribunal found that the project there would cause serious and irreversible harm to Blanding's Turtle, can be distinguished on the following points. First, the majority of that project, including two thirds of the turbines, is to be located directly in Blanding's Turtle habitat. Second, there is a known presence of Blanding's Turtles in that project location. Third, there is a lack of available nesting habitat at that site, so that turtles will be attracted to gravel access roads for nesting. Fourth, the approval holder for that project is doing more extensive road upgrades to public roads and did not commit to their removal prior to its operation.

c. Director

[305] The Director largely supports the submissions of the Approval Holder. The Director also distinguishes the situation in the *Ostrander* case to this one in relation to turtles as Mr. Crowley had opined in *Ostrander* that the project there would damage or destroy habitat and an *ESA* permit was required, whereas here Mr. Crowley has testified that an *ESA* permit was not required. His reasons are: the proposed turbine locations and access roads are located in agricultural areas and most are not within 500 m of Blanding's Turtle aquatic habitat and that the Project is unlikely to result in nest predation because it is very unlikely that it would cause significant shifts of the use of nesting habitat.

Discussion, Analysis and Findings

[306] In *Ostrander*, the Court of Appeal stated the following, at paras. 49 to 52:

[49] At the hearing before the Tribunal, all the parties agreed that the project would inevitably result in an increase in Blanding's turtle mortality. There was no dispute that loss of life of a threatened species with a slow reproductive rate constitutes serious harm.

[50] The Divisional Court recognized this. It said it was "unquestionable from the evidence that was placed before the Tribunal that there was a risk of serious harm to Blanding's turtle from the project". It acknowledged that "[g]iven the fragile status of Blanding's turtle as a species, it would be difficult to characterize any increase in mortality arising from the Project as anything other than serious." For this reason, the Divisional Court concluded that "the real issue" was "whether that harm was also irreversible."

[51] I agree with this observation.

[52] In the case of the Blanding's turtle, the only real question for the Tribunal to decide was whether the increase in mortality resulting from the roads would be irreversible. On my reading, the Tribunal's reasons are entirely focused on that question. In applying the serious and irreversible harm test in this case, there was no need for the Tribunal to separately analyze what was evident and not disputed – whether the harm was serious.

[307] On the evidence heard on this appeal, there is no reason to doubt that the population of Blanding's Turtle on Amherst Island is similarly vulnerable as the population considered in *Ostrander*. The Tribunal finds that the two main questions for the Tribunal in applying the test under s. 145.2.1 (2)(b) are, firstly whether the Project will increase the mortality of Blanding's Turtle leading to serious harm and secondly, whether that harm can be considered irreversible.

a. *Will the Project increase the mortality of Blanding's Turtle?*

[308] The evidence was that the most likely mortality to Blanding's Turtle would be as a result of vehicle strikes to female turtles engaging in travel for nesting. Additionally, the evidence was that older nesting females tend to travel the farthest. These older nesting females have the greatest nesting success and are the most important individuals for

population survival. Given the status of the species as threatened under the *ESA*, and the evidence, set out below, that the population of Blanding's Turtle on the island is small, the Tribunal finds that the loss of any female turtles as a result of the Project can be considered serious in nature. The question then is, what is the likelihood of such mortality?

[309] Below the Tribunal examines the evidence relating to Blanding's Turtle presence on the island and then examines the potential for serious harm from the construction and operation phases for the Project.

[310] The expert evidence was that the coastal wetlands at the southwest part of Amherst Island represent the best Blanding's Turtle habitat on Amherst Island. Based on the expert evidence, the Tribunal finds that Blanding's Turtles generally remain within 200 to 300 m of their resident wetlands, but adult female turtles that nest every two to three years may engage in longer forays away from resident wetlands to nest. There was disagreement amongst the experts about how far a nesting female might be expected to travel on one of these long distance forays on Amherst Island specifically but there appeared to be general agreement that a distance of up to 2000 m was more likely than not a maximum distance a female turtle might travel. Mr. Nagle for example, testified that protecting areas 2000 m from wetlands would most likely protect all nests.

[311] On the basis of this 2000 m maximum distance, it can be concluded that at least 45 of the 54 APAI sightings of Blanding's Turtles recorded on Exhibit 33B, which were likely predominated by nesting females, were associated with the 600 ha coastal wetlands at the southwest corner of Amherst Island.

[312] The remainder of the APAI sightings that were not within 2000 m of the coastal wetlands indicates either nesting female turtles are traveling very long distances on nesting forays or, alternatively, that there are wetlands closer to the APAI sightings that are Blanding's turtle habitat in addition to the coastal wetlands.

[313] The Tribunal finds that it is more likely than not that there are water bodies located at other locations on the island that are used by Blanding's Turtle either as resident wetlands, or as travel corridors for nesting females engaging in longer forays from their resident wetlands as it is unlikely that females are traveling much more than 2000 m from a resident wetland. What this means is that, based on sightings by residents of the island who gave evidence for the Appellant, there are likely wetlands east of the coastal wetlands that are used by Blanding's Turtles.

[314] Although the evidence of experts included the testimony of Ms. Harttrup, who acknowledged that in delineating water bodies Stantec did not have access to all lands on the island and could not map all water bodies, and Mr. Stanfield who opined that many water bodies on the island had not been delineated in the Approval Holder's reports, no party tendered evidence indicating what specific wetland areas or water bodies other than the coastal wetlands are actually used by Blanding's Turtle. At best, the Tribunal has Ms. Harttrup's acknowledgement that there appears to be a waterbody that may connect a swamp/wetland area near the Owl Woods in the east, to the coastal wetlands. As a result, the Tribunal is unable to discern, on the evidence tendered, specifically where other wetlands may be located that are actually used as habitat by Blanding's Turtle. The Tribunal does recognize that the Appellant could also not search for turtles on private lands without substantial efforts to gain access. Nevertheless, the Tribunal is left without evidence of specific wetland habitat for Blanding's Turtle other than the coastal wetlands.

[315] Based on the evidence heard, particularly the evidence of multiple experts that the Project location and the area within 120 m is predominated by hay fields and pasture that is not used by Blanding's Turtles, and also the evidence of local residents called by the Approval Holder, none of whom had observed Blanding's Turtle in the areas of the proposed Project location, the Tribunal finds that it would be unusual for Blanding's Turtle to use the Project location where collector lines, access roads and turbines are to be located.

[316] It was uncontested that the agricultural fields throughout Amherst Island, and at the Project location specifically, are predominately, if not uniformly, hay fields and pasture lands. The evidence was that Blanding's Turtles do not navigate through hay fields and these areas do not have any characteristics favourable to Blanding's Turtles. There was evidence that turtles can navigate through and sometimes nest, albeit unsuccessfully, in fields of row crops such as soy or corn, but the Tribunal was not provided with any evidence that any such fields exist on Amherst Island or more specifically, adjacent to or in the Project location.

[317] The Appellant argued that by putting gravel access roads into certain agricultural fields, these areas will now become attractive to turtles which use gravel roads for overland migrations and nesting. In opposition, the Approval Holder has argued that the access roads are surrounded by agricultural fields that are not suitable Blanding's Turtle habitat so even if the access roads could be used by turtles, they would be unlikely to cross these fields to get there.

[318] The Tribunal does not accept that either of these arguments apply to all proposed access roads. There are some access roads that can be categorized as the Approval Holder suggests, as being located in the middle of an area that is not used by turtles. However, there are clearly some access roads that are in close proximity to wetlands or water bodies that may be used by turtles and that may facilitate access to such access roads by turtles. For example, Mr. A. Taylor testified that the access road leading to turbines S09, S03 and S11 is located 78 m from the Long Point Marsh. This access road could potentially be accessed via the public road by turtles seeking to move between wetland areas even if a turtle cannot gain access via the surrounding fields.

[319] Additionally, the evidence was that certain agricultural fields may become flooded and potentially usable by turtles as corridors for movement at certain times of the year, including following a large rainfall. The evidence was that certain areas of agricultural

fields in close proximity to access roads may become flooded in such a manner. The Tribunal accepts that this is the case.

[320] Without additional evidence about every access road, the proximity to water features such as wetlands, and the potential for periodic flooding or temporary presence of water, the Tribunal is unable to make specific findings about the potential level of Blanding's Turtle activity at every access road.

[321] The Tribunal finds that access roads could be used by Blanding's Turtles depending on the location of the road, the time of year (e.g. during nesting season) and specific climatic conditions (e.g. flooding).

[322] However, the Tribunal finds that it would be very rare for a turtle to be present on any particular access road and that it would not be a frequent event given that surrounding agricultural fields act as a major limiting factor to turtle access. Although broadly speaking these access roads could theoretically be considered habitat for turtles as a result, the Tribunal views this as potential habitat that would rarely be used, or marginal habitat as a result of its location and its character.

[323] Additionally, the evidence was that there exist multiple locations for nesting at other locations on the island, so that the gravel access roads will likely not be sought out specifically by turtles but rather, may be used opportunistically for nesting. The Tribunal finds that this is a different situation than the White Pines project in *Hirsch* where the panel found that gravel access roads, placed directly in Blanding's Turtle habitat, would serve as a nesting attractant in a situation where other nesting habitat was rare. The Tribunal finds that this situation can also be distinguished from the *Ostrander* appeal where access roads on recreational Crown land were found to criss-cross high quality Blanding's Turtle habitat.

[324] In relation to the construction phase of the Project specifically, it was uncontested that no Project components will remove existing Blanding's Turtle habitat and the Tribunal is satisfied that construction will not directly impact Blanding's Turtle habitat.

[325] Additionally, the Tribunal finds that the mitigation measures incorporated as conditions of the REA have all but eliminated the potential for turtle mortality and have minimized the potential for indirect impacts to habitat during the construction phase. The construction window of November 1 to March 31 for those portions of the Project closest to the coastal wetlands, and the window of September 1 to March 31 for the remainder of the Project, will ensure that construction takes place outside the period during which turtles are active outside of their resident wetlands. Additionally, in the rare event that a turtle remains active during construction, the Tribunal is satisfied that the exclusionary fencing to be used, mostly on private agricultural land, will ensure that turtles are not able to access construction areas.

[326] Although it was Mr. A. Taylor's evidence that the MOECC does not regularly consider public roads as part of the Project location, the Tribunal has considered potential impacts as a result of the public road upgrades.

[327] During the operation phase of the Project, the main issue for consideration is road mortality on public roads and access roads. The Tribunal finds that it has not been established on the evidence that poaching and predation will increase directly as a result of the Project. Of note, the access roads are all on private land and will be gated to prevent public access.

[328] The Tribunal finds that the risk to Blanding's Turtle from use of roads, both new access roads and public roads, will increase somewhat as a result of the Project. Some public road upgrades, such as improved road surfaces and the addition of gravel that acts as an attractant to nesting turtles cannot be practically removed following Project construction despite the Approval Holder's commitments to do so. The addition and compaction of new gravel at some locations will occur and cannot be practically removed. Also, some residual road widenings will likely remain even after the Approval Holder attempts to remove them after construction.

[329] However, weighing against these potential problems are the following factors that suggest, based on the evidence, that the risk of mortality to Blanding's Turtle from use of roads, both new access roads and public roads, will be very low:

- a. Access roads will be located on private land that is gated and inaccessible to the general public;
- b. There will be low usage of access roads as they will not be accessible by the public, private land owner land use will not increase as a result of the access roads, and Project staff will only use them two times weekly for maintenance and two additional times for an initial three years for monitoring work;
- c. The heaviest period of public road use will be during construction which will take place outside of the active season for Blanding's Turtle or at a time when they are generally getting ready for hibernation and in their resident wetlands;
- d. No Blanding's Turtle fatality due to vehicle collision has ever been recorded on Amherst Island;
- e. Turtles generally nest during the evening, outside of normal Project working hours so turtles are unlikely to be present at the same time as Project vehicles on access roads;
- f. Speed limits on access roads will be 15km/h;
- g. Speed limits will not be altered on public roads;
- h. The vast majority of public roads near the coastal wetlands will not be used for the Project during construction or operation;
- i. Traffic on the island is finite and unlikely to shift between different routes as a result of the Project in a manner that increases exposure of turtles to traffic;
and
- j. South Shore Road specifically has characteristics that significantly limit potential operating speed below the potential design speed.

[330] In considering the factors above, the Tribunal finds the weight of the evidence is that it is unlikely that the construction and use of gated access roads on private land and the upgrading and use of public roads for the Project will increase Blanding's turtle

mortality and result in serious harm to Blanding's Turtle. The Tribunal finds that the Appellant has not established that engaging in the Project in accordance with the REA will cause serious harm to Blanding's turtle.

b. Will any serious harm be irreversible?

[331] As a result of the above finding that it has not been proven that the Project will cause serious harm, the Tribunal finds that it is unnecessary to consider whether the alleged harm will be irreversible. Nevertheless, to briefly address the parties' submissions, the Tribunal makes the following findings in relation to irreversibility.

[332] The combined evidence from Dr. Brooks and Mr. Nagle was that in order for any harm to be irreversible, there would have to be a loss in the range of two to four per cent of adult females annually for at least five years as a result of the Project.

[333] In terms of the relevant population to consider for its analysis, the Tribunal notes that in previous decisions the Tribunal has stressed that a case-by-case approach is necessary to assess the relevant population for analysis (See: *Lewis, supra*, at para. 12; and *Fata v. Ontario (Ministry of the Environment)* (2014), 90 C.E.L.R. (3d) 37 (O.E.R.T.) at paras. 203-206). In this instance, since the parties all focused on Amherst Island as a whole for assessment purposes, and since the evidence is that the Amherst Island population of Blanding's Turtle is insular, the Tribunal finds that the relevant population of Blanding's Turtle for assessment purposes is Amherst Island as a whole.

[334] Based on the evidence heard about the elusive nature of Blanding's Turtle and the difficulty in determining a specific population size for the species on the island, the Tribunal finds that the evidence, at best, indicates that the population of the species on Amherst Island is small. It appears more likely than not that there are much less than 600 individual Blanding's Turtles on Amherst Island as a result of the lack of recorded sightings of the species prior to the active searches conducted by members of APAI and the evidence of the experts. There was general agreement between Mr. Nagle and Dr. Brooks that the population could be approximately 100 individuals and possibly more.

[335] However, the Tribunal finds it is sufficient to simply find that the population is small and, based on the evidence of Mr. Nagle, that the population could not sustain a loss of 5 to 10 adult females in total from the existing population. The Tribunal accepts this evidence that such a loss would be irreversible for the Blanding's turtle population on Amherst Island. Having found that turtle mortality is unlikely as a result of the Project, the Tribunal also finds that a loss of 5 or more adult female turtles caused by the Project during its life is also unlikely.

Conclusion on Blanding's Turtle

[336] In conclusion, the Tribunal finds that the Appellant has not established on the evidence heard that engaging in the Project in accordance with the REA will cause serious and irreversible harm to Blanding's Turtle.

[337] Despite having made this finding, due to the uncertainty around the location of temporary areas of flooding and water bodies, and recognizing that there is a chance that a turtle may nest on an access road while Project staff are not present and nests may remain hidden from view, the Tribunal makes two recommendations as follows:

- a. that no access roads be used during any flooding events during the active season for Blanding's Turtle in order to ensure that should any turtles be present that they are given time to vacate the access road before Project staff use it; and
- b. that no road grading take place during the nesting season for Blanding's Turtles in order to ensure that any road-side nests are unharmed as a result of grading activities on access roads.

[338] The Tribunal is of the view that these two additional measures will add an additional layer of protection in the unlikely event that a turtle finds itself, or nests, on an access road.

DECISION

[339] The appeal by the Association for the Protection of Amherst Island is dismissed and the Director's decision to approve the REA is confirmed in accordance with s. 145.2.1(5) of the *EPA*.

*Appeal Dismissed
Director's Decision Confirmed*

"Justin Duncan"

JUSTIN DUNCAN
MEMBER

"Robert V. Wright"

ROBERT V. WRIGHT
VICE-CHAIR

Appendix 1- Motion to Adduce New Evidence

If there is an attachment referred to in this document,
please visit www.elto.gov.on.ca to view the attachment in PDF format.

Environmental Review Tribunal

A constituent tribunal of Environment and Land Tribunals Ontario
Website: www.elto.gov.on.ca Telephone: 416-212-6349 Toll Free: 1-866-448-2248

Appendix 1 – Motion to Adduce New Evidence

REASONS FOR DECISION DELIVERED BY JUSTIN DUNCAN AND ROBERT V. WRIGHT ON MAY 9, 2016

BACKGROUND

[1] On or about April 15, 2016 various changes to the MOECC's 2008 Noise Guidelines for Wind Farms ("Guidelines") were adopted which altered how sound is to be estimated for new proposals for wind turbine projects.

[2] On April 28, 2016 the Tribunal heard a motion brought by the Appellant under Rules 233 and 234 of the Tribunal's *Rules of Practice* ("Rules") to adduce new expert evidence from two witnesses in relation to these changes to the Guidelines. In support of its motion, the Appellant filed written summaries of the proposed evidence to be adduced and written submissions.

[3] First, the Appellant seeks to call as a witness Rick James who would testify about the Guideline change that came into effect on May 1, 2016. It changed the modeling calculation for sound based on an altered ground attenuation factor. The summary of his intended evidence is as follows:

- a. an explanation of ground attenuation of sound;
- b. that the Guideline changes to ground attenuation would result in an estimated increase in sound modeled of 0.5 decibels ("dBA"); and
- c. that with an addition of 0.5 dBA to sound modeled for the Project using the revised Guidelines the Project would exceed the regulatory limit of 40 dBA at 30 points of reception (20 existing lots and 10 vacant lots).

[4] Second, the Appellant seeks to recall Dr. Carl Phillips who already testified on the health issues. His proposed would be based on the estimates provided by Mr. James that the Project would exceed the regulatory limit of 40 dBA at 30 points of

reception. His evidence would include testimony that increased exposure could likely be associated with increased risk but that the Guidelines, including the revised version, are not helpful as they are not based on an assessment of health risk.

[5] The Appellant submits that the criteria for new evidence in Rules 233 and 234 have been met and that the revised ground attenuation factor in the updated Guidelines for predicting sound is intended to demonstrate that sound levels will be greater at certain points of reception leading to serious harm to human health.

[6] Both the Director and the Approval Holder oppose the Appellant's motion. The Approval Holder requests that the motion be dismissed with costs.

[7] On May 9, 2016 the Tribunal ordered that the motion by the Appellant to admit new evidence is dismissed without costs, for reasons to follow. These are the Tribunal's reasons for dismissing the motion.

REASONS

[8] Rules 233 and 234 of the Tribunal's Rules provide that:

233. Once the Hearing has ended but before the decision is rendered, a Party may make a motion to admit new evidence.

234. The Tribunal shall not admit new evidence unless it decides that the evidence is material to the issues, the evidence is credible and could affect the result of the Hearing, and either the evidence was not in existence at the time of the Hearing or, for reasons beyond the Party's control, the evidence was not obtainable at the time of the Hearing.

[9] To start, the Tribunal notes that the parties had finished tendering evidence on the health issues of this appeal on December 11, 2015, and final submissions have not yet been filed. For all intents and purposes however, the parties had considered the evidentiary phase of the hearing on the health issues as being completed almost five months ago. The Tribunal must also keep in mind that this appeal has a strict statutory time-line for its disposition. In this context, the Tribunal views it as necessary to strictly apply the criteria in Rule 234.

[10] Rule 234 dictates that the Tribunal may not admit new evidence unless:

- a. the evidence is material to the issues;
- b. it is credible and could affect the result of the hearing; and
- c. either the evidence was not in existence at the time of the Hearing or, for reasons beyond the Party's control, the evidence was not obtainable at the time of the Hearing.

[11] The Tribunal has no reason to doubt that the evidence of the two experts meets the requirement of credibility. The Tribunal is also satisfied that although the Guideline changes were proposed previous to the commencement of the hearing, the changes and the MOECC's explanation of why they were adopted did not exist until well after the hearing commenced.

[12] However, for the reasons that follow, the Tribunal finds that the proposed new evidence is not material to the issues raised in the hearing and cannot affect the result of the hearing.

[13] Firstly, Dr. Phillips' intended evidence does not specifically rely on the Guideline changes. To the contrary, he states specifically in the summary of his intended evidence that he views the revised Guidelines as not particularly helpful as they are not based upon an assessment of health risk. Evidence that a revised version of the Guidelines does not protect health cannot materially affect the outcome of the hearing. Additionally, Dr. Phillips' previous evidence was that turbines generally cause harm. His new evidence would mirror and duplicate his previous evidence and so it would not affect the result of the hearing.

[14] Secondly, in relation to Mr. James' evidence, the Tribunal accepts that the revised Guidelines might have been material to the appeal if (a) there was a live issue relating to how sound levels are to be modeled, or (b) there was evidence that above a certain level, harm to human health arises due to sound. However, the foundation of the Appellant's health case is currently based on the evidence of Dr. Phillips that wind

turbines generally cause harm to approximately five per cent of those exposed to them. No evidence has been led by the Appellant correlating specific sound levels to harm to human health and nor is there a live issue before the Tribunal as to how sound levels ought to be calculated.

[15] Mr. James' proposed evidence is that, if the sound attenuation changes found in the revised Guidelines are applied to the Project, the Project will exceed the regulatory limit of 40 dBA for sound at 20 existing lots, presumably occupied, and 10 vacant lots. Even accepting that this is the case, none of Dr. Phillips' existing testimony, his proposed new evidence, or the Appellant's cross-examinations of other parties' witnesses, establishes that exceeding 40 dBA will lead to adverse health effects of individuals exposed to such sound.

[16] As a result, the Tribunal finds that the proposed evidence of Dr. Phillips and Mr. James does not meet the test for fresh evidence under Rule 234. It is not necessary to determine if Rule 233 is applicable to this situation.

[17] In relation to the Approval Holder's request for costs, the Tribunal finds that the motion was reasonably brought and found to have merit on two of the grounds under Rule 234. The request for costs is denied.

ORDER

[18] The motion to adduce fresh evidence is dismissed without costs.

Motion Dismissed

“Justin Duncan”

JUSTIN DUNCAN
MEMBER

“Robert V. Wright”

ROBERT V. WRIGHT
VICE-CHAIR

If there is an attachment referred to in this document,
please visit www.elto.gov.on.ca to view the attachment in PDF format.

Environmental Review Tribunal

A constituent tribunal of Environment and Land Tribunals Ontario
Website: www.elto.gov.on.ca Telephone: 416-212-6349 Toll Free: 1-866-448-2248