NOVA SCOTIA
Environment and Climate Change

Comment Index
Benjamins Mill Wind Project

Government

Number	Source	Date Received
1	Nova Scotia Department of Environment and Climate Change – Inspection, Compliance and Enforcement Division	January 25, 2023
2	Nova Scotia Department of Environment and Climate Change - Water Resources Management Unit	January 26, 2023
3	Nova Scotia Department of Environment and Climate Change – Air Quality Unit	January 30, 2023
4	Nova Scotia Department of Environment and Climate Change - Water Resources Management Unit	January 31, 2023
5	Fisheries and Oceans Canada	February 2, 2023
6	Nova Scotia Department of Natural Resources and Renewables	February 3, 2023
7	Nova Scotia Office of L'nu Affairs	February 3, 2023
8	Nova Scotia Department of Environment and Climate Change – Protected Areas and Ecosystems Branch	February 6, 2023
9	Environment and Climate Change Canada	February 7, 2023
10	Nova Scotia Department of Communities, Culture, Tourism and Heritage	February 6, 2023

Public

Number	Source	Date Received
1	Anonymous	January 9, 2023
2	Anonymous	January 13, 2023
3	Anonymous	February 2, 2023

From: Zhao, Lanying X
To: Quinn, Candace M
Subject: RE: Benjamins Mill Wind Project - Additional Information Addendum EA Review
Date: January 25, 2023 4:24:59 PM
Attachments: image003.png

Hello Candace,

I have reviewed the Addendum to the Environmental Assessment Registration, in particular, focused on Chapter 5: Physical Environment. It is noted that the comments regarding radiation screening and mitigation have been addressed Addendum. The comments were provided at the time of reviewing the Environmental Assessment Registration dated February 17, 2022. Based on the review, there are no further comments on the Addendum.

Thanks,
Lanying

NOVA SCOTIA
Department of Environment and Climate Change

Lanying Zhao
Regional Hydrogeologist
Inspection Compliance & Enforcement Division

136 Exhibition Street
Kentville, NS B4N 4E5
(902) 679-6086
lanying.zhao@novascotia.ca

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: 26.01.2023

To: Candace Quinn, Environmental Assessment Officer

From: Surface Water Resources Staff, Water Resources Management Unit

CC: Director, Water Branch and Manager, Water Resources Management Unit

Subject: Benjamins Mill Wind Project - Additional Information Addendum EA Review, West Hants Regional Municipality, Nova Scotia

Scope of review:

This review is based on the mandate of Nova Scotia Environment and Climate Change for the management of surface water resources, including surface water quantity, and quality. Specifically, this review is with respect to Item 5 in the Minister's March 9, 2022 Decision to require Additional Information.

Reviewed Documents:

The Addendum to the Environmental Assessment Registration for Benjamin Mill Wind Project report and Appendix R.

Comments:

The project as proposed will include approximately 47 km total of gravel roadway which includes upgrading and widening existing forestry roads or construction of new roadway corridors. The Report provides a "conservative maximum estimate" for 23-30m of cleared right of way depending on the roadway use and infrastructure. An additional 0.6km of development will be used for project infrastructure (collector/transmission lines) that are not following the roadways.

24 watercourses were confirmed through field identification. The Report notes that it is estimated for 28 watercourse crossings (some watercourses are crossed more than once as they meander). However, these identified crossings are only identified along site roads and access to turbine roads.

Each of the 28 watercourse crossings, including the extension or replacement of existing crossings, will be subject to the Watercourse Alteration Program (including approvals and notifications each crossing). Note that extensions of existing culverts are expected to meet current program standards, including consideration for climate change. Any other alteration activities including road shoulder stabilization or channel realignment may require approval from NSECC.

Figure 10 a-f shows the field identification/verification of watercourses. The report confirms the proponents correct understanding of the definition of watercourse in Nova Scotia is not dependant on a permanent flow condition. Alteration of any dry or considered intermittent channels should be reviewed with NSECC to confirm status as a watercourse.

Appendix R provides the surface water management plan and identifies additional crossing culverts anticipated to maintain surface water / hydrologic connectivity for wetlands. However, this additional information is limited to the area around the turbines. With this additional

information the applicant has described the general hydrological conditions in the vicinity and provided demonstration of and rationale for the characterization of the potential interaction of the project with surface water.

However, the additional information did not include all site activities and development area: information on the clearing and construction of the transmission line corridors, collector line corridors that are not contiguous with roads was not provided. Additionally, the surface water management plan did not include information for cross culverts to maintain hydrologic connectivity to wetlands on the access road from the access site north to the vicinity of the turbines.

It is noted for education purposes that temporary crossings require permission from NSECC as an activity under regulation if the crossing is within the bed or bank of the watercourse.

An Erosion and Sediment Control Plan with site drawings was not provided; commitment to several industry standard best practices was made.

Based on the scope of the activity and the risks associated, a surface water monitoring program is not recommended.

Gap Assessment			
Identify Gap/Risk	**Can it be addressed in another permit/approval or with a T&C?**	**Define/provide detail**	**Risk of gap and this approach?**
Surface water management plan is still in a preliminary level, is incomplete in project development area coverage, and cannot support the stated assessment of impacts.	Yes, EA T&C.	Provide final surface water management plan confirming continued adherence to maintaining hydrologic connectivity or otherwise seeking advice from NSECC to screen for additional permitting requirements (e.g. indirect impact to wetlands). Final surface water management plan to include all site activities and civil works. Plan should be provided before civil works begin.	- Risk that impacts to the watercourses and wetlands have not been identified/ assessed. Therefore risk that an activity that needs mitigation will alter the submitted project development activities. - By providing plan before civil works begin, expected that mitigations would be able to be found as necessary. - Low residual risk with this approach.
Watercourse Crossings not identified for collector lines not parallel to the roads and the proposed transmission line/cleared right of way. By not providing information confirming crossings on all site activities, it is an increased risk that there is a lack of understanding that construction activities that may employ temporary crossings are not exempt if activity is within the bed or bank of a watercourse.	Yes, EA T&C. Yes, Watercourse Alteration (per Activities Designation Regulations Section 5)	Include statement that confirms that an approval from NSECC for the construction of watercourse crossings and/or wetland alterations, as specified in the Activities Designation Regulations is necessary, regardless of the duration of the activity.	- Risk of impact to watercourses if work proceeds without Notification or Approval. - An EA T&C providing this detail could support mitigating this risk by confirming the scope of the regulated activities - Low residual risk with this approach.
Erosion and Sediment Control has only been	Yes, EA T&C.	A detailed erosion and sediment control plan for the activities proposed is to be developed by	- There is no subsequent approval process will address

described in principle, therefore gap of information to support the stated assessment of impacts.		a qualified professional and is required to be submitted for NSECC review and approval prior to construction activities, including clearing, grubbing, and stripping, take place.	erosion and sediment control that looks at the project development area level. - Risk of sediment releases from civil works can be mitigated through the development and implementation of an ESC plan. - Low residual risk with this approach.

Summary of Recommendations:

The Project is expected to pose low risk to surface water resources based on the scope of project activities if the mitigation measures as described in the EA reporting (original and additional information) are implemented. The Project, if approved, does not have a subsequent permitting process that confirms site-wide mitigation measures are being fulfilled. Therefore, it is recommended that if the Project is approved, prior to construction a comprehensive erosion sediment control plan, and, surface water management plan are provided for review and acceptance by NSECC.

There was a consistent lack of information presented related to the project activities that occurred outside of a turbine access or site access road. Crossings – even temporary ones – during the construction of electrical lines may be necessary. Many applicants across industries do not recognize that temporary watercourse crossings can still cause significant environmental impacts and therefore are not exempt from the watercourse alteration program. Including this detail in the EA T&C is suggested as an education tool to mitigate the risk that there are crossings which have not been identified in the EA.

Should the Project be approved, the proposed activities will be subject to the watercourse alteration permitting process prior to any watercourse alterations.

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

NOVA SCOTIA
Environment and Climate Change

Date: January 30th, 2023

To: Candace Quinn, Environmental Assessment Officer

From: Air Quality Protection Advisor, Air Quality Unit

Subject: Benjamin's Mill Wind Project**, Hants County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Noise

Technical Comments:

The addendum with respect to noise has been submitted following the Minister's request for further information:

Provide justification for the noise assessment methodology used and how the modelling software addresses these larger scale commercial wind-turbines (5 MW) and their sound level outputs at the nearest receptor locations. Refer to Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise (Health Canada, 2017) as necessary. The noise assessment should also ensure the modulation of sounds from operations, low frequency noise, proposed mitigation and monitoring, and a complaint resolution plan are provided in detail.

The revised noise impact assessment is based on a configuration of twenty-eight 5.5MW turbines.

The modelling software that was used to assess impacts is based on international standard ISO 9613. The model assumes that the wind is blowing in all directions all of the time, and therefore represents worst case with respect to wind direction. The assessment provides details on the assumptions made, with sufficient justification, including the use of a surrogate baseline noise level for cumulative impacts. The proponent has used provincial and federal guidance, including Health Canada's *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*.

The proponent reports that the manufacturer guarantees that the turbines will not generate any tonal noises. Modulation and impulsive sounds were not considered to be 'of a level to necessitate the application of any penalty'.

Low frequency noise impacts have been assessed, with no infrasound predicted to occur at the receptor locations. The assessment indicates that the project will use natural

measures to decrease noise impacts, for example, through minimizing the removal of scrub to promote sound absorption.

The proponent has developed an Environmental Management Plan and a Complaints Procedure. Complaints will be addressed within five business days, and, where it is considered necessary, a monitoring program will be used to investigate noise issues. This approach is consistent with the Department's approach for investigating noise complaints.

The revised assessment shows that the noise levels from the proposed development that are predicted to be experienced at receptor locations are lower than the surrogate baseline noise level by several decibels. This indicates that the development is predicted to have minimal impact on the noise levels at receptor locations. All cumulative noise levels are below the permissible sound level for rural areas during the nighttime (11pm to 7am) of 40 dBA.

Summary of Recommendations: (provide in non-technical language)

The proponent has used a surrogate baseline noise level to assess cumulative impacts. It is recommended that the proponent undertakes a baseline noise survey to confirm baseline noise levels at representative receptor locations.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: January 31, 2023

To: Candace Quinn, Environmental Assessment Officer

From: Wetland & Water Resources Specialist, Water Resources Management Unit

CC: Director, Water Branch and Manager, Water Resources Management Unit

Subject: Benjamins Mill Wind Project, Hants County, Nova Scotia

Scope of review:
The following review of the Benjamins Mill Wind Project (Benjamins Mill in Hants County, NS) Addendum to the Environmental Assessment Registration Document (EARD) (Natural Forces Developments Limited Partnership, December 2022) is specific to the mandate of the NSE Wetlands Program. The review considers whether the environmental concerns associated with wetlands and the proposed mitigation measures to be applied have been adequately addressed within the Environmental Assessment Addendum.

Reviewed Documents:
Benjamins Mill Wind Project Addendum to the Environmental Assessment Registration, Natural Forces Developments LP., December 20th, 2022.

General Comments:
77 wetlands were identified that were within or had a portion of their area within the Study Area which included swamps, bogs, fens, and complexes with both swamp and fen components. Table 11, pg. 48-55 of the addendum document proposed the potential for the alteration of 65 wetlands based on the existing layout with road upgrades and collector line placement. Most of the wetlands are found adjacent to existing forestry roads, with areas having been historically cleared. No wetlands are within the proposed turbine pad areas.

Not all the information requested in the EARD review was provided in the addendum submission. Maps should have identified wetlands by class and clearly indicated the locations of the project in relation to the wetland and other natural features (i.e., watercourses, fish habitat, SAR/SOCC). Maps currently only show the desktop NRR wetlands not the delineated wetlands in correlation to the natural features.

Wetlands of Special Significance (WSS) have not been identified correctly. Only two wetlands (WL-4 2022, WL-5 2022) in the EARD addendum wetland section were identified as WSS based on the presence of SAR. The *Nova Scotia Wetland Conservation Policy* WSS statement states that one trigger for WSS is “wetlands known to support at-risk species as designated under the federal *Species At Risk Act* or the *Nova Scotia Endangered Species Act*. In other sections of the report (i.e., Appendix F, Figure 8: Locations Where Bird Species At Risk Were Observed) species at risk were identified and appear to be in the location of multiple wetlands which have the potential to be altered. These wetlands were not identified as WSS in the report.

Additionally, several wetlands that are high functioning in a category of the functional WESP-AC assessment but did not meet the NSECC WESP-AC interpretation tool WSS definition were identified as potential WSS. These would not be considered WSS at this time.

Detailed designs of the road upgrades or pole placement of the collector line were not provided in this EARD addendum, and therefore, it is hard to determine the footprint of the project and what wetlands have the potential to be impacted directly and indirectly. The proponent stated minor changes to the layout will be implemented during the civil design stage to avoid infilling wetlands. Collector lines will fully span wetlands where possible with approximate spans of 50 m to avoid wetlands.

Gap Assessment			
Identify Gap	Can it be addressed in another permit/approval or with a T&C?	Define/provide detail	Risk of gap and this approach?
No information was provided on maps or included in the report describing the location of wetlands related to natural features and SAR/SOCC locations, as recommended in the Guide to Preparing an EA Registration Document for Wind Power Projects in Nova Scotia	Yes, T&C	Information was previously requested during the EARD review and has not been provided. Without this information, we are unable to identify which wetlands correlate with other important features (e.g. SAR/SOCC, watercourses, fish habitat) making it difficult to understand the project impacts.	Potential for loss/alteration of a Wetland and/or Wetland of Special Significance contrary to the *Nova Scotia Wetland Conservation Policy*.
Wetlands of Special Significance were not identified correctly.	Yes, T&C	Wetlands of Special Significance were not identified based on the *Nova Scotia Wetland Conservation Policy* WSS statement. The policy states that one trigger for Wetlands of Special Significance is "wetlands known to support at-risk species as designated under the federal *Species At Risk Act* or the *Nova Scotia Endangered Species Act*. Only two wetlands (WL-4 2022, WL-5 2022) in the EARD addendum wetland section were identified as WSS based on the presence of SAR. After reviewing the bird section of the report many other wetlands appear to have SAR habitat and would be considered WSS. Additionally, other wetlands did not meet the NSECC WSS definition (WESP-AC Functional Assessment Interpretation tool trigger) and were identified in the report as WSS.	Potential for loss/alteration of a Wetland of Special Significance contrary to the *Nova Scotia Wetland Conservation Policy*.
Wetlands of Special Significance have the potential to be altered.	Yes, T&C	Based on the mapping and details included in Table 11 pg. 48-55 there is the potential for WSS to be altered during construction.	Potential for loss/alteration of a Wetland of Special Significance contrary to the *Nova Scotia Wetland Conservation Policy*.
Collector Line pole placement not identified.	Yes, T&C	Pole placement was not provided and buffers around wetlands were not described. Confirm that pole placement will not occur in WSS and avoid other wetlands to the extent possible.	Potential for wetland alteration/loss.

Summary of Recommendations:

The *NS Wetland Conservation Policy* (2011) objective is to “manage human activity in or near wetlands, with the goal of no loss in Wetlands of Special Significance (WSS) and the goal of preventing net loss in area and function for other wetlands”. The information provided in the EARD addendum is insufficient in identifying the potential environmental impacts on wetlands. Information is lacking detail and does not correlate with other important features (i.e., project infrastructure, SAR/SOCC, watercourses, fish habitat). It is unclear how many wetlands are WSS based on the information provided. The proponent should clearly demonstrate in maps and tables which wetlands are WSS and that there will be no impacts to them. Based on the information provided there is the potential for loss of WSS which is not consistent with the *NS Wetland Conservation Policy.* The final construction design should confirm how these wetlands are being avoided from direct or indirect alteration.

Prior to construction, the proponent should provide to ECC a construction plan with the pole placement around the wetlands and if possible, maintain a 30-metre buffer. A wetland management plan including wetland mitigations should be provided to ensure wetland avoidance and protection. Only hand clearing should occur in wetlands otherwise it is considered wetland alteration and an approval is required. The *Wetland Conservation Policy* only allows alteration to WSS for necessary public function projects.

Should the Project be approved, the proposed activities will be subject to the ECC Wetland Alteration Approvals process prior to any wetland impacts. The proponent should utilize Nova Scotia’s Wetland Alteration Application’s Guided Template for the permit applications.

Fisheries and Oceans Canada | Pêches et Océans Canada

Bedford Institute of Oceanography
1 Challenger Drive
P.O. Box 1006, Station P510
Dartmouth, Nova Scotia, B2Y 4A2

Date: February 2, 2023

To: Candace Quinn, Environmental Assessment Officer

From: Laura Watkinson, Linear Development, Regulatory Review Biologist, Fish and Fish Habitat Protection Program; Sign-off by Leanda Delaney, Senior Biologist

Subject: Benjamins Mill Wind Project, Hants County, Nova Scotia

Scope of review:
The Fish and Fish Habitat Protection Program of Fisheries and Oceans Canada (DFO-FFHPP) is responsible for administrating the fish and fish habitat protection provisions of the *Fisheries Act* (FA), the *Species at Risk Act* (SARA) for aquatic species at risk, and the *Aquatic Invasive Species Regulations*.

DFO-FFHPP review focused on the impacts of the works outlined in the Benjamins Mill Wind Project Addendum to the Environmental Assessment Registration Document, to potentially result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat, which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*;
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*; and
- The introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.

Technical Comments:

Risk Assessment		
Identify Gap/Risk	Can it be addressed in another permit/approval or with a T&C?	Define/provide detail
Fish Presence/Absence Determination: Presence and/ or absence of fish conducted by visual observations and desktop review (page 71 of the addendum, in section 3.1.4.2).	The identified gap can be addressed during the Nova Scotia Environment and Climate Change (NSECC) watercourse and/or wetland alteration approval process(es) and DFO-FFHPP regulatory review process.	Additional methods beyond visual observation and desktop review should be administered to correctly identify all fish bearing waterbodies to be potentially impacted by the project. Additional methodology can include electrofishing, netting, and/or trapping in varying combinations.

Supplementary measures such as netting, electrofishing and/or trapping were not administered when conducting the fish and fish habitat assessment.		A Scientific License from DFO will be required prior to administering the assessment.
Watercourse Crossing Designs: Specifics related to proposed watercourse crossings are not yet determined. The risk of cumulative impacts from multiple crossings within the same watershed will require additional consideration once details are finalized.	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO-FFHPP regulatory review process. All new watercourse crossings will require DFO review, to address local and cumulative impacts to fish and fish habitat, including potential impacts to aquatic species at risk.	Additional information will be required as part of the DFO-FFHPP regulatory review process, including, but not limited to: final number of proposed watercourse crossings (new and upgraded), location and designs drawings for specific watercourse crossings, rationale for crossing types, site specific hydrological and fish passage assessments, site specific impacts to fish and fish habitat including delineated footprint below the ordinary high water mark, cumulative impacts, site specific impacts to aquatic species at risk, and site specific impacts to riparian and contiguous wetland habitat.

Summary of Recommendations: (provide in non-technical language)

DFO-FFHPP recommends the proponent consider:

- Conducting additional field assessments beyond visual observations and desktop review to identify all fish bearing waterbodies to be potentially impacted by the project;

- Submitting detailed information on watercourse crossing designs, and identifying potential impacts on fish and fish habitat (local and cumulative) in each watershed from each watercourse crossing, including potential impacts to aquatic species at risk; and

- Open bottom structures, such as clear span bridges and open bottom arch culverts for fish bearing watercourse crossings, where possible.

This information can be provided through the NSECC watercourse and/or wetland alteration approval process(es) to allow DFO to conduct a regulatory review of potential impacts to fish and fish habitat and to determine if a *Fisheries Act* and/or a *Species at Risk* permit is required.

NOVA SCOTIA
Natural Resources and Renewables

1701 Hollis St.
PO Box 698
Halifax, NS B3J 2T9

Date: February 5, 2023

To: Candace Quinn, Environmental Assessment Officer

From: Department of Natural Resources and Renewables (NRR)

Subject: **Benjamins Mill Wind Project, Hants County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Authorities and approvals required from Land Services Branch, Clean Energy, Environmental Geology and Hydrogeology, biodiversity, species at risk (SAR) status and recovery, wildlife species and habitat management and conservation, Old Growth Forest.

Technical Comments:

Land Services Branch:
The Proponent will require authority (such as a lease, licence, or easement) from the Department of Natural Resources and Renewables for any activity on Crown land.

The Proponent may require further approvals or permits for water crossings or for changes to existing water crossings.

Clean Energy Branch:

A portion of the proposed project is part of the current successful Rate Base Procurement portfolio resulting from the 2022 Request for Proposals process; however, the full proposed capacity of the site is anticipated to participate in subsequent procurement opportunities for new renewable energy.

Wind energy projects such as Benjamins would help Nova Scotia transition its electricity system from the use of coal-fired generation that has direct negative impacts, including air pollution and greenhouse gas emissions.

The transition of our electricity system to renewable energy is part of the province's plans and commitments to climate change mitigation.

Wind energy is the lowest cost of energy world-wide and local deployment of wind energy is anticipated to save rate payers of Nova Scotia millions of dollars over the lifetime of their operation while also reducing the emissions and pollution intensity of the electricity system.

Wind energy will help the electricity system avoid output-based price compliance for greenhouse gas emissions in Nova Scotia resulting in less upward pressure on rate payers through fuel.

Transitioning the electricity system to renewable energy is the most cost effective and significant action the province can undertake to reduce its greenhouse gas emissions in the near term.

This project is in partnership with all 13 Mi'kmaq communities in Nova Scotia meeting the Departments mandate on inclusion in the transition of the electricity system.

Renewable energy projects such as wind projects will assist the province in achieving its goals in the *Electricity Act*, NRR mandate letter and business plan. It will also support Environment and Climate Change's Environmental Goals and *Climate Change Reduction Act* (EGCCRA), and the Climate Change Plan for Clean Growth (CCPCG).

Geoscience and Mines Branch:

The Geoscience Survey Division (GSD) has conducted a preliminary review of the Benjamins Mill Wind Project (BMWP) Addendum. The GSD finds that information on the geological characterization within the Addendum to be sufficient.

The GSD has no further comments on this review.

Biodiversity Division:

1.3.2.5 Lighting. The lighting plan should be shared with NRR.

Table 6: Local Assessment Areas for Biophysical Valued Environmental Components. The Local Area of Assessment (LAA) for turtle and turtle habitat, NRR recommends a survey distance of 200m upstream and downstream of the proposed area of work (such as a watercourse crossing).

Figure 12, page 84 and Appendix F, Figure 3. No explanation was provided for why T23-T28 was not assessed as part of the point counts for breeding bird surveys. Sufficient survey coverage of both all suitable habitat within the Local Area of Assessment (LAA), as well as the project footprint/layout, is required as part of the assessment.

Section 3.1.7.2, page 146. Table 33 suggests Mainland Moose may be present given the proximity to the Project Development Area (PDA). Note that Mainland Moose are considered a data sensitive species and that the precise AC CDC reported distance should not be provided in Table 33. Although the area is not considered part of Core Habitat for Mainland Moose, given the location information provided, surveys for Mainland Moose are recommended.

3.2.3 Residual Environmental Impacts. "The effects of the Project activities on terrestrial wildlife are expected to be limited to only the Project footprint". Some follow-up monitoring for moose during the operational phase is recommended to assess potential effects of disturbance.

Potential Interactions and Proposed Mitigation (Tables 36-42). Mitigation has been proposed for the various VECs that are expected to experience adverse effects due to the project; it should be noted that the finalization of detailed mitigative prescriptions related to many biodiversity values will take place through the development and finalization of the Wildlife Management Plan including (or as well as) an Adaptive Management Plan for some values. The proponent should be prepared for some buffer distances, timing windows, or other prescriptive measures to vary from those proposed in the EA documents. Mitigation measures may also be required for values for which the EA documents did not propose any (e.g. Monarch). The components of the WMP that address impacts expected during each phase of the project must be finalized *before* that phase begins.

Table 40, page 169. Point 6, Appendix F and Appendix O. The breeding bird season should be April 5th – August 28th from an interpretation of federal guidance on general nesting periods of migratory birds. Point 9, where it states "*if a SAR is encountered during activities, work around the SAR shall cease until a biologist is dispatched to assess the situation and appropriate mitigation is applied*" it should include "*following consultation with NRR and other regulatory agencies as required*". Mitigations and approaches may vary depending on species and type of encounter. This is applicable for all instances where this statement is found in the document and associated appendices. Point 13. Bird species, their nests, and eggs are protected under the provincial *Wildlife Act*; any workers on site will need to be aware of this Act and its regulations.

Herpetofauna (reptiles and amphibians). The landscape context among watercourses, wetlands and other aquatic features, combined with the expected site conditions during and after construction are sufficient to assume potential impacts to herpetofauna whilst transiting, nesting, or thermoregulating, particularly on gravel surfaces within the project footprint. The EA documents do not address this value explicitly and the proposed mitigation for the VEC under which they are captured is not adequate to minimize or avoid impacts to an acceptable level.

Appendix F. Table 21, page 62. Point 5. Communication and consultation with NRR are also required for any issues regarding bird species (both migratory and non-migratory).

Appendix H. 6.1.3 Standard Mitigation for Potential Environmental Effects, page 24. It should be noted that NRR is the primary agency responsible for species at risk bat species in Nova Scotia that occur on non-federal lands. In addition, a post-construction *bat* mortality survey should be developed.

Appendix Q. Pre-construction baseline surveys and analysis of results should be used to inform both avoidance and mitigation. The need for engagement with regulators on the finalization of the adaptive management plan is emphasized.

Appendix O. The draft Environmental Management and Protection Plan does not provide specific information on measures to avoid or mitigate all potential SAR which were identified through field surveys or that have the potential to occur within the PDA.

There is protected Old Growth Forest (OGF) Policy layer forest that is about 500m away from some of the eastern turbine locations. As such, the proponents need to ensure they assess areas for potential OGF.

Summary of Recommendations: (provide in non-technical language)

Land Services Branch:
No further comments.

Clean Energy Branch:
The EA process does not currently allow for the comparison and reflection on the climate change or environmental related benefits of transitioning the electricity system from fossil fuels to renewable energy. The long-term use of coal-fired generation for our electricity system has had significant cumulative negative impacts to the environment, climate, and human and animal health as a result of air pollution and other related pollutants from coal-fired generation. New renewable energy projects, such as wind energy, must be considered in comparison to the status quo and the benefits that result from the transition of the electricity sector to renewable energy. There are substantial benefits to the health and welfare of the ecosystem in Nova Scotia that is a result of switching coal-fired generation for new renewable energy resources.

It is recommended this project proceed for approvals with the appropriate mitigation measures captured in terms and conditions to ensure sustainable development of wind energy in Nova Scotia.

Geoscience and Mines Branch:
No recommendations.

Biodiversity Branch:
Based upon a review of the information in the addendum, the following recommendations for conditions of approval are provided, in addition to those made on the original EARD:

- Obtain all necessary permits as required under legislation related to wildlife and species at risk in order to undertake the project.
- Provide digital way points and/or shapefiles for all Species at Risk and Species of Conservation Concern to NRR (those species listed and/or assessed as at risk under the *Species at Risk Act*, *Endangered Species Act*, COSEWIC, as well as all S1, S2 and S3 species). Data should adhere to the format prescribed in the NRR Template for Species Submissions for EAs and is to be provided within two (2) months of collection.
- Develop a Wildlife Management Plan (WMP) in consultation with NRR and implement the following approval which shall include:
    - Communication protocol with regulatory agencies.
    - General wildlife concerns (e.g., human-wildlife conflict avoidance).
    - Noise, dust, and lighting mitigations.

    - Measures to protect and mitigate against adverse effects to migratory birds during construction and operation. This may include avoidance of certain activities (such as vegetation clearing) during the regional nesting period for most birds, buffer zones around discovered nests, limiting activities during the breeding season around active nests, and other best management practices.
    - Mitigation measures to avoid and/or protect SAR/SoCC and associated habitats discovered through survey work or have the potential to be found on site (including reptiles and amphibians and Old Growth Forest);
    - Details on monitoring and inspections to assess compliance with the WMP.
- The components of the WMP that address impacts expected during each phase of the project must be finalized *before* that phase begins.
- Revegetate cleared areas using native vegetation or seed sources following consultation with NRR.
- Develop a plan to prevent the spread of invasives both on and off site. Implementation of the plan can only occur following approval from NRR. The plan should include a monitoring, reporting, and adaptive management component.
- Develop a monitoring program to assess mortality for birds and bats in consultation with NRR and ECCC and implement for a minimum of two (2) years post-construction during the operation stage of the project. Guidance on monitoring requirements will be provided by NRR. Reporting of the results of the monitoring program shall be on an annual basis to the appropriate regulatory agencies. Pending review of the results of the monitoring program, additional monitoring or mitigation measures may be required.
- Engage with NRR and ECCC to develop an adaptive management plan to inform decision-making related to adverse effects of the project on migratory bird and bat species. The plan shall be implemented following NRR approval. Additional surveys or mitigations may be required following a review of the effectiveness of the plan.
- Conduct surveys for Mainland Moose for a minimum of two (2) years during the operation phase of the project, in a buffered zone of influence extending up to two (2) kms from the project footprint; in order to assess potential effects of disturbance.
- Conduct surveys for Old Growth Forest and provide mitigation as appropriate that aligns with the Old Growth Policy.

Date: February 5, 2023

To: Candace Quinn, Environmental Assessment Officer

From: Nova Scotia Office of L'nu Affairs – Consultation Division *Reviewed by Beata Dera, Director of Consultation*

Subject: Natural Forces Benjamins Mill Wind Project**, Hants County, Nova Scotia**

Scope of review:

The following review considers whether the information provided will assist the Province in assessing the potential of the proposed Project to adversely impact established and/or asserted Mi'kmaw Aboriginal and Treaty rights.

Technical Comments:

1.3.2 Physical Components of the Project

Project footprint is estimated to be 182ha during construction phase and 121ha after construction is complete. Access roads will range from 6 to 12 m wide. A new transmission line and new access roads to the transmission line will be constructed.

Summary of Recommendations:

3.1.1.4 Culturally Significant Flora

A non-exhaustive list of vegetation that is potentially culturally significant to the Mi'kmaq of Nova Scotia was prepared by a biologist from Maqamigew Anqotumeg. OLA recommends the proponent share this list with the Mi'kmaq of Nova Scotia through an ongoing engagement process throughout the development stages of the project.

3.1.2.1 Desktop Survey & Habitat Assessment

The EARD states that a deer wintering area is located adjacent to the project site and that there is potential for deer to winter in forested areas adjacent to the project site. The Proponent indicated that the project was designed to minimize disturbance to natural areas. OLA is aware that hunting deer is a traditional activity for the Mi'kmaq of Nova Scotia. Potential impacts to deer and their habitat may potentially adversely impact Aboriginal and/or Treaty rights. OLA recommends that engagement with the Mi'kmaq on mitigation measures for potential impacts on possible traditional and current use activities within the project area and adjacent to the project area, through a Mi'kmaq Communications Plan, be required if the EA is approved. OLA further recommends that the proponent engage the Mi'kmaq of Nova Scotia by sharing draft mitigation and monitoring plans for input from the Mi'kmaq.

3.1.4.3 Assessment Conclusions

The EARD states that Atlantic salmon have been identified in the Avon River watershed by the Proponent. Although suitable Atlantic salmon habitat was not identified during initial field studies, the EARD states that watercourses that may be impacted by the final design will undergo additional detailed assessments to ensure that potential impacts to Atlantic Salmon are considered and appropriately mitigated. The EARD further states that American eel has the potential to be present in any of the watercourses in the study area and that Brook Trout were confirmed at the Five Islands Lake Brook location and potential suitable habitat for Brook Trout was identified throughout the Project Development Area (PDA). OLA is aware that Atlantic salmon, American eel, and Brook trout are species of interest to the Mi'kmaq of Nova Scotia. Potential impacts to Atlantic salmon, American eel, and/or Brook trout and their habitat may potentially adversely impact Aboriginal and/or Treaty rights. OLA recommends that engagement with the Mi'kmaq on mitigation measures for potential impacts on possible fishing activities within the project area and adjacent to the project area, through a Mi'kmaq Communications Plan, be required if the EA is approved. OLA further recommends that the proponent engage the Mi'kmaq of Nova Scotia by sharing draft mitigation and monitoring plans for input from the Mi'kmaq.

3.1.5.1 Desktop Analysis: Forest Habitat Assessment

In Canada, important bird habitats are recognized by the Important Bird and Biodiversity Areas Program. The nearest designated Important Bird Area (IBA), is located approximately 3 km north from the nearest proposed wind turbine location.

3.1.5.3 Assessment Conclusions

The EARD states that a total of 103 bird species and approximately 11,700 individual birds were recorded during the course of all bird surveys including incidental observations made during other biophysical surveys during both the 2021 and 2022 field seasons. OLA is aware that impacts to birds are of interest to the Mi'kmaq, therefore OLA recommends that engagement with the Mi'kmaq on mitigation to potential impacts on bird species and bird habitat, through a Mi'kmaq Communications Plan, be required if the EA is approved.

Appendix N 2022 Archaeological Resource Impact Assessment

As determined by the Archaeological Resource Impact Assessment (ARIA) through methods of reconnaissance, one area of elevated archaeological resource potential was identified within the study area. The ARIA identified this area to be a possible rock-shelter – the space beneath a large, perched granite boulder located within the Project Development Area (PDA) for Turbine #7. The ARIA recommended that any ground disturbance within 20 metres of the footprint of the potential rock-shelter be preceded by a program of strategic subsurface excavation within that footprint. The ARIA recommended that the remainder of the PDA be cleared of requirement for further archaeological investigation. Given that impacts to archaeology are of interest to the Mi'kmaq, OLA recommends that engagement with the Mi'kmaq on archaeology, through a Mi'kmaq Communications Plan, be required if the EA is approved.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: February 3, 2023

To: Candace Quinn, Environmental Assessment Officer

From: Peter Labor, Director, Protected Areas and Ecosystems

Subject: Benjamins Mill Wind Project, Hants County, Nova Scotia

Scope of review:
This review focuses on the following mandate: protected areas and ecosystems

Technical Comments:

Comments from the Protected Areas and Ecosystems Branch on the addendum are limited to the following requirement for more information specified in the Minister's March 9, 2022, decision: *"In consultation with ECC Protected Areas and Ecosystems Division provide an analysis of potential impacts to biodiversity values and land-scape scale ecological connectivity from habitat fragmentation. Identify any associated mitigation measures."*

The addendum to the EA registration document provides adequate information to identify the potential environmental effects of the project on biodiversity values and landscape scale ecological connectivity. Most of this information is provided in Section 4 of the addendum. Information supplied through the addendum and reviewed by staff includes mapping and/or metrics for land cover, forest type and seral stage, road index, forest connectivity, and the footprint of various project infrastructure elements (e.g., road expansions, collector lines), as well as proposed mitigation measures.

After reviewing relevant parts of the addendum, including forest intactness information and a connectivity analysis, it is not clear how mitigation measures proposed in the addendum are aligned with the with guidance from p.17 of the Department's *Guide to Preparing an EA Registration Document for Wind Power Projects in Nova Scotia (Revised 2021)* encouraging avoidance of relatively intact natural areas, and lands of importance for ecological connectivity.

More specifically, it appears that proposed mitigation is based on findings in the addendum that may underestimate the project area's importance for biodiversity values and landscape scale ecological connectivity, as well as the impacts of specific activities such as road and corridor construction and upgrading.

Summary of Recommendations:

It is recommended that consideration be given to advancing the project in such a way that the proposed measures mitigate impacts to biodiversity values and landscape scale ecological connectivity from habitat fragmentation. More specifically,

- The project should, to the extent possible, be concentrated within a development footprint that best avoids the most intact and naturally forested portion of the project site.

  This recommended condition aligns with Mitigation Measures #1 and #2 in Table 46 (p.202/203) in the addendum which aim to site the project in an area with previous anthropogenic disturbance and high road density.

- The proponent should, to the extent possible, minimize impacts to intact forest patches.

  This condition aligns with Mitigation Measure #6 which aims to retain and restore natural forest patches.

- The project should, to the extent possible, result in no net increase in road density for the project area.

  This condition aligns with Mitigation Measures #4 and #5, which are aimed at reducing road density and habitat fragmentation.

From:	Zwicker,Stephen (ECCC)
To:	Quinn, Candace M
Cc:	Hingston,Michael (il, lui | he, him) (ECCC); Breau,Monique (elle, la | she, her) (ECCC)
Subject:	RE: Benjamins Mill Wind Project - Additional Information Addendum EA Review
Date:	February 7, 2023 12:23:05 PM
Attachments:	image001.png

Hi Candace,
Environment and Climate Change Canada's Canadian Wildlife Service (ECCC-CWS) has reviewed the Natural Forces Limited Partnership's Addendum based on Nova Scotia's Department of Environment and Climate Change (NSECC) Minister's Request for Additional Information for the proposed Benjamins Mill Wind Project near Falls Lake, Hants County, NS. ECCC-CWS' previous review comments provided for this project on March 25, 2022 remain applicable and we also provide the following comments on the December 2022 Addendum:

Migratory Birds

- ECCC recognizes and appreciates the effort in undertaking baseline surveys, radar and acoustic studies, and preparing additional information included in the addendum. The proponent conducted the recommended four seasons of surveys (e.g. timing, number of surveys, and site selection), and, 2 years of radar + acoustic studies, completed according to ECCC-CWS recommendations.

- **Addendum Part 1 (section 1.3.2.4 Wind Turbine Generators)**: It is stated that: "*The operators will have the ability to remotely shut off the turbines should they observe conditions that could pose a risk the turbines' proper functioning or risk to people or wildlife*".

  ECCC-CWS recommends that the Proponent clarify plans to monitor meteorological conditions, including favorable tail wind conditions during peak bird and bat migration, and inclement weather (e.g. fog), which may increase risks to migratory birds, and further describe measures for implementing preventative temporary remote shutdown(s).

- **Part 1 (section 1.3.5 Planning, Site Preparation and Construction – Clearing, Grubbing and Earthworks)**: It is stated that, "*Clearing, grubbing and earth works activities will be planned to occur outside of the breeding bird season where possible. If clearing is required during the breeding bird season, a qualified biologist will be onsite prior to starting the activities to conduct monitoring to identify possible breeding birds in the area and their active nests. These monitoring efforts will follow Environment and Climate Change Canada's (ECCC) specific considerations related to determining the presence of nests. A biologist will observe the bird species in the area and determine if there is presence of suitable nesting habitat within the proposed clearing area. As will observe bird behaviour including, but not limited to, territorial males and individuals carrying food to determine the potential for active nest in the area*".

As previously indicated, ECCC-CWS recommends restricting high disturbance activities such as vegetation clearing activities to *outside* of the regional nesting period for migratory birds to avoid impacts and ensure compliance with the *Migratory Birds Convention Act* (MBCA) and its associated regulations. ECCC-CWS does not recommend active nest searches in complex habitat (trees and shrubs) as they are unlikely to be successful in avoiding incidental take. Ground nesters, such as the threatened Common Nighthawk found in the local assessment area, are very cryptic and difficult to locate.

Nest surveys may be carried out successfully by experienced observers using scientific methodology in the event that activities would take place in simple habitats (often in human-made settings) with only a few likely nesting areas or a small community of migratory birds.

- **Addendum Part 8 (Section 3.2.6 Birds and Bird Habitat)**, it is stated that: "*During operation, the **key potential effect of the Project to birds will be potential impacts to flight paths of migrating birds. In addition, birds may alter their migration flyways and/or local flight paths to avoid wind turbines**. Although the predicted mortality rate of birds due to collision and/or habitat loss cannot be accurately predicted prior to the operational phase, the implementation of robust post construction biophysical assessments will improve understanding of the potential interactions between wind project and wildlife. The post-construction monitoring programs will aid in the identification of potential interactions and determination of when to implement certain mitigation measures (i.e. reporting to CWS or implementing a temporary shutdown) to reduce further impacts".*

  ECCC-CWS supports the development of a post-construction monitoring plan to verify environmental assessment (EA) predictions, monitor effects and identify additional mitigation measures to avoid/minimize further impacts. ECCC's Wind Energy & Birds EA Guidance (ECCC, 2007(a)(b)(available online), and ECCC-CWS Atlantic Region Guidance Update ECCC, 2022) (attached) is recommended as a reference for guidance on post-construction monitoring, including the direct effects from collision through mortality monitoring, but also potential effects from disturbance and displacement (i.e. altered flight paths of migrants and local breeding populations). Pre-construction and post-construction results should be compared to assess and quantify any changes in migratory bird species assemblage, density, and behaviours.

- **Appendix F – Birds and Bird Habitat - Field Assessments, Section 4.2, see also Figure 3, Study and Local Assessment Area for Birds (Winter Search Areas and Diurnal Watch Counts & Nocturnal Survey Locations):** ECCC notes in Figure 3 that a section of the proposed project was not included in field surveys. The rationale for omitting ~25% of the local assessment study area while conducting their field surveys (i.e. proposed locations of T23, T24, T25, T26, T27 and T28) should be clarified.

- **Appendix F – Birds and Bird Habitat Survey, Section 1.1 Background, P. 3)**: It is stated that: "*…species listed pursuant the federal Species at Risk Act (SARA) or the Nova Scotia Endangered*

Species At (NS ESA) are afforded further protection as the destruction and harm to their nest, eggs, or young is prohibited".

It should be clarified Section 33 of SARA prohibits damaging or destroying the **residence** of a listed threatened, endangered, or extirpated species. The residence may extend beyond the nest. For example, structures used by Chimney Swift (CHSW) for nesting include living or dead trees with hollow trunks, cavities, excavated by Pileated Woodpeckers, and rock crevices (COSEWIC, 2018). Under SARA, the ***structure*** housing the nest is considered a residence throughout the year because Chimney Swift are likely to return every year to the same structure. As a result, the structure housing the nest remains a protected residence from year to year when occupied and until the species has not used the structure housing the nest for three consecutive years (i.e. absence confirmed from May to beginning of September). Since the CHSW is a species at risk protected under the MBCA, *1994*, the prohibition immediately applies on all lands or waters (federal, provincial, territorial and private) in which the species occurs.

- CHSW were observed during the Breeding Bird Point Count survey in 2022; however, the proponent indicated that suitable nesting habitat was not observed in the study area.

  ECCC recommends identifying mitigation measures should habitats containing potential residence(s) are found. The Recovery Strategy for the Chimney Swift (*Chaetura pelagica*) in Canada [Proposed] (2022-03-17) is available: https://species-registry.canada.ca/index-en.html#/consultations/2971

- **Appendix F – Birds and Bird Habitat Survey, Desktop Forest Habitat Assessment, Section 5.1., Figure 4:** The map delineating mature forest habitat shows that this habitat is very limited in the study area with only 3 small areas with trees >25cm diameter at breast height (dbh). ECCC also notes that these areas are being avoided for this project. It will be important to avoid further disturbance to these areas in any future proposed development.

- **Appendix F – Birds and Bird Habitat Survey - Bird SAR and SOCC Assessment, Section 5.3 , Figure 8:** As previously noted (ECCC, February 17, 2022), the species at risk map (Appendix F) identifying observations of species at risk and proposed turbines depicts an overlap of the project footprint.

  The number of bird species at risk found in the area suggest that this is a rich area, but it is also noted that there is already a substantial disturbance footprint. However, it is important to avoid/minimize any additional disturbance of species at risk core habitat identified as important to their recovery.

  The large number of observations of Canada Warbler (CAWA) and Olive-sided Flycatcher (OSFL) highlights that forest wetland habitat is abundant in the area, and that CAWA are breeding at this site.

  ECCC-CWS recommends that wetland habitat important in the recovery of bird species at risk be avoided/minimized (e.g. diverting any new roadways around know concentrations of species at risk) and residual impacts to functions loss be considered in the assessment of impacts to

wetlands, as well as, any wetland compensation or offsetting plan.

ECCC-CWS recommends that post-construction monitoring also include breeding bird surveys to determine if these species are being disturbed or displaced by the project.

- Common Nighthawk (CONI), and CHSW are species with a high collision risk with turbines during the breeding period since they are known to occupy open habitat areas in search of flying insects. CONI would likely be at a higher risk because they are crepuscular, and potentially nocturnal, flying at various heights in search of food.

  ECCC-CWS recommends that post-construction monitoring include nightjar surveys to determine if these species are being displaced by the project. Mortality surveys will also assist in determining whether these species are colliding with turbines or whether they are able to avoid them while foraging at night.

- **Appendix G – 2022 Radar and Acoustic Report, Section 4.0 Summary:** It is stated "*Targets were detected at height throughout the area sampled (i.e., between 70 m and approximately 800 m), with most of those being detect above 200 m…While some unknown percentage of migrants are likely stopping over at the Project area, given the consistency in distribution of activity within nights, the data suggest that a large proportion of migrants are not utilizing the area for staging during migration. However, it should be noted that it is possible that migrants are landing earlier in the night*".

  Section 4.0 Summary Section 4.4 (Appendix G) Ministerial Information Requests: It is noted: "*The patterns of migration observed at the Project area show migration strongest during nights with tailwinds, low precipitation, and focused on a few nights across each season. Also during nights of large migration,* ***most birds are observed to be above the proposed RSA of the Project…While some level of turbine collisions is anticipated during the operation of the Project, there are no obvious data trends that suggest large movements of migrants will be present within the turbine RSA****".*

  ECCC-CWS notes there is a high proportion birds found around the critical height for potential strikes which warrants the need for a plan to mitigate effects during optimal conditions for nocturnal migrants, as well as, the development of a post-construction monitoring plan to verify EA predictions, and effectiveness of mitigation measures.

Species at Risk – Bats

- ECCC comments related to bat species at risk provided for the proposed Westchester Wind Project (ECCC, February 1, 2022) also apply to Benjamins Mill.

  ECCC-CWS recommends consulting provincial species at risk biologists at the Nova Scotia Department of Natural Resources and Renewables for further advice and technical expertise on bat species at risk under their responsibility and jurisdiction (contact: Donna Hurlburt at:

Donna.Hurlburt@novascotia.ca and Pam Mills at: pamela.mills@novascotia.ca).

Wetlands

The original 2021 EA Registration Document indicated there was no government funding for this project. As a number of federal funding initiatives have been introduced since that time, it should be confirmed if that remains the case as the *Federal Policy on Wetland Conservation in Canada* (FPWC) may apply. As the federal department responsible for promoting the FPWC, ECCC-CWS request the opportunity to review draft wetland compensation plan(s) prior to finalization to ensure the goals of the FPWC will be met (if required).

Additional Comments

- The proponent should retain raw data (e.g., information on individual tracks) until appropriate data standards have been developed. Proponents are encouraged to share and store data with:
    - The Atlantic Canada Conservation Data Center (http://accdc.com/en/contribute.html); and,
    - The Wind Energy Bird and Bat Monitoring Database (NatureCounts - Wind Energy Bird & Bat Monitoring Database) (Birds Canada 2022). **Please Note**: This is a correction from the Westchester comments referencing the CanWEA database (link no longer active).

- Draft Generic EA Mitigations Wind – Wildlife (Attachment): It is noted that the proponent is instructed to: "*Contact NRR to discuss required actions should nesting birds or their young, or any species-at-risk, be encountered on site during construction*".

  ECCC-CWS is responsible for the management and conservation of migratory birds, and protection of SARA listed species at risk and their habitats. The "Draft Generic EA Mitigations Wind – Wildlife" should be updated to clarify that ECCC-CWS should be contacted via the appropriate EA channels for further advice related to migratory birds and migratory bird species at risk, and compliance with MBCA and SARA.

- Per the Canada Gazette Part II, published on June 8, 2022 (Canada Gazette, Part 2, Volume 156, Number 12: Migratory Birds Regulations, 2022) the modernized *Migratory Birds Regulations* came into effect on **July 30, 2022**, which allows for flexibility with respect to the removal of nests. Per the new provisions under the modernized MBRs, the nests of all migratory bird species are protected when they contain a live bird or a viable egg (i.e. during the nesting period), excluding the nests of 18 species whose nests are reused (listed in Schedule 1 of the regulations), which will remain protected year-round.

  For more information on the amended nest protections, frequently asked questions on how these protections apply to migratory birds and your responsibilities for reporting abandoned nests, please visit Fact Sheet Nest Protection Under the Migratory Birds Regulations, 2022 and Frequently Asked Question, Migratory Birds Regulations, 2022.

- If the project proceeds, the proponent should be advised that provincial conditions of approval do not supersede their responsibility to ensure that activities comply with the MBCA and

associated regulations. For all activities and during all Project phases, the Proponent must take measures to avoid the incidental take of migratory birds, nests, and eggs.

Attachments:

- **Environment and Climate Change Canada's Canadian Wildlife Service (Atlantic Region) – *Wind Energy & Birds Environmental Assessment Guidance Update* (April, 2022)** (not available online). Note: Recommendations in the ECCC 2022 guidance update were previously discussed at early pre-construction meeting, and correspondence. This document does not replace the Environment Canada 2007(a) *Wind Turbines and Birds: A Guidance Document for Environmental Assessment* and 2007(b) *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds* (available online), which are referenced in the 2022 (attached). The 2022 update elaborates on recommendations provided ECCC 2007(a)(b), primarily related to radar and acoustic studies for proposed projects using larger turbines (>150m), and outlines recommendations for pre and post-construction surveys and monitoring.

Please let me know if you have any questions. Thank you.

Stephen Zwicker

Environmental Assessment Coordinator, Environmental Protection Operations Directorate
Environment and Climate Change Canada / Government of Canada
stephen.zwicker@ec.gc.ca / Tel: Cell: 902-402-7145

Coordonnateur, Évaluations environnementales, Direction des activités de protection de l'environnement
Environnement et Changement climatique Canada / Gouvernement du Canada
stephen.zwicker@ec.gc.ca / Tel: Cell: 902-402-7145

Environment and Climate Change Canada's Canadian Wildlife Service (Atlantic Region) - Wind Energy & Birds Environmental Assessment Guidance Update

Background

Environment and Climate Change Canada's Canadian Wildlife Service (ECCC-CWS) is charged with the administration of the *Migratory Birds Convention Act* (MBCA) and *Species at Risk Act* (SARA), responsible for the management and conservation of migratory birds and protection of SARA listed species at risk and their habitats; ECCC-CWS Atlantic (ATL) provides expert advice for these species for wind energy impact assessments, upon request. ECCC-CWS published two guidance documents in 2007 for assessing the risk of wind energy developments on migratory birds:

- *Wind Turbines and Birds: A Guidance Document for Environmental Assessment*" (Environment Canada 2007a)
- *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds*" (Environment Canada 2007b)

Recent advancements in technology for wind energy production include taller turbines with increased energy generating capacity. As a result, in 2018, ECCC-CWS-ATL provided an advice update related to radar and acoustic monitoring recommended for monitoring particular factors of concern (e.g. migration corridors, passage rate and flight altitudes of nocturnal migrants in relation to the height of proposed turbines – larger scale) (s.8.2 CWS 2007a and CWS2007b protocols).

ECCC-CWS-ATL has prepared this guidance update to replace the 2018 advice; this guidance update provides minimum standards and best approaches for pre- and post-construction monitoring related to wind energy developments in Atlantic Canada. It is incumbent on the proponent to identify the best approach, based on the circumstances, to comply with the *Migratory Birds Convention Act* and *Species at Risk Act*.

Determining Site Sensitivity

ECCC-CWS-ATL recommends that wind energy sites proposing building turbines > 150m (thus placing turbine height places the rotor sweep within songbird nocturnal flight corridors (i.e., 150 – 600 m, Horton *et al.* 2016)) in total height be considered 'Very High' site sensitivity (i.e., Category 4, Environment Canada 2007a).

Minimum Standard

Pre-Construction Monitoring

There is little available data and associated studies on the latest larger scale turbine technologies and risk to migratory birds. Therefore, proponents should assess the potential risk of Category 4 level sites to understand and characterize nocturnal avian flight paths around proposed sites. ECCC-CWS-ATL recommends using radar and acoustic monitoring during the spring and fall migrations, in addition to standard avian surveys (Environment Canada 2007a).

Although much of the bird migration is above turbine heights and rotor sweep areas, there are accounts of both songbird migration, and localized migratory bird population seasonal movements, occurring within the turbine altitudinal zone (Richardson 1972, Horton et al. 2016). Therefore, monitoring should also characterize potential

localized lower-level movements of birds. For example, Bank Swallows move between coastal bank colonies and inland roost sites; shorebirds move overland from foraging to roosting sites during pre-migration recruitment flights; sea ducks are low altitude nocturnal migrants.

The use of acoustic autonomous recording units (ARUs) complements radar data and can support conclusions in the final analysis. ARUs have a maximum detection distance of approximately 200-250m above ground level, similar to the height of proposed wind turbines and can assist in evaluating species composition of nocturnal migrants, especially important in understanding the potential risk to species at risk.

Study Design

ECCC-CWS-ATL recommends, at minimum, monitoring early in the project-planning phase (pre-construction) to ensure that the proponent completes a minimum of 2 years (consecutive) of monitoring. The 2-year minimum standard supports analyses of bird flight height by capturing the variance in weather conditions present. In addition, ECCC-CWS-ATL recommends pre-construction monitoring to quantify the risk at a proposed site **before** approval. This also provides baseline information to assess post-construction impacts and mortality on migratory bird populations. Data should be collected under various types of weather conditions.

Spring migration recommended monitoring window is **March 15 - June 7**, and fall migration is **July 15 – November 30**. These extended monitoring windows allow the proponent to assess landbirds, waterfowl/sea duck and shorebird migration movements, especially important in coastal areas or along known migration routes (e.g., Bay of Fundy, Tantramar Marsh, Strait of Canso, and Cape Sable Region).

The breeding season window in Atlantic Canada varies from region to region (i.e. nesting zones) which have corresponding nesting calendars showing variation in nesting intensity by habitat type. Information regarding regional nesting periods can be found at ECCC's General Nesting Periods – Avoiding Harm To Migratory Birds. Each site should be visited at least twice during this time to establish which species are breeding in the area and to determine if there are any migratory bird species at risk and/or species that have aerial mating displays.

If provincial regulatory processes do not require pre-construction monitoring, the proponent should initiate monitoring as soon as possible (for a minimum 2-year period). Although not ideal, monitoring could start during the construction year to assess impacts on migratory bird populations and determine the need for additional mitigation and/or inform future guidance.

Data Analysis

Data analysis guidance is available in the 2007 national guidance (Environment Canada 2007a, Environment Canada 2007b). ECCC-CWS-ATL recommends consolidating site-specific avian baseline and habitat assessment with radar and acoustic monitoring data into one report. In addition, this report should include and detail an overall assessment of the risk to migratory birds.

The report should include, at minimum, the following:

- List of potential breeding birds (following breeding bird atlas protocols)
- Volume estimates of birds (i.e. targets) at a fine scale of altitudinal resolution on a nightly basis;
- Altitudinal information;
- Time period monitored (note: monitoring should take place at the same time every day);
- Weather data;
- Tidal and lunar cycles (note: shorebird movements increase during bright nights);
- Summary of overall bird activity, including how bird activity:
    - changed through the night and the season.
    - changed across the study area.

Post-Construction Monitoring

ECCC-CWS-ATL recommends that post-construction mortality surveys (Environment Canada 2007b) and radar and acoustic monitoring be consistent with baseline pre-construction methods. The proponent (for any approved project) should complete a minimum of 2 years (consecutive) of monitoring. ECCC-CWS-ATL may recommend additional monitoring based on reported findings.

The mortality survey data should be paired with radar and acoustic monitoring to provide context for the localized impacts on birds. Additionally, the proponent should compare the pre-construction and post-construction results to assess and quantify any changes in migratory bird species assemblage, density, and behaviours.

Permits are required to handle or collect any dead birds or bats found during post-construction monitoring activities (e.g. carcass searches or used as part of observer efficiency or scavenging trials) (ECCC, s.10.4 2007). Under the Migratory Bird Regulations, a scientific permit is required for the collection of a migratory bird (dead or alive), feathers, or part of a migratory bird, as defined in the MBCA (contact: Permi.Atl@ec.gc.ca). Proponents should also contact the appropriate provincial territorial wildlife department for information related to requirement to collect species under provincial jurisdiction (bats and bird species such as raptors not covered by the MBCA). Proponents should review and carefully note the conditions in permits, including annual reporting and mortality incident reporting. Proponents will need to ensure they remain in compliance with all permitting conditions and requirements.

Data and Report Submission

Please provide ECC-CWS-ATL with the monitoring reports. Reports must be provided to CWS by December 31 of the same calendar year in which monitoring took place. Submit reports ECCC's environmental assessment window for coordination at: FCR_Tracker@ec.gc.ca.

ECCC-CWS-ATL recommends that the proponent submit all wind energy monitoring (migratory birds and bats) data to the Wind Energy Bird & Bat Monitoring Database (Birds Canada 2022). The proponent should retain raw data (e.g., information on individual tracks) until appropriate data standards have been developed.

Best Approach

ECCC-CWS-ATL considers the best approach to be a regional BACI (Before-After/Control Impact) study design (i.e., paired-site design) or an impact-gradient design for smaller developments. The BACI design is designed to help isolate the potential effect of development from natural variability. Proposed turbine sites should be paired with similar reference sites to provide comparative assessments. This comparative site assessment should compare bird density, flight height variance/altitude levels, activity patterns, timing, consistency of movements, habitat variables between control (reference) and treatment (turbines) sites during the breeding period and during migration. Data should be collected under various types of weather conditions.

Reference sites should be located at minimum 500m from proposed turbine sites. These reference sites should be placed in habitats similar to the paired turbine site. ECCC-CWS-ATL recommends that this approach be factored into the pre-construction and post-construction monitoring designs. All study design recommendations presented above should be used for this approach (e.g., pre-construction monitoring should be completed before site approval, be done for two years, etc.). Additionally, all sampling considerations (e.g., migration timing windows, data collection, reporting) should be consistent with the minimum standard.

Bats

Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) are small, insectivorous bats that are listed as Endangered (Species at Risk Act, Schedule 1). ECCC-CWS-ATL recommends that the proponents consider bats in their pre-construction and post-construction monitoring and their data and report submissions. However, the proponent should contact Provincial representatives for additional information on bats and wind energy developments, as they are the jurisdiction responsible for the conservation and protection of bat species.

References:

Bence, J. R., A. Stewart-Oaten, and S.C. Schroeter. 1996. Estimating the size of an effect from a Before-After-Control-Impact-Pairs design: the predictive approach applied to a power plant study. In R. J. Schmitt and C. W. Osenberg, editors. Ecological impact assessment: conceptual issues and application in coastal marine habitats. University of California Press, Berkeley, California, USA.

Birds Canada. 2022. Wind Energy Bird & Bat Monitoring Database. Accessed March 16, 2022, at https://www.bsc-eoc.org/naturecounts/wind/main.jsp.

Canadian Wildlife Service. 2018. Wind Turbines and Birds – Updated Guidance for Environmental Assessment and Monitoring Canadian Wildlife Service – Atlantic Region. 2pp.

Environment Canada. 2007a. Wind Turbines and Birds: A Guidance Document for Environmental Assessment. 46pp.

Environment Canada. 2007b. Recommended Protocols for Monitoring Impacts of Wind Turbines in Birds. 33pp.

Hanson, A., I. Goudie, A. Lang, C. Gjerdrum, R. Cotter, and G. Donaldson. 2009. A framework for the scientific assessment of potential project impacts on birds. Canadian Wildlife Service Technical Report Series No. 508. Atlantic Region. 61 pp.

Horton K.G., B.M. Van Doren, P.M. Stepanian, A. Farnsworth A., and J.F. Kelly. 2016. Where in the air? Aerial habitat use of nocturnally migrating birds. Biol. Lett. 12: 20160591. (http://dx.doi.org/10.1098/rsbl.2016.0591

Kunz, T.H., E.B. Arnett, B.M. Cooper, W.P. Erickson, R.P. Larkin, T.J. Mabee, M.L. Morrison, M.D. Strickland, and J.M. Szewczak. 2007. Assessing impacts of wind-energy development on nocturnally active birds and bats: a guidance document. Journal of Wildlife Management 71(8):2449-2486.

Lynn and Auberle. 2009. Guidelines for Assessing the Potential Impacts to Birds and Bats from Wind Energy Development in Northern Arizona and the Southern Colorado Plateau. Northern Arizona University.

Osenberg, C.W., R.J. Schmitt, and S.J. Holbrook. 1994. Detection of environmental impacts: natural variability, effect size, and power analysis. Ecological Applications 4(1): 16-30.

Richardson, W.J. 1972. Autumn migration and weather in Eastern Canada: A radar study. American Birds 26(1): 10-17

Service canadien de la faune d'Environnement et Changement climatique Canada (région de l'Atlantique) : Mise à jour du document d'orientation pour les évaluations environnementales relatives à l'énergie éolienne et aux oiseaux

Contexte

Le Service canadien de la faune d'Environnement et Changement climatique Canada (SCF/ECCC) est chargé de l'administration de la *Loi sur la Convention concernant les oiseaux migrateurs* (LCOM) et de la *Loi sur les espèces en péril* (LEP). Il est responsable de la gestion et de la conservation des oiseaux migrateurs et de la protection des espèces en péril inscrites sur la liste de la LEP et de leurs habitats. Le SCF/ECCC Atlantique (ATL) fournit, sur demande, des avis d'experts sur ces espèces pour les évaluations des répercussions relatives à la production d'énergie éolienne. En 2007, le SCF/ECCC a publié deux documents d'orientation pour l'évaluation du risque associé aux projets de production d'énergie éolienne sur les oiseaux migrateurs :

- *Les éoliennes et les oiseaux : Document d'orientation sur les évaluations environnementales* (Environnement Canada, 2007a);
- *Protocoles recommandés pour la surveillance des impacts des éoliennes sur les oiseaux* (Environnement Canada, 2007b).

Les récents progrès technologiques en matière de production d'énergie éolienne comprennent la hausse des turbines et le renforcement de la capacité de production d'énergie. Par conséquent, en 2018, le SCF/ECCC-ATL a fourni une mise à jour des avis sur la surveillance radar et acoustique recommandée pour surveiller certains facteurs préoccupants (p. ex., les couloirs de migration, le taux de passage et les altitudes de vol des oiseaux migrateurs nocturnes par rapport à la hauteur des turbines proposées — à plus grande échelle) (s.8.2, SCF2007a, et protocoles, SCF2007b).

Le SCF/ECCC-ATL a préparé cette mise à jour de l'orientation pour remplacer l'avis de 2018. Cette mise à jour de l'orientation fournit des normes minimales et les meilleures approches pour la surveillance avant et après la construction liée aux projets de production d'énergie éolienne au Canada atlantique. Il incombe au promoteur de choisir la meilleure approche, en fonction de la situation, pour se conformer à la *Loi sur la Convention concernant les oiseaux migrateurs* et à la *Loi sur les espèces en péril*.

Détermination de la sensibilité du lieu

Le SCF/ECCC-ATL recommande que les lieux de production d'énergie éolienne où il est proposé de construire des turbines à une hauteur supérieure à 150 m (donc la rotation des pales à cette hauteur de turbine coïncide avec les corridors de vol nocturne des oiseaux chanteurs, c. à d. à 150 à 600 m [Horton et coll., 2016]), comme hauteur totale, soient considérés comme des lieux « très sensibles » (c.-à-d. de catégorie 4, Environnement Canada, 2007a).

Norme minimale

Surveillance avant la construction

Il existe peu de données et d'études connexes disponibles sur les plus récentes technologies en matière de grandes turbines et les risques pour les oiseaux migrateurs. Par conséquent, les promoteurs doivent évaluer le risque associé aux lieux de catégorie 4 pour comprendre et caractériser les trajectoires de vol nocturne des oiseaux autour des lieux proposés. Le SCF/ECCC-ATL recommande de recourir à la surveillance radar et acoustique pendant les migrations du printemps et de l'automne, en plus des enquêtes aviaires standard (Environnement Canada, 2007a).

Bien qu'une grande partie de la route migratoire des oiseaux passe au-dessus des turbines et de l'espace de rotation des pales, on aurait rapporté à la fois une migration des oiseaux chanteurs et des déplacements saisonniers localisés des populations d'oiseaux migrateurs, lesquels se produisent à la hauteur des turbines (Richardson, 1972; Horton et coll., 2016). Par conséquent, la surveillance devrait également comprendre la caractérisation des déplacements localisés possibles d'oiseaux à une faible hauteur. Par exemple, les Hirondelles de rivage se déplacent entre les colonies d'oiseaux de rivage du littoral et les dortoirs situés à l'intérieur des terres; les oiseaux de rivage se déplacent au-dessus des terres entre les sites de recherche de nourriture et les dortoirs pendant les vols de recrutement prémigratoires; les canards de mer sont des oiseaux migrateurs nocturnes de basse altitude.

Le recours à des unités d'enregistrement acoustique autonomes (UEAA) permet de compléter les données radar et d'étayer les conclusions de l'analyse finale. La distance de détection maximale des UEAA est d'environ 200 à 250 m au-dessus du sol, soit une hauteur semblable à celle des turbines d'éoliennes proposées. Ces UEAA peuvent aider à déterminer la composition des espèces d'oiseaux migrateurs nocturnes, ce qui est particulièrement important pour comprendre le risque pour les espèces en danger.

Plan expérimental

Le SCF/ECCC-ATL recommande, au minimum, une surveillance au début de l'étape de planification du projet (avant la construction) afin de s'assurer que le promoteur effectue une surveillance pendant au moins deux années (consécutives). La norme minimale de deux ans étaye les analyses de la hauteur de vol des oiseaux en saisissant la variabilité des conditions météorologiques présentes. En outre, le SCF/ECCC-ATL recommande une surveillance avant la construction pour quantifier le risque à un lieu proposé **avant** l'approbation. Cela fournit également des données de référence pour évaluer les incidences et la mortalité après la construction dans les populations d'oiseaux migrateurs. Les données devraient être recueillies dans différentes conditions météorologiques.

La période de surveillance recommandée pour la migration printanière est du **15 mars au 7 juin**, et celle de la migration automnale, du **15 juillet au 30 novembre**. Ces fenêtres de surveillance étendues permettent au promoteur d'évaluer les déplacements migratoires des oiseaux terrestres, de la sauvagine/des canards de mer et des oiseaux de rivage, ce qui est particulièrement important dans les zones côtières ou le long des voies de migration connues (p. ex., la baie de Fundy, le marais de Tantramar, le détroit de Canso et la région du cap de Sable).

La période de reproduction au Canada atlantique varie d'une région à l'autre (c.-à-d. les zones de nidification), et les périodes de nidification correspondantes présentent une variation de l'intensité de la nidification par type d'habitat. Pour des renseignements sur les périodes de nidification régionales, veuillez consulter le le site Web d'ECCC intitulé Périodes générales de nidification — Prévention des effets néfastes pour les oiseaux migrateurs. Chaque site devrait être visité au moins deux fois pendant cette période afin d'établir quelles espèces se reproduisent dans la région et de déterminer s'il y a des espèces d'oiseaux migrateurs en péril et/ou des espèces qui font des parades nuptiales aériennes.

Si les processus réglementaires provinciaux n'exigent pas de surveillance avant la construction, le promoteur doit commencer la surveillance dès que possible (pour une période minimale de deux ans). Bien que ce ne soit pas idéal,

la surveillance pourrait commencer pendant l'année de construction afin d'évaluer les impacts sur les populations d'oiseaux migrateurs et de déterminer les besoins en matière de mesures d'atténuation supplémentaires et/ou d'éclairer les orientations futures.

Analyse des données

Une orientation sur l'analyse des données est offerte dans le document d'orientation nationale de 2007 (Environnement Canada, 2007a; Environnement Canada, 2007b). Le SCF/ECCC-ATL recommande de regrouper dans un seul rapport les données de référence aviaires et l'évaluation de l'habitat, de chaque lieu, ainsi que les données de surveillance radar et acoustique. En outre, ce rapport doit comprendre une évaluation globale détaillée du risque pour les oiseaux migrateurs.

Le rapport doit comprendre, au minimum, les éléments suivants :

- liste des oiseaux nicheurs pouvant être présents (suivant les protocoles de l'atlas des oiseaux nicheurs);
- estimation du volume des oiseaux (c.-à-d. cibles) par nuits à une échelle de résolution altitudinale fine;
- données altitudinales;
- période visée par la surveillance (remarque : la surveillance doit se dérouler à la même heure chaque jour);
- données météorologiques;
- cycles des marées et de la lune (remarque : les déplacements des oiseaux de rivages augmentent lors des nuits claires);
- Résumé de l'activité globale des oiseaux, y compris comment l'activité des oiseaux :
    - a changé au cours de la nuit et de la saison;
    - a changé dans la zone d'étude.

Surveillance post-construction

Le SCF/ECCC-ATL recommande que les relevés de mortalité après la construction (Environnement Canada, 2007b) ainsi que la surveillance radar et acoustique soient conformes aux méthodes de référence d'avant la construction. Le promoteur (pour tout projet approuvé) doit effectuer une surveillance pendant au moins deux années (consécutives). Le SCF/ECCC-ATL peut recommander une prolongation de la surveillance selon les résultats rapportés.

Il faut apparier les données des relevés de mortalité à celles de la surveillance radar et acoustique afin de fournir un contexte pour les impacts localisés sur les oiseaux. De plus, le promoteur doit comparer les résultats avant et après la construction afin d'évaluer et de quantifier tout changement dans l'assemblage, la densité et les comportements des espèces d'oiseaux migrateurs.

Il faut des permis pour manipuler ou prélever tout oiseau ou chauve-souris mort(e) trouvé(e) au cours des activités de surveillance après construction (p. ex., recherche de carcasses ou utilisation de carcasses dans le cadre d'essais d'efficacité des observateurs ou d'essais de récupération) (ECCC, s. 10.4, 2007). En vertu du *Règlement sur les oiseaux migrateurs*, un permis scientifique est requis pour le prélèvement d'un oiseau migrateur (mort ou vivant), de plumes ou d'une partie, tel que défini dans la LCOM (personne-ressource : Permi.Atl@ec.gc.ca). Les promoteurs doivent également communiquer avec le service de la faune de la province ou du territoire concerné pour obtenir des renseignements sur les exigences relatives au prélèvement d'espèces qui est de compétence provinciale (des espèces de chauves-souris et d'oiseaux comme les rapaces ne sont pas visés par la LCOM). Les promoteurs doivent examiner et noter soigneusement les conditions des permis, y compris les rapports annuels et les rapports sur les incidents de mortalité. Les promoteurs devront s'assurer qu'ils demeurent en conformité avec toutes les conditions et exigences des permis.

Présentation des données et des rapports

Veuillez fournir à SCF/ECCC-ATL les rapports de surveillance. Les rapports doivent être transmis au SCF avant le 31 décembre de l'année civile au cours de laquelle la surveillance a eu lieu. Présentez les rapports au guichet d'évaluation environnementale d'ECCC pour la coordination à l'adresse suivante : FCR_Tracker@ec.gc.ca.

Le SCF/ECCC-ATL recommande que le promoteur soumette toutes les données de surveillance relative à l'énergie éolienne (oiseaux migrateurs et chauves-souris) au Suivi des populations d'oiseaux et de chauves-souris relié à l'énergie éolienne (Oiseaux Canada, 2022). Le promoteur doit conserver les données brutes (p. ex., les données sur chaque trajectoire) jusqu'à ce que des normes de données appropriées aient été élaborées.

Meilleure approche

Le SCF/ECCC-ATL considère que la meilleure approche consiste en un plan d'étude régionale par comparaison (c.-à-d. une étude par paires de sites) avant-après/témoins-impact (BACI, pour Before-After-Control Impact) ou une étude à gradient d'impact pour les petits projets. Le plan expérimental BACI est conçu pour aider à isoler l'effet potentiel du projet de la variabilité naturelle. Il faut apparier les projets de construction d'éoliennes avec des lieux de référence similaires afin de fournir des évaluations comparatives. Une évaluation comparative des sites doit comparer la densité des oiseaux, la variabilité de la hauteur de vol/les altitudes, les profils d'activité, le moment de l'activité, la cohérence des déplacements, les variables de l'habitat entre les sites témoin (référence) et de traitement (éoliennes) pendant la période de reproduction et la migration. Les données doivent être recueillies dans différents types de conditions météorologiques.

Les sites de référence doivent être situés à au moins 500 m des sites de construction d'éoliennes proposés. Ces sites de référence doivent être placés dans des habitats semblables à ceux du site de l'éolienne auquel ils ont été jumelés. Le SCF/ECCC-ATL recommande que cette approche soit prise en compte dans les plans de surveillance avant et après la construction. Toutes les recommandations relatives au plan de l'étude, présentées ci-dessus, doivent être utilisées pour cette approche (p. ex., la surveillance avant la construction devrait être réalisée avant l'approbation du projet et sd'étendre sur deux ans). En outre, toutes les considérations relatives à l'échantillonnage (p. ex., périodes de migration, collecte de données, rapports) doivent être conformes à la norme minimale.

Chauves-souris

La petite chauve-souris brune (*Myotis lucifugus*), la chauve-souris nordique (*Myotis septentrionalis*) et la pipistrelle de l'Est (*Perimyotis subflavus*) sont de petites chauves-souris insectivores inscrites sur la liste des espèces en voie de disparition (*Loi sur les espèces en péril*, annexe 1). Le SCF/ECCC-ATL recommande aux promoteurs de tenir compte des chauves-souris dans leur surveillance avant et après la construction et dans la présentation de leurs données et rapports. Toutefois, le promoteur doit communiquer avec les représentants provinciaux pour obtenir des renseignements supplémentaires sur les chauves-souris et les projets d'énergie éolienne, puisqu'ils sont l'administration responsable de la conservation et de la protection des espèces de chauves-souris.

Références

Bence, J. R., A. Stewart-Oaten, et S.C. Schroeter. 1996. Estimating the size of an effect from a Before-After-Control-Impact-Pairs design : the predictive approach applied to a power plant study. Dans R. J. Schmitt et C. W. Osenberg, éditeurs. Ecological impact assessment : conceptual issues and application in coastal marine habitats. University of California Press, Berkeley, Californie, États-Unis.

Environnement Canada. 2007a. Les éoliennes et les oiseaux : document d'orientation sur les évaluations environnementales. 46 pages.

Environnement Canada. 2007b. Protocoles recommandés pour la surveillance des impacts des éoliennes sur les oiseaux. 33 pages.

Hanson, A., I. Goudie, A. Lang, C. Gjerdrum, R. Cotter, et G. Donaldson. 2009. Cadre pour l'évaluation scientifique des impacts potentiels des projects sure les oiseaux. Série de rapports techniques du Service canadien de la faune, nº 508. Région de l'Atlantique, 69 p.

Horton K.G., B.M. Van Doren, P.M. Stepanian, A. Farnsworth A., et J.F. Kelly. 2016. Where in the air? Aerial habitat use of nocturnally migrating birds. Biol. Lett. 12 : 20160591. (http://dx.doi.org/10.1098/rsbl.2016.0591

Kunz, T.H., E.B. Arnett, B.M. Cooper, W.P. Erickson, R.P. Larkin, T.J. Mabee, M.L. Morrison, M.D. Strickland, et J.M. Szewczak. 2007. Assessing impacts of wind-energy development on nocturnally active birds and bats : a guidance document. Journal of Wildlife Management 71(8):2449-2486.

Lynn et Auberle. 2009. Guidelines for Assessing the Potential Impacts to Birds and Bats from Wind Energy Development in Northern Arizona and the Southern Colorado Plateau. Northern Arizona University.

Oiseaux Canada. 2022. Base de données du Suivi des populations d'oiseaux et de chauves-souris relié à l'énergie éolienne. Consulté le 16 mars 2022, à l'adresse https://www.bsc-eoc.org/naturecounts/wind/main.jsp.

Osenberg, C.W., R.J. Schmitt, et S.J. Holbrook. 1994. Detection of environmental impacts: natural variability, effect size, and power analysis. Ecological Applications 4(1) : 16-30.

Richardson, W.J. 1972. Autumn migration and weather in Eastern Canada: A radar study. American Birds 26(1) : 10-17

Service canadien de la faune. 2018. Wind Turbines and Birds – Updated Guidance for Environmental Assessment and Monitoring, Service canadien de la faune - Région de l'Atlantique. 2 pages.

From: Environment Assessment Web Account
To: Quinn, Candace M
Subject: FW: Benjamins Mill Wind Project
Date: January 9, 2023 7:42:38 AM

-----Original Message-----
From: @gmail.com>
Sent: January 9, 2023 7:42 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Benjamins Mill Wind Project

** EXTERNAL EMAIL / COURRIEL EXTERNE **
Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

To whom it may concern, after reviewing the information on the registry, I do not see a Mi'kmaq Ecological Knowledge Study (MEKS) for this proposed project nor do I see even a mention of this important work. Perhaps I am mistaken given the difficulty to find information on the registry, but the MEKS wasn't even identified when additional information was required.

Please advise me on why this is the case and how this project is different than others that do complete an MEKS? Is Nova Scotia, by excluding this information suggesting that MEKS isn't required? Why wouldn't this have been part of the additional information required? Standards and requirements need to be fully understood and having an MEKS as part of conditions after approval reflects a fundamental misunderstanding of what an MEKS is and what it is supposed to be accomplishing.

Also, as an MEKS provider, please provide me with detailed information on when an MEKS is required and when it isn't (and when it is ok to have it as part of conditions) so I can explain this fully to prospective clients. As it stands, this lack of information undermines my ability to stay in the space and makes it seem like it is optional to industry, especially with the lack of guidance that reflects the current environment.

I request a detailed response, please.

Thanks!

From: Environment Assessment Web Account
To: Quinn, Candace M
Subject: FW: Proposed Project Comments
Date: January 16, 2023 8:55:03 AM

From: @gmail.com>
Sent: January 13, 2023 4:19 PM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

Project: benjamins-mill-wind-project Comments: In disagreement with location of project and proximity to housing. We live not far from there. Cant the design or location be altered for more rural/non habitated locations? Name: Email: @gmail.com Address: Municipality: Lower Vaughan email_message: Privacy-Statement: agree x: 57 y: 24

2 February 2023

In reviewing the additional information provided to you, we feel the environmental assessment is still lacking the transparency and scope that should be provided prior to commencement of the Benjamin's Mill wind project. How is it possible to grant approval when the site layout hasn't been finalized?

Natural Forces have said very little about the cons of constructing the wind farm in the proposed region. They claim the area has already been widely "disturbed", however there remains a large portion of forested land providing home to our varied wildlife species. In some cases, what Natural Forces refer to as existing roads either don't exist or include trails that can currently only accommodate ATVs. Substantial construction, not only upgrades, will be necessary to transport heavy equipment and turbine components to the area. It appears that Natural Forces are minimizing the amount of destruction this project can cause to the environment.

As residents of , a 58 unit condominium corporation, we are extremely worried that our well may become contaminated as a result of blasting and pile driving in the area. We, as homeowners, maintain our well systems, with no municipal funding. Who will be deemed responsible if a situation such as that in Chatham-Kent arises? Recommendations state that any wells impacted, within 1 km must be remedied. As streams and rivers flow into Falls Lake from the proposed site, what will happen if a well 1.6 kms away is affected?

Natural Forces seem to be focussing their efforts on marketing this project, rather than addressing our environmental concerns. Information sessions have left us with unanswered questions and dismissed concerns. Desktop studies have been heavily relied on, however the sheer size of these turbines operating in real life conditions is worrisome to say the least.

Due to the concerns cited above, we are asking you to consider another region for this project away from the pristine beauty of Falls Lake.

Respectfully submitted for your consideration.

Vaughan NS