

Comment Index

Harbour Hills Wind Project Guysborough Counties

Comment Period End Date: 3 August 2026

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1	Kwilmu'kw Maw-Klusuaqn (KMK)	09 July 2026

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1 - 4	Anonymous	26 June 2026 – 28 July 2026
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DATE: July 7, 2026

To: Meghan Rafferty, Environmental Assessment Officer, ECC

FROM: Dawn M. Sutherland, Provincial Director of Planning, Land Use Planning

SUBJECT: Harbour Hills Wind Project, Guysborough County, Nova Scotia

Scope of Review:

This review focuses on the following mandate: Statements of Provincial Interest and engagement with municipalities.

List of Documents Reviewed:

Environmental Assessment Registration Document – Harbour Hills Wind Project

Details of Technical Review:

The Proponents engaged with the Municipality of the District of Guysborough and the Municipality of the District of St. Mary's regularly to advise on the project.

- **Drinking Water:** Reasonably consistent. The proponents' state that the James River Watershed Protected Water Area near Antigonish is the closest water supply; however, Sherbrooke Lake Watershed in St. Mary's is much closer to the study area. To limit uses, St. Mary's established a Drinking Water zone based on the Source Water Protection Plan. No parts of the study area are in the Drinking Water zone.
- **Agricultural Land:** Reasonably consistent. There is some Class 4 agricultural land in close proximity along highway 211, but it is not within the study area.
- **Flood Risk:** Reasonably consistent. There are no flood risk areas identified in the SPI in the study area.
- **Infrastructure:** Reasonably consistent. There is no municipal servicing in the study area.
- **Housing:** Reasonably consistent. There is no identified impact on housing as defined by the provisions of the SPI.

Key Considerations (Provide in non-technical language):

The Proponents should continue to engage with the Municipality of the District of Guysborough and the Municipality of the District of St. Mary's as the project moves forward.

Date: July 15, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Air Quality Unit

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: Air Quality

List of Documents Reviewed:

- *Harbour Hills Wind Project EA Registration Document – Appendix A*
- *Appendix B – F*
- *Drawings 7.2 – 8.7*

Details of Technical Review:

The purpose of the proposed undertaking is to construct and operate a wind power project with up to 107 turbines capable of generating up to 856 megawatts (MW) of renewable electricity. The Project also includes other infrastructure such as access roads, electrical lines, one or more substations, laydown yards, and buildings. The Project intends to begin construction in 2030 and is expected to be operational for 35 years.

No baseline monitoring was undertaken, instead the baseline review relied on data from the National Air Pollution Surveillance (NAPS) monitoring station in Port Hawkesbury, approximately 60 km northeast of the Project, from 2020-2024. Existing air quality conditions indicate that most of the measured contaminants are well below their respective NS Ambient Air Quality Standards (AAQS) Schedule A limits.

Project activities will primarily interact with the atmospheric environment through fugitive dust and exhaust emissions during the construction phase. The Project area is vegetated, which may help to reduce the travel distance of fugitive dust emissions from the Project.

There were 3 potential receptors identified within the local assessment area for air quality impacts. The Proponent states they will implement mitigation measures to minimize air quality impacts on nearby receptors. The Proponent lists several proposed mitigations that could be used during the construction phase, these mitigations are appropriate and would reduce impacts if they are employed.

Overall, fugitive dust and exhaust emissions are considered intermittent and short-term (construction phase only). It is not anticipated that the fugitive dust and exhaust emissions would impact the closest receptors or impact baseline air quality conditions beyond the local assessment area.

Key Considerations:

The Air Quality Unit notes the following key considerations:

- It is unclear how effective dust management will be in the absence of a dust management plan with a clear chain of responsibility for actions, including timely complaint resolution.

Date: July 15, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Air Quality Unit

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: Noise

List of Documents Reviewed:

- *Harbour Hills Wind Project EA Registration Document – Appendix A*
- *Appendix B – F*
- *Drawings 7.2 – 8.7*

Details of Technical Review:

The purpose of the proposed undertaking is to construct and operate a wind power project with up to 107 turbines capable of generating up to 856 megawatts (MW) of renewable electricity. The Project also includes other infrastructure such as access roads, electrical lines, one or more substations, laydown yards, and buildings. The Project intends to begin construction in 2030 and is expected to be operational for 35 years.

Noise impacts were assessed by WSP Canada Inc. Aerial imagery, GIS data, and field observations were used to identify nearby sources of noise and characterize the ambient noise within the Study Area. In total, 337 potential receptors were identified within 2 km of the proposed turbine locations. The noise assessment was completed with 90 operational turbines; 17 optional turbine locations were not modelled. The noise modelling will be updated if any optional turbine locations are selected for the Project.

Construction noise was identified as potentially having an impact on residents. While expected noise levels during the construction phase were not presented in the registration document, the Proponent states that noise levels could exceed 65 dBA at some receptor locations depending on proximity to construction activities. The applicant suggested mitigations to minimise these effects, including limiting activities to allowable hours (based on local noise by-laws) and using noise suppressants on vehicles/equipment.

Operational noise levels were assessed using CadnaA noise modelling software. The assessment included a baseline noise level of 35 dBA, which is based on Health Canada guidance, and a ground attenuation factor of 0.7. The use of this ground attenuation factor is a less conservative approach than would be recommended, which may lead to an underestimation of impacts on receptors. One of the receptors modelled had a predicted impact of 40 dBA. Six receptors had a predicted impact of 39.6 dBA or above, so when rounding to the nearest decibel (which is standard practice), these six receptors are

predicted to experience noise at the 40 dBA limit. An additional 18 receptors had a predicted impact of 39 dBA. The modelling results were achieved with all turbines using serrated trailing edge (STE) blades to reduce the noise levels in the Study Area and at receptors.

The study included an assessment of low frequency noise - no low frequency tonal components were identified.

The applicant commits to developing a complaints resolution plan as part of their measures to mitigate potential effects.

Key Considerations:

The Air Quality Unit notes the following key considerations:

- If the baseline noise level exceeds 35 dBA, it is possible that noise levels could exceed the 40 dBA noise limit at receptor locations once the windfarm is operational. Recording baseline noise levels prior to construction can be used as evidence by the proponent in the event that the Department requests monitoring as part of complaints investigations in the future.
- The noise assessment was completed using a less conservative ground attenuation factor than would be recommended. Consequently, the noise impact at a number of receptors may be underestimated.
- Modelling was completed with all of the turbines using STE blades. It is possible noise levels could exceed the 40 dBA noise limit at receptor locations if a different blade type is used.
- Modelling was completed with 90 active turbine locations, 17 other locations are considered alternative turbine sites and were not modelled.



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July 9, 2026

Meghan Rafferty
Environmental Assessment Officer
Policy Division
Meghan.rafferty@novascotia.ca

SUBJECT : Harbour Hills Wind Project – Guysborough County

Dear Meghan Rafferty:

Thank you for the opportunity to review the registration document for the Harbour Hills Wind Project (the project), received on June 17, 2026.

The federal environmental assessment process is set out in the [Impact Assessment Act](#) (the IAA). The [Physical Activities Regulations](#) (the Regulations) set out a list of physical activities considered to be “designated projects” under the IAA.

While it is the responsibility of proponents to determine whether their proposed project includes physical activities described in the Regulations of the IAA, based on the information submitted to the Province of Nova Scotia on the proposed Harbour Hills Wind Project, the Impact Assessment Agency of Canada (IAAC) is of the opinion that, as proposed, the project does not appear to be described in the Regulations. As such, the proponent would not be expected to submit an Initial Project Description of a designated project. If the project changes from what has been described in its provincial registration, the proponent is advised to contact IAAC if, in their view, any proposed project activities may be described in the Regulations.

The proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on the Minister’s own initiative, by order, designate a physical activity that is not described by the Regulations if, in the Minister’s opinion, the carrying out of that physical activity may cause adverse effects within federal jurisdiction or direct or incidental adverse effects. Should IAAC receive a request for a project to be designated, IAAC would contact the proponent with further information.

Please note that for physical activities not described in the Regulations, should the project be carried out in whole or in part on federal lands, section 82 of the IAA would apply if any federal authority is required to exercise a power, duty or function under an Act other than IAA in order for the project to proceed, or if a federal authority is providing financial assistance for the purpose of enabling the project to be carried out. In that case, that federal authority must ensure that any project assessment requirements under the applicable sections of the IAA are satisfied.

We also note that in proceeding with the project, the proponent may still be required to obtain or seek amendment to other federal regulatory permits, authorizations and/or licences.

The proponent is encouraged to contact IAAC at (902) 426-0564 if it has additional information that may be relevant to IAAC or if it has any questions or concerns related to the above matters.

Kevin Cassell

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Gouvernement
du Canada

Government
of Canada

Canada

Date: July 10, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: NSECC, Compliance

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: general overview and technical considerations

List of Documents Reviewed:

- Harbour Hills Wind Project, Environmental Assessment Registration Document (EARD)

Details of Technical Review:

- Approval(s) will be required if vegetation management requires herbicide use.
- If shallow water tables are encountered during the construction of foundations, a Groundwater Management Plan may be needed if construction of these structures go below the seasonal water table.
- The Proponent will develop and implement a Surface Water Management Plan, Erosion and Sedimentation Control Plan, Blasting management Plan and a Site-Specific Contingency Plan.
- A site-specific post-construction wetland monitoring plan will be developed to facilitate adaptive management and contribute to the safeguarding of ecological integrity and environmental stability. This will be submitted as part of the Wetland Alteration Approval Application.

Key Considerations: (provide in non-technical language)

- Plans and mitigation measures, as noted in the EARD, should be developed and implemented.
- Additional NSECC notifications/approvals may include: wetland alterations, watercourse alterations, water withdrawal approval, herbicide use, and on-site sewage disposal systems if there are camps or offices to be constructed.

Date: July 13, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Climate Change Division – Lori Skaine, Executive Director

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: Climate change adaptation and mitigation

List of Documents Reviewed:

Environmental Assessment Registration Document

Details of Technical Review:

Adaptation

- To assess local climate conditions, the proponent reviewed 30 years of historical weather data (1996–2025) from the Collegeville meteorological (MET) stations (Climate IDs: 8201000 and 8201001) located approximately 34 km from the project centre.
- Proponent states that the project was sited and designed with best available information, including field investigations, environmental resource/potential effects modeling and Mi'kmaw engagement, and they will work with partners to manage potential climate impacts if needed as development advances.
- Section 14.0 *Effects of the Environment on the Undertaking* uses sufficient and appropriate historical and projected climate data to describe climate-related hazards that may impact Project infrastructure, operations, or personnel. Identified hazards include increased air temperature, changes in precipitation, sea level rise, severe weather events, wildfire and turbine icing.
- Potential impacts are assessed for each hazard, and mitigation measures are proposed, such as the development and implementation of a Surface Water Management Plan, appropriate sizing of culverts, training personnel on the importance of regular breaks and hydration during heat events and developing a fire safety plan for potential wildfire events. Turbine icing is an impact unique to wind projects and will be mitigated through both technical solutions and awareness raising.
- The proponent considered offsite impacts that may influence the project, such as sea level rise and coastal storm surge impacting the public roads used to access the site. Section 3 describes alternative access routes.

- The proponent mentions evacuation plans, general safety protocols and training, and also that fire safety procedures will be developed within the Project's Contingency Plan.

Mitigation

- The project consists of up to 107 wind turbines, with a total generation capacity of up to 856 MW of renewable energy. In addition, it is expected to produce approximately 2,624,496 megawatt-hours per year (MWh/year). Total project greenhouse gas (GHG) emissions are estimated at 340,636.91 t CO₂e.
- The primary sources for the project, as described in *Section 7.2.5* of the EA registration document, occur during the construction phase and total 335,802.87 t CO₂e. These emissions are largely attributable to site development, concrete foundations, and turbine assembly.
- The operations phase is estimated to generate 4,834.04 t CO₂e from wind turbine maintenance over the project's 35-year lifespan.
- The proponent projects annual GHG emission reductions of 1,311,471.36 t CO₂e (using 2025 as the baseline year). After subtracting operational and construction emissions, the net GHG emission reduction is estimated to be 45,560,860.69 t CO₂e (conservative estimate without considering the provincial commitment to removing coal from the energy grid by 2030 and for the provincial GHG emissions to be net-zero by 2050).
- The proponent does not quantify decommissioning emissions, assuming that by 2060 most construction and heavy transport equipment will be zero-emissions.

Key Considerations: (provide in non-technical language)

Adaptation

- The proponent may wish to consider using a risk assessment framework to help prioritize climate risks and adaptation measures.

Mitigation

- The proposed mitigation steps identified in *Section 7.2.5* of the EA registration document are appropriate and include use of locally sourced materials, utilization, where possible, of the shortest construction and transport routes, reduction of double handling of materials, regular maintenance, personnel training, and the disposal of hazardous materials in compliance with local requirements.
- Considering grid emissions intensity is expected to decline over time, we suggest the proponent to present avoided emissions as a range aligned with the provincial commitment to removing coal from the energy grid by 2030 and for the provincial GHG emissions to be net-zero by 2050 using a small set of transparent scenarios (e.g., 2025 intensity held constant, declining intensity aligned with legislated policies, and a faster decarbonization scenario).

- The proponent's construction phase emissions are primarily driven by steel and concrete. Where feasible and particularly in cases where procurement choices may reduce embodied emissions, we suggest the proponent complement their quantified life cycle GHG estimates with procurement information showing (i) whether major suppliers are subject to carbon constraint requirements (e.g., output based pricing systems/emissions trading systems or equivalent), and (ii) any supplier-specific verified embodied carbon documentation (e.g., environmental product declarations) used to inform procurement decisions.

Date: July 14, 2026
To: Meghan Rafferty, Environmental Assessment Officer
From: Beth Lewis, Director of Special Places Protection
Subject: **Harbour Hills Wind Project, Guysborough County**

Scope of review:

This review focuses on the following mandate: **Archaeology and Geology**

List of Documents Reviewed:

EA Document.

Final report for HRP A2026NS045

Details of Technical Review (Archaeology):

Currently, page 344 of the EA Document states that a “site specific archaeological assessment” will be created, and “ground-truthing of the areas of elevated archaeological potential identified by the model.” The ARIA conducted under HRP A2026NS045 was a desktop study only. Ground truthing is required for **all impact areas**, not only areas of predicted elevated potential.

Key Considerations: (provide in non-technical language):

Recommendation 1 from the final report – reviewed and approved by CCTH on June 22, 2026 – states:

1. Through engagement with Special Places, it is recommended that planning initiatives for the Harbour Hills Wind Project ensure that site-specific archaeological assessments—incorporating ground-truthing of the potential model—are conducted prior to Project-related development. The goal of this assessment would be to determine any requirement for subsurface archaeological testing and/or the timely application of mitigative archaeological measures developed through further engagement with Special Places.

Potential modeling is a tool that can help archaeologists predict levels of potential. However, visual inspection of all impact zones is required. As long as the project recommendations for HRP A2026NS045 are adhered to, there are no concerns.

Details of Technical Review (Geology):

The bedrock geology in the project area is mapped as Goldenville Formation, and not expected to contain significant fossils.

Key Considerations: (provide in non-technical language):

No concerns for encountering significant palaeontology.

Date: July 15, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Water Resource Management Branch

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: surface water quality and quantity, groundwater quality and quantity, and wetlands.

List of Documents Reviewed:

Environmental Assessment Review Document, Appendices, Drawings, GIS Files

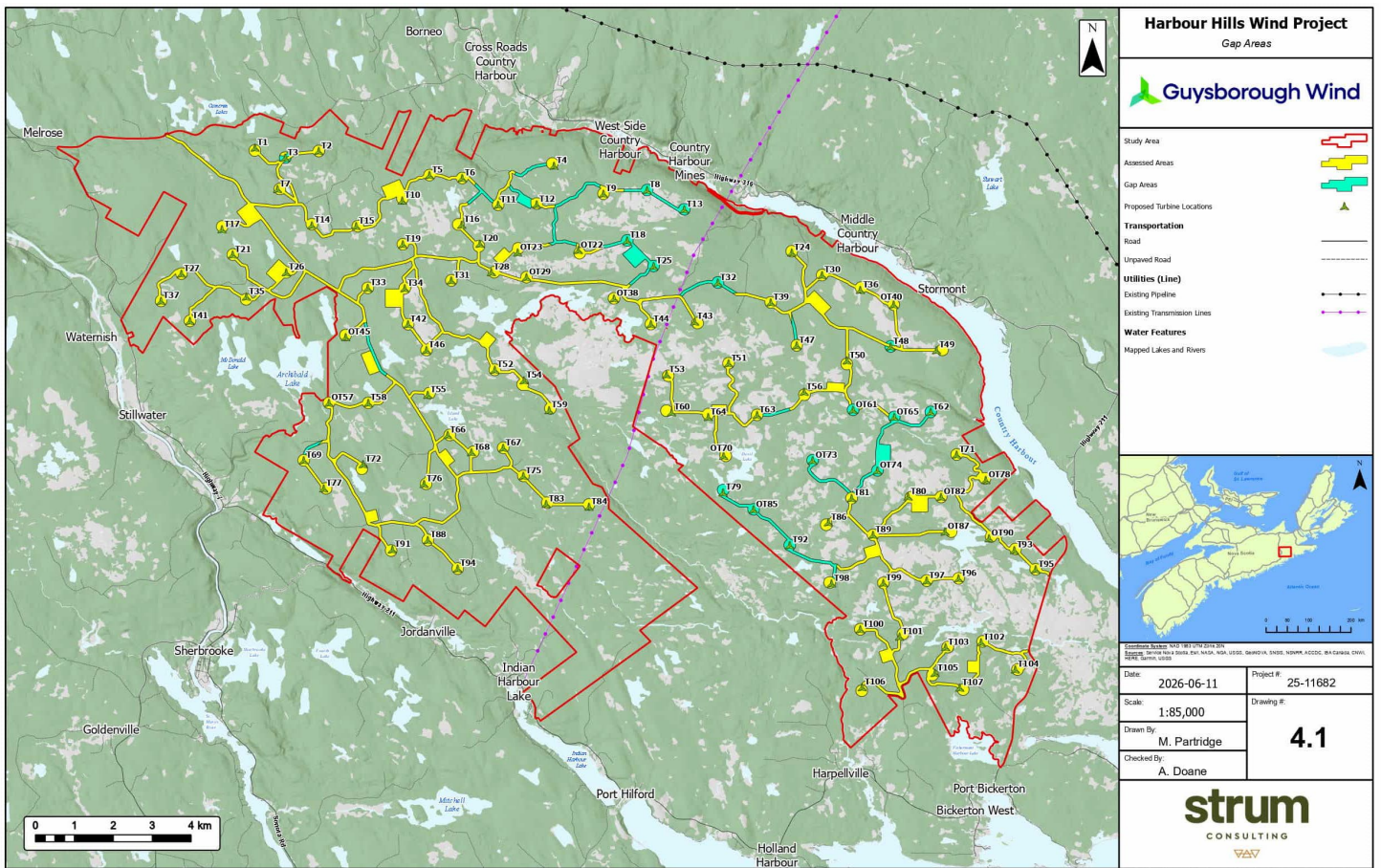
Surface Water

The Project is an onshore wind farm with up to 107 turbines within a 20,734 ha study area. The Project includes up to 1,380 ha of clearing and a 564 ha permanent footprint. Field assessments focused on potential Project–watercourse interactions (i.e., access road crossings requiring replacement or new structures), with a total assessment area of 1,906 ha.

The Proponent completed watercourse delineation in summer 2025 with support of desktop mapping (including Wet Area Mapping and predicted flow data) and supplemented the work with drone-based surveys. Field teams delineated confirmed watercourses to their termination point or the assessment boundary.

The EARD does not explain whether the “gap areas” shown in Figure 4.1 below were studied. These areas include 14 turbine locations and several kilometres of access roads. It does not clarify whether surveys or assessments were carried out in these areas and, if so, the scope and extent of those investigations. As a result, it is unclear whether all water resources in the Study Area have been identified and the impact of the project fully assessed.

Figure 4.1: Figure 4.1 from EARD submission indicating assessed areas in yellow and gap areas in turquoise.



The Proponent collected in-situ water quality data at 10 sites during summer 2025 alongside electrofishing surveys. Results show that surface waters are slightly acidic (pH 4.02–6.21; mean 5.48), with three sites below pH 5.5, where species loss may occur. Measured water temperatures (12.3–18.9°C) fall within the suitable range for cold-water species. Despite acidic conditions, electrofishing confirmed the presence of Atlantic salmon, American eel, alewife, and brook trout, indicating that these systems currently support aquatic habitat. Any further degradation in water quality (e.g., increased sediment, temperature, or contaminants) could place additional stress on these systems.

The Study Area includes an existing road network associated with ongoing forestry activities. The Project proposes approximately 110 km of new roads (67%) and 53 km of upgrades to existing roads (33%). The Proponent anticipates 107 watercourse alterations, including 52 upgrades to existing crossings and 55 new crossings. These crossings may alter local hydrology and natural flow regimes by affecting flow volume, direction, and timing, with potential effects on downstream watercourses and wetlands.

The Proponent notes ongoing forestry activities within the study area but does not define their extent, timing, or overlap with Project infrastructure. The Project includes up to 19 temporary laydown areas (8–17 ha each) to support construction, which the Proponent may repurpose for substations or operations and maintenance (O&M) facilities. The Proponent has not defined the

number or locations of substations, O&M facilities, or worker accommodation. These components may alter local drainage patterns and contribute to cumulative effects on surface water quantity and quality. Because the Proponent has not finalized key infrastructure locations and footprints, potential hydrologic impacts at the local catchment scale cannot be assessed, particularly where multiple disturbances (e.g., roads, turbines, O&M facilities, substations, forestry activities) may occur within the same catchments. Land clearing and development may increase runoff and peak flows, affecting downstream watercourses and wetlands, especially those supporting fish habitat or rare species. Operational risks are expected to be lower but may persist.

The Proponent will develop the Surface Water Management Plan and Erosion and Sediment Control Plan during the detailed design phase and has not provided site-specific design details in the EARD. The EARD also does not clarify whether the Proponent will apply these measures on a project-wide scale or refine them at the sub-catchment scale where multiple disturbances may occur. As such, the effectiveness of these plans cannot be assessed at this stage.

Groundwater

The Study Area is underlain by plutonic and metamorphic bedrock. Groundwater risk mapping indicates most of the area is in a high-risk zone for arsenic and low risk for uranium. According to the EARD, there are occurrences of sulphide-bearing slates within the Study Area. When disturbed and exposed to air or water, rocks that contain sulphide minerals can result in acid rock drainage (ARD). The EARD notes that the presence and location of sulphide-bearing minerals and the likelihood of ARD will be confirmed following the results of a geotechnical investigation.

Residences in the vicinity of the study area rely on groundwater from private wells. The EARD identified 128 water wells within 2 km of the Study Area, based on the Well Logs Database. No wells were identified within the Assessment Area while three wells were identified within 800 meters of the assessment area, which is where the greatest disturbance may occur. Construction activities, primarily blasting, can affect the quality and quantity of the surrounding groundwater supply, depending on proximity to drinking water wells and the extent of the disturbance. Blasting can mobilize metals in groundwater or alter local groundwater flow. The EARD notes that if blasting is required, the Proponent will conduct a pre-blast survey of wells within 800 m of the blast site. It was also noted that if demonstrable changes in groundwater quantity or quality to a well are detected due to Project activities, an alternative water supply, of equal or better quantity/quality than that impacted will be provided to the landowner.

The EARD noted potential for hazardous spills resulting from fuel and other on-site chemicals during construction and operation activities, which can adversely impact groundwater quality. Mitigation measures were proposed, including developing spill prevention and response procedures, locating fuel storage and refueling a minimum of 30 meters from any surface water or groundwater feature (i.e., watercourse, well), maintaining spill kits, and training workers on spill response procedures.

Wetlands

The EARD identified a total of 458 wetlands within the Assessment Area, consisting of 388 field verified wetlands and 70 wetlands delineated through drone-assisted wet area modelling. However, portions of the Assessment Area, identified as "gap areas" in Figure 4.1, were not included in the EARD assessment. These excluded areas encompass 14 proposed turbine locations and several kilometres of proposed access roads. Based on the information provided, it is unclear whether these gap areas were subject to field assessment, as the methodology and survey coverage for these areas were not included in the EARD.

According to the *Nova Scotia Class 1 Environmental Assessment Checklist* (Nova Scotia Environment and Climate Change, 2025), wetland delineations should be completed for all wetlands within the Assessment Area and Wetland Ecosystem Services Protocol for Atlantic Canada (WESP-AC) functional assessments should be completed for all wetlands likely to be impacted. As only 383 of the 458 identified wetlands were assessed, the evaluation of potential project impacts to wetlands is incomplete, limiting the ability to fully understand project-related risks. The 70 wetlands identified through drone/GIS modeling were not field verified, meaning their functions, habitat characteristics, and supported species could not be fully evaluated. This introduces additional uncertainty, as these wetlands may provide important ecological functions that have not been captured in the assessment.

The EARD identified the potential for direct or indirect wetland alterations to 252 delineated wetlands and 41 predicted wetlands including potential impacts to 14 potential Wetlands of Special Significance (WSS) due to SAR bird species presence. The EARD states, "Where practical, potential WSS will be avoided through the detailed design process." The amount of wetland alteration area is predicted to be approximately 62 hectares, excluding the gap areas and will be required to be compensated for during the wetland alteration permitting stage. It is unknown at this point how many wetlands are within the "gap areas" and potential impacts to them.

To address these impacts, the EARD commits to developing a site-specific, post-construction wetland monitoring plan. This plan is intended to support adaptive management and help maintain ecological integrity over time; however, its effectiveness will depend on addressing the current data gaps and ensuring that all affected wetlands are appropriately understood and monitored.

Key Considerations: (provide in non-technical language)

Surface Water

The Proponent should ensure that all water resources are identified where Project infrastructure is present so that appropriate mitigation measures can be planned.

The Project introduces multiple disturbances (e.g., roads, turbines, O&M facilities, substations) associated with land use change. Combined with ongoing forestry activities, these disturbances

may alter local hydrology, increase erosion and sedimentation, and introduce contaminants from spills or road maintenance.

The proponent should consider including mitigation measures in the Surface Water Management Plan and Erosion and Sediment Control Plan to reduce risks to surface water quantity and quality, including:

- identifying local catchments where Project infrastructure is present and multiple disturbances may occur near water resources, and assessing hydrologic and water quality impacts at the local catchment scale; and
- developing a salt management plan for winter road maintenance.

Groundwater

According to the EARD, construction activities are not anticipated to disturb groundwater. Groundwater may be affected if blasting activities alter local hydrogeological flow regimes or mobilize metals in groundwater. Potential impacts on groundwater, should they occur, are anticipated to be localized. As stated in the EARD, if blasting is required, a pre-blast survey will be conducted for wells within 800 m of the blast site. It is also stated that if demonstrable changes in groundwater quantity or quality to a well are detected due to Project activities, an alternative water supply, of equal or better quantity/quality than that impacted will be provided to the landowner. The EARD identified three water supply wells within 800 m of the Assessment Area, which is based on the well logs database. The number and location of water supply wells would need to be verified in the field prior to conducting the pre-blast survey. The Proponent would benefit from having a complaint resolution procedure in place prior to construction.

The EARD states the Proponent will assess for elevated sulphide potential and, where possible, limit the project footprint to existing disturbed areas, and use existing roads. If sulphide-bearing materials or other geological hazards are identified, a site-specific mitigation plan will be developed.

As noted in the EARD, mitigation measures related to fuel and chemical storage and handling should be in place to prevent accidental release to the environment. Appropriate spill response plans should also be in place to ensure spills are addressed promptly.

If the project requires a water source, either groundwater or surface water, that exceeds 23,000 liters per day for more than 2 weeks, a separate water withdrawal approval will be required.

Wetlands

A portion of the proposed development site, including 14 turbines and several kilometres of access roads, has not been assessed for wetlands (Figure 4.1, Gap Areas). As a result, the number of wetlands within these areas, as well as their boundaries, classifications, ecological functions, and potential designation as Wetlands of Special Significance, remain unknown. Consequently,

the environmental effects associated with development in these areas have not been evaluated. At this time, it is unclear why these areas were excluded from the wetland assessment and when the proponent intends to complete the required assessments.

For the remainder of the proposed project footprint wetland delineations were completed by on-the-ground delineations and using a drone in areas not easily accessible. Direct and indirect impacts to wetlands are anticipated to occur because of the construction and operation of the project. Additional micro-siting should be completed to reduce and avoid additional wetland alteration, to the extent possible, during the detailed design phase. Prior to alteration on the ground, WESP-AC functional assessments will be required for all wetlands proposed to be impacted.

For direct and indirect alterations, the proponent is required to submit a Wetland Alteration Approval Application for review and approval and complete any necessary compensation and monitoring. Field-verified delineation and supplementary field data is required. The proponent should utilize Nova Scotia's Wetland Alteration Application's Guided Template for the permit applications. Flagging of the wetland boundaries adjacent the construction areas should occur to prevent un-intended wetland alterations.

Date: July 8, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Department of Public Works, Environmental Services – Brent MacDonald, P. Eng.,
Manager 

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: Traffic and Road Safety Engineering

List of Documents Reviewed:

EverWind NS Holdings Ltd. And Membertou Development Corporation, Harbour Hills Wind Project, Environmental Assessment

Details of Technical Review:

The Proponent is planning to build up to 107 turbines for the Harbour Hills Wind Project in Guysborough County.

1. The Proponent has identified that a Work Within Highway Right of Way (WWHROW) permit, and an Over-Weight Special Moves Permit (SMP) may be required for this project (Table 2.2 Provincial Regulatory Requirements, Page 6). Early coordination with Nova Scotia Public Works (NSPW) is required to identify potential impacts to provincially owned roads and structures.
 - a. Regarding the SMP, the Proponent must contact the Departmental contacts, Darcey MacBain (Darcey.MacBain@novascotia.ca) and Devon Pinks (Devon.Pinks@novascotia.ca) to assess next steps. It appears that some of these discussions previously occurred in November of 2025 (page 47).
2. The Proponent has reference that the final transportation route and Traffic Management Plan details will be determined through “a comprehensive logistics study” (page 17) or through “detailed route assessments” (page 69). Exact transportation routes are required for the route analysis, including routes from the receiving/unloading ports to the Project site. This includes any provincially owned roads, bridges, culverts or other load bearing structures that may be impacted. The Traffic Management Plan must clearly identify the specific roads, time

windows and traffic control measures proposed for construction traffic and oversize/overweight movements. This must be completed prior to the movement of the turbine components.

- a. Section 15.4 Transportation Related Incidents (page 360) references the development of a Traffic Management Plan and assessment of site access routes including bridges, culverts, baseline traffic levels and high-risk areas. It would be beneficial for the Traffic Management Plan to consider the potential impacts of construction traffic on any emergency response times to ensure there are minimal impacts.
3. There are references to modifying existing access roads and creating new access roads (Transportation of Turbine Components, Equipment and Materials, page 18). Any new or modified access points owned by or connecting to any provincially owned roads will require a WWHROW permit which is available from the local Area Manager.
4. The document references potential road modifications including guard rail and signage removal as well as potential road and/or bridge upgrades. As previously stated, any proposed work impacting provincially owned road infrastructure must be reviewed by the local Area Manager through the WWHROW permit. Additionally, any required traffic control plans for such work must comply with the appropriate section of the Nova Scotia Temporary Workplace Traffic Control Manual (NSTWTTCM), reference in Table 2.2 Provincial Regulatory Requirements, page 9. Preparation of traffic control plans are the sole responsibility of the Proponent and must be submitted to the local Area Manager for review.
5. Table 2.2, Provincial Regulatory Requirements (page 6) and additional descriptions on page 16 reference potential blasting activities. The Proponent must confirm the anticipated timeframes and location of blasting activities and discuss with the local Area Manager so that any impacts to provincially owned roads can be minimized and appropriate mitigation measures can be considered.
6. Table 3.2 Summary of Minimum Setbacks and Separation Distances (page 9) reference the setback distances from Public Roads. The table notes the distance as "municipal requirements". Setbacks should be confirmed with the local Area Manager for possible corresponding setback distances on provincially owned roads.

Key Considerations: (provide in non-technical language)

1. The Proponent should communicate with NSDPW regarding the WWHROW and the SMP as soon as possible.
2. The TMP must be finalized and communicated to NSPW prior to movement of turbine components.
3. The NSTWTTCM must be reviewed by the local Area Manager as well as any blasting activities and provincial setback distances.



Date: [July 15, 2026](#)

To: Meghan Rafferty, Environmental Assessment Officer

From: [Sylvie Poirier, Regional Environmental Advisor, Transport Canada](#)

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: [Transport Canada \(TC\)](#)

- [Canadian Navigable Waters Act \(CNWA\)](#)
- [Aeronautics Act](#)

List of Documents Reviewed:

[Harbour Hills Wind Project EA Registration Document](#)

Details of Technical Review:

[Review for potential requirements under the two Acts listed above.](#)

Key Considerations: (provide in non-technical language)

[Our comments and specialist information provided herein are meant to inform the Proponent of possible TC regulatory requirements, as well as the eventual decision of the provincial Minister of Environment and Climate Change.](#)

[Canadian Navigable Waters Act \(CNWA\):](#)

[TC's Navigation Protection Program \(NPP\) administers the *Canadian Navigable Waters Act \(CNWA\)*. The proposed access roads and transmission lines appear to potentially involve non-scheduled waterways per the CNWA and the Proponent should consider the following as these project components may require CNWA approval\(s\).](#)

[Access Roads – watercourse crossings:](#)

[Note, that any bridges with piers placed below the high water mark of a watercourse always require an approval as outlined in the Major Works Order \(and an application for approval would be required\).](#)**

[Major Works Order](#)

<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2019-320/index.html>

[If the bridge is not a Major Work, the Proponent can assess any individual access road watercourse crossings \(culverts and bridges etc. against the criteria in the *Minor Works Order* \(Section 34 – Watercourse Crossings\):](#)



Minor Works Order

<https://laws.justice.gc.ca/eng/regulations/SOR-2021-170/index.html>

Transmission Lines:

The Proponent can assess the transmission lines against the criteria in the ***Minor Works Order*** (Section 16– Aerial Cables):

Minor Works Order

<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2021-170/index.html>

IF a specific watercourse crossing or transmission line crossing meets ALL the criteria in the respective section of the Minor Works Order, they are considered Minor Works and do not require a CNWA approval and would only be required to follow the Deposit and Publication requirements in sections 3(2), 3(3) and 4 of the Minor Works Order.

IF a specific watercourse crossing or transmission line crossing does NOT meet ALL the criteria, the Proponent may be required to submit an application for approval.

Under the CNWA, owners of works – (other than a minor work or a major work) – including culverts, bridges and watercourse crossings - that are located on navigable waterways not listed in the schedule, have the option to:

1. either apply to the Minister of Transport for an approval; (approval review process and advertising and 30-day registry public review)
- or**
2. seek authorization through the public resolution process, and deposit specific information regarding their work on the new Common Project Search (online registry) inviting any interested party to comment (Public Resolution Notification).

The application process, the public resolution process and process for publishing a notification of a Minor Work can be accessed at the following link:

[External Submission Site for the Navigation Protection Program](#)

(create an account first if needed)

Additional guidance information and links for the NPP regulatory process can be found here:

Canadian Navigable Waters Act

<https://www.tc.gc.ca/eng/programs-632.html>

<https://www.tc.gc.ca/eng/canadian-navigable-waters-act.html>

Navigation Protection Program, Transport Canada

<http://www.tc.gc.ca/eng/programs-621.html>

NPP Contact Coordinates:

Navigation Protection Program | Programme de protection de la navigation



Transport Canada Transports Canada



Transport Canada - Atlantic Region / Heritage Court, 6th Floor, 95 Foundry Street,
Moncton, N.B. E1C 5H7 |
Transports Canada - Région de l'Atlantique / Place Héritage, 6^e étage - 95 rue Foundry,
Moncton, N.-B. E1C 5H7
Tel | Tél. : 506-851-3113 / Fax | Téléc. : 506-851-7542
Email / Courriel : NPPATL-PPNATL@tc.gc.ca



Transport Canada Transports Canada

Canada

Transport Canada has introduced new fees for services, under the *Canadian Navigable Waters Act*, as part of the Fee Modernization initiative. Find out more at: [Canada Gazette, Part 2, Volume 158, Number 14: Canadian Navigable Waters Act Fees Regulations](#)

Transports Canada introduit une nouvelle structure de redevances, en vertu de la *Loi sur les eaux navigables canadiennes*, dans le cadre de l'initiative de modernisation des frais. Plus d'informations ici: [La Gazette du Canada, Partie 2, volume 158, numéro 14 : Règlement sur les droits relatifs à la Loi sur les eaux navigables canadiennes](#)

Aeronautics Act

The Proponent will need to complete an Aeronautical Assessment Form (AAF) for the wind turbines to assess marking and lighting requirements as per [Standard 621 of the Canadian Aviation Regulations \(CARs\)](#) - Obstruction Marking and Lighting.

Further information regarding the AAF and how to submit it can be found at: <https://tc.canada.ca/en/aviation/general-operating-flight-rules/markings-lighting-obstacles-air-navigation>

Impact Assessment Act (IAA)

The Proponent indicates that the Project does not fall within the criteria on the *Physical Activities Regulations* under the *Impact Assessment Act* (IAA) and is therefore not considered a Designated Project. Further, the Proponent mentions the project does not occur on federal lands. As such, TC would not have any Section 82 IAA requirements for this project.

Canada



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Bedford Institute of Oceanography
1 Challenger Drive
P.O. Box 1006, Station P500
Dartmouth, Nova Scotia B2Y 4A2

Date: July 15, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Tiffany MacAulay, Linear Development, Regulatory Review Biologist, Fish and Fish Habitat Protection Program

Subject: Harbour Hills Wind Project, Guysborough County, Nova Scotia

Scope of review:

Fisheries and Oceans Canada (DFO) is responsible for administering the fish and fish habitat protection provisions of the *Fisheries Act* (FA), the *Species at Risk Act* (SARA), and the *Aquatic Invasive Species Regulations*.

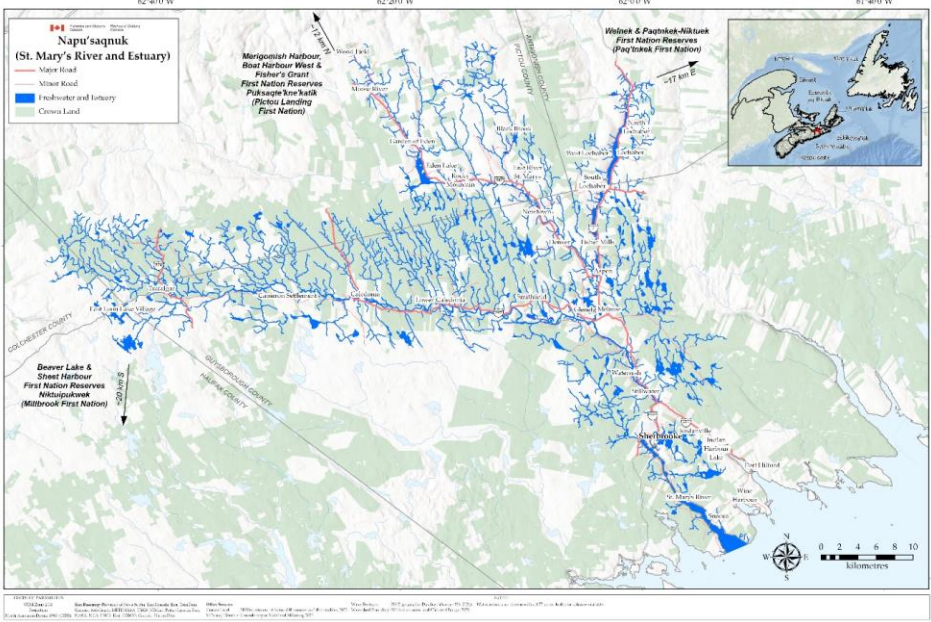
DFO's review focused on the impacts of the works outlined in the Harbour Hills Wind Project Environmental Assessment Registration Document (EARD) to potentially result in:

- 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*.

List of Documents Reviewed:

- Environmental Assessment Registration Document (June 2026):
 - Harbour-hills-ea-registration-document-appendix-a.pdf
 - Appendix B (Engagement)
 - Appendix H (ACCDC Report)
 - Appendix I (Surface Water and Fish & Fish Habitat Photo Log)
 - Appendix J (Wetlands Characteristics & Photo Log)
 - Drawings 9.1 (Freshwater Desktop Review), 9.2 (Wet Area Mapping), 9.3 A-P (Field Assessment Results), 9.4 (Aquatic Environment LAA and RAA), and 9.5 (Wetlands Desktop Review)

Technical Comments:

Risk Assessment: Proximity to the St. Mary's River (ESA Candidate)	
Identify Gap/Risk	The project overlaps with some tributaries of the the St. Mary's River Ecologically Significant Area (ESA) candidate which is in the planning phase for potential designation under <i>Fisheries Act</i> s. 35.2(2). The St. Mary's River ESA candidate study area includes all connected waterways, wetlands and the riparian zone on Crown land in the watershed (see Figure 1). Conservation and protection objectives are being engaged on externally and these will inform future ESA regulations. DFO has engaged the proponent on the ESA candidate and presented the draft conservation and protection objectives. DFO will continue to engage with the proponent on the candidate ESA process. While no such regulation exists today, the project may be subject to regulation in the future if the candidate ESA is approved. It is recommended the Proponent engage with DFO on the development of conservation and protection objectives for the candidate ESA in the St. Mary's watershed. 
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed through ongoing engagement between the Proponent and DFO on the candidate ESA in the St. Mary's watershed.

Define/provide detail	Given the project's overlap with the St. Mary's River ESA candidate study area, additional information and discussions are required with DFO. Should the ESA be approved, the Proponent will be required to comply with the ESA regulations
Risk Assessment: Site-Preparation and Construction Schedule	
Identify Gap/Risk	The EARD indicates clearing will occur from 2029–2030 and construction from 2030–2034 (Section 3.7, Table 3.4), but does not clearly indicate when site preparation and construction will occur within the overall project schedule. Site preparation undertaken too far in advance of construction activities may increase the duration of exposed soils and disturbed areas, resulting in elevated risks of erosion, sedimentation, and potential impacts to fish and fish habitat. Although Surface Water Management Plans and Erosion and Sediment Control Plans are referenced, there is insufficient detail to evaluate the efficacy of these measures at this time.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the DFO regulatory review process. Works Undertakings and Activities (WUAs) associated with this project in or near water that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including information on the proposed WUAs, a description of the fish and fish habitat found at the location of the proposed WUAs, a description on the likely effects of the proposed WUAs on fish and fish habitat, and a description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat. It is recommended that the proponent align site preparation with construction activities, use phased clearing to improve coordination with the construction work, and ensure erosion and sediment control plans are developed, implemented, and account for storm events.
Risk Assessment: Blasting Near Fish Habitat	
Identify Gap/Risk	The EARD identifies that blasting may be required to construct the Project. However, while Section 9.1.5 acknowledges the risk of fish injury or mortality from pressure waves exceeding 100 kPa, it does not provide project-specific blast design, modelling, or a monitoring framework to demonstrate how this will be avoided or mitigated. In addition, the document does not specify setback distances from fish

	habitat or outline specific mitigation and monitoring measures necessary to protect fish and fish habitat. A detailed Blasting Management Plan aligned with established guidance is required to avoid and mitigate impacts to fish and fish habitat.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the DFO regulatory review process. WUAs associated with this project in or near water that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including information on the proposed WUAs, a description of the fish and fish habitat found at the location of the proposed WUAs, a description on the likely effects of the proposed WUAs on fish and fish habitat, and a description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat. It is recommended that the proponent develop a blasting management plan that includes peak overpressure/impulse limits at wetted habitats, charge per delay controls, monitoring, and contingency measures consistent with DFO's <i>Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters</i>.
Risk Assessment: Watercourse Crossing Designs and Fish Passage	
Identify Gap/Risk	The EARD identifies 126 watercourses within the Assessment Area in Section 9.1 (Aquatic Environment, p.139); however, in Section 9.1.4.2 (p. 122) states that 111 watercourses were field assessed, creating a discrepancy in the total number of watercourses. The EARD also identifies 107 forecasted watercourse alterations (52 upgrades to existing crossings and 55 new crossings; Section 9.1.5, Table 9.8), but does not provide site-specific crossing designs or demonstrate that fish passage will be maintained. While Section 9.1.5 indicates that the proponent will obtain approval under the NSECC watercourse alteration process, as required, the absence of design information, such as structure type, dimensions, and design flows, limits the ability to assess whether there is a risk of death of fish or the harmful alteration, disruption or destruction (HADD) of fish habitat, including impacts to fish passage. The proponent should clarify the number of watercourses reported throughout the EARD and provide further information on the watercourses potentially affected by the Project.

Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the DFO regulatory review process. WUAs associated with this project in or near water that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including information on the proposed WUAs, a description of the fish and fish habitat found at the location of the proposed WUAs, a description on the likely effects of the proposed WUAs on fish and fish habitat, and a description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat. It is recommended that the proponent complete a crossings' register with information on final designs (e.g., clear-span bridge, open-bottom arch, embedded culvert), crossing coordinates, bankfull width/depth, gradient, habitat type, likely fish use/seasonality, and clear site-specific photographs documenting existing channel morphology, bank conditions, substrate, flow characteristics, riparian features, and any existing structures. Each crossing submission should further describe fish-habitat type upstream of the crossing, at the crossing, and downstream of the crossing, and the species in the watershed that may utilize the crossing and its surrounding habitat. It is also recommended that the proponent prioritize open-bottom or clear-span structures for fish-bearing streams. Crossings should not hinder the movement of fish species which are likely to migrate within the watershed.
Risk Assessment: Wetland Alterations	
Identify Gap/Risk	The EARD identifies impacts to approximately 62 hectares (ha) of predicted wetland habitat within the Project area (Section 9.2.5), including 252 field-delineated wetland interactions and 41 predicted wetland interactions. The EARD recognizes wetlands as contributing to hydrological regulation and water quality, but the benefits and functional linkages between these wetlands and fish habitat are not clearly indicated. Although WESP AC functional assessments are referenced (Section 9.2.4.2), limited information is provided on the supporting data and assessment connecting wetland function to fish habitat, which in turn limits the ability to assess potential impacts on fish and fish habitat.
Can it be addressed in	The identified gap can be addressed during the DFO regulatory review process. WUAs associated with this project in or near water

another permit/approval or with a T&C?	that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including information on the proposed WUAs, a description of the fish and fish habitat found at the location of the proposed WUAs, a description on the likely effects of the proposed WUAs on fish and fish habitat, and a description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.
Risk Assessment: Sediment, Erosion, and Water Quality	
Identify Gap/Risk	The EARD identifies sedimentation risks associated with various components of Project construction. Given the scale of the Project and the number of aquatic habitat interactions, additional information is needed regarding site-specific ESC measures.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed through the DFO regulatory review process. WUAs associated with this project that occur in or near water and may result in potential harmful impacts to fish or fish habitat will require review by DFO to ensure impacts are avoided, mitigated, or offset in accordance with applicable regulatory requirements.
Define/provide detail	For WUAs that may result in potential harmful impacts to fish or fish habitat, additional information will be required as part of the DFO regulatory review process. This includes information on the proposed WUAs, a description of the fish and fish habitat present at each location, an assessment of the likely effects of the proposed works on fish and fish habitat, and a description of the measures and standards that will be implemented to avoid and mitigate potential impacts. Additional information should also demonstrate how mitigation will be applied at a site-specific level to ensure the protection of fish and fish habitat.

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

DFO recommends the proponent:

- Engage with DFO on the development of conservation and protection objectives for the candidate ESA in the St. Mary's watershed.

- Align site preparation with construction activities, use phased clearing to improve coordination with the construction work, and ensure erosion and sediment control plans are developed, implemented, maintained, and include contingency measures for storm events.
- Develop site-specific erosion and sediment control plans for watercourse crossings and high-risk areas that includes monitoring, adaptive management, and accounts for storm events.
- Develop a blasting management plan that includes peak overpressure/impulse limits at wetted habitats, charge per delay controls, and monitoring measures consistent with DFO's *Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters*.
- Develop a complete crossing package (crossings register and finalized designs) that includes information on the proposed watercourse crossing and wetland alteration designs, descriptions of the fish and fish habitat found at the location of the proposed WUAs, descriptions on the likely effects of the proposed WUAs on fish and fish habitat (including potential impacts on species at risk), and descriptions of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.
- Consider open bottom structures, such as clear span bridges and open bottom arch culverts for fish bearing watercourse crossings rather than closed bottom structures, where possible; and
- DFO is in the process of simplifying its approach to low-risk and routine projects and streamlining the approach to higher-risk and major projects, while upholding environmental standards and respecting the rights of Indigenous Peoples. This includes recent amendments to the Authorizations Concerning Fish and Fish Habitat Protection Regulations which will come into force on October 15, 2025. DFO recommends that the proponent refers to DFO's website, <https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>, for further information and updates on changes to DFO's regulatory review process.

This information can be provided through the DFO Regulatory Review process. It is recommended that all works, undertakings or activities in or near water associated with the Harbour Hills Wind Project be submitted as one application and include a summary table describing all works, undertakings or activities in or near water. DFO will then conduct a regulatory review of the proposed project under the *Fisheries Act*, *Species at Risk Act*, and Aquatic Invasive Species Regulations to determine if an authorization under the *Fisheries Act* and/or a *Species at Risk* permit is required. It is further recommended that the proponent contact DFO at ReferralsMaritimes@dfo-mpo.gc.ca prior to the submission of applications for preliminary discussions on regulatory information requirements under of the *Fisheries Act* and *Species at Risk Act*.

Date: July 14, 2026

To: Meaghan Rafferty, Environmental Assessment Officer, Environment & Climate Change

From: Lesley O'Brien-Latham, Executive Director, Policy and Strategic Advisory Services

Subject: Harbour Hills Wind Project, Guysborough County

Scope of review:

The scope of this review follows the Department of Fisheries and Aquaculture's (NSDFA) legislated mandate to develop, promote and support fishing, aquaculture, seafood processing and sportfishing in Nova Scotia.

List of Documents Reviewed:

- Harbour Hills Wind Project Environmental Assessment Registration Document.pdf (EARD)

Details of Technical Review:Aquaculture:

NSDFA's Aquaculture Division's mandate includes the development, regulation, promotion and support of aquaculture and rockweed industries in Nova Scotia.

There are a total of 2 rockweed leases and 7 aquaculture sites within 25km of the proposed project. Of these, 7 are marine shellfish sites.

Sediment is likely to be generated during the road construction and site preparation phases. Sediment can cause turbidity in the water column, which can affect the ability of marine plants to obtain adequate sunlight for growth and reducing oxygen levels for shellfish. Settling sediment can obstruct feeding and destroy habitat by covering benthic substrates, smothering the benthic habitat, and impacting the nutrients available to shellfish bottom cultures. High turbidity levels can also affect the ability of fish gills to absorb dissolved oxygen. Sediment can house pathogens and undesired microorganisms, increasing the risk of disease outbreaks among aquatic species. The results can range from reduced growth to morbidity.

The EARD indicates the following mitigations will be taken to reduce sediment (via fugitive dust) including, but limited to:

- minimizing the footprint of disturbance to the extent practicable;
- conducting grading and site preparation in phases to minimize disturbed soil areas until just prior to construction activities;
- stabilizing exposed soil surfaces by sloping;
- compact and/or ridge disturbed soil to prevent dust formation;
- wet aggregate and soil stockpiles to control dust;
- design storage areas and material stockpiles with prevailing wind directions.

These general mitigation measures should help to ensure low risk to aquaculture sites and rockweed leases, if applied appropriately. Mitigation measures should be monitored to ensure efficacy, which the EARD indicates is not a planned activity.

There is no mention of power supply disruption within the EARD.

The impacts of the project on water are more related to removal of plants and watercourse changes (via activities such as culvert installation), rather than water discharge or water withdrawal. Changes in water quality or quantity may be due to activities during road construction (sedimentation, vegetation removal, and water redirection). In addition to the previous mitigation measures mentioned, the EARD states that the proponent aims to develop a project-specific Erosion and Sedimentation Control Plan (ESCP) before the commencement of construction. This would include measures to reduce sedimentation and erosion, which would minimize the impacts of the project on water quality and quantity.

The specific details of the ESCP are not provided within the EARD. Concerning the effects of fugitive dust, mitigation measures plan to avoid and mitigate any potential effects on watercourses, and the subsequent surface water quantity and quality. These include construction-controlled measures, such as speed limits and road watering. The mitigations provided should result in reduced risk to water quality and quantity to aquaculture sites from construction activities, if applied appropriately.

Marine Fisheries:

NSDFA's Marine Fisheries Division's mandate includes Nova Scotia's commercial marine fisheries, and the processing, and buying of marine seafood products.

There are several buyers and or processors found within both municipalities where the proposed wind project is located. Tor Bay fisheries and Schrader's Fisheries LTD are both found approximately 45-50 kms to the Southeast of the project in Larrys River. Kaiser Marine LTD operates a buying station for commercial species approximately 8-10 kms to the East of the proposed project.

Regarding the local commercial marine harvesting sector, lobster is the most lucrative fishery near the proposed project. The adjacent waters are known as Lobster Fishing Area (LFA) 31b, and the opening season is April 9th to June 10th.

With regards to impacts to Indigenous communities, there is a Food, Social and Ceremonial (FSC) within the waters of LFA 31b, however there are no communal commercial lobster licenses issues to conduct Moderate Livelihood Fishery (MLF) currently. There may be several Indigenous communities involved in the FSC fishery.

Since the project is landlocked with limited to no connectivity to the marine environment, there would be negligible impacts to the operation of the local commercial marine fisheries interests.

Inland Fisheries:

NSDFA's Inland Fisheries Division's mandate is managing Nova Scotia's recreational sportfishery.

The fish habitat assessment identified a network of primarily small streams and wetlands providing spawning, rearing, and migration functions for resident and potentially anadromous fish species. Project-related activities are expected to cause localized habitat disturbance, increased sedimentation, and temporary changes in water quality and flow regimes, particularly at watercourse crossings.

Standard mitigation measures will be implemented to avoid or minimize impacts, including:

- Erosion and sediment control (ESC) measures

- Timing windows restricting in-water work during sensitive periods
- Installation of properly designed culverts or crossings to maintain fish passage
- Riparian buffer protection and restoration
- Spill prevention and containment protocols
- Site-specific drainage and stormwater management

Key Considerations: (provide in non-technical language)

Potential risks to aquaculture sites resulting from sedimentation should be appropriately monitored and mitigated. The proponent should be made aware of existing aquaculture operations and rockweed leases within the project area to ensure suitable mitigation measures are incorporated into project planning and implementation. Proponents should be directed to the [Site Mapping Tool - Government of Nova Scotia, Canada](#), to identify aquaculture leases and operators within the area.

Based on the activities proposed, the appearance of no connectivity to the marine environment, and adherence to applicable environmental policies, guidelines, and regulatory requirements, the project is expected to present a negligible risk to adjacent commercial marine fisheries.

From a freshwater fish habitat perspective, the project will affect up to 106 watercourses, primarily through new crossings or upgrades to existing crossings. Given the scale of the proposed activities, cumulative effects on fish habitat should be considered within the broader regional context to ensure potential impacts are adequately assessed.

With the implementation of standard mitigation measures and best management practices, residual environmental effects on freshwater fish habitat are expected to be low in magnitude, localized in extent, and not significant.

From a sportfishing perspective, the development may increase road access within previously less accessible areas. This could indirectly result in increased angling pressure on waterbodies located within or adjacent to the project area.

Project proponent should also be made aware of:

- the [Fisheries and Coastal Resources Act](#),
- Provincial [Aquaculture License and Lease Regulations](#),
- Provincial [Aquaculture Management Regulations](#),
- the [Nova Scotia Rock Weed Harvesting Regulations](#), and
- the Department's [Site Mapping Tool](#) for information on the location of sites and leases in the area of their proposed project.



Department of Health and Wellness

Date: July 15, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Environmental Health

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:
Environmental Health

List of Documents Reviewed: Harbour Hills Wind Project Environmental Assessment Registration Document

Details of Technical Review:

The purpose of the proposed undertaking is to construct and operate a wind power project with up to 107 turbines capable of generating up to 856 megawatts (MW) of renewable electricity. The Project also includes other infrastructure such as access roads, electrical lines, one or more substations, laydown yards, and buildings. Each wind turbine will have a height of approximately 221.7 metres to the tip of the blade and individually produce up to 8 MW. The Project is located near the communities of Port Bickerton, Country Harbour Mines, Melrose, and Indian Harbour Lake in the Municipality of the District of Guysborough and the Municipality of the District of St. Mary's, in Guysborough County, Nova Scotia. The Project intends to begin construction in 2030 and is expected to be operational for 35 years.

A review of the above noted documents was undertaken with a particular focus on the potential for health impacts related to

- air quality
- noise
- drinking water wells
- shadow flicker
- ice throw

Environmental Health impacts related to this project have been adequately assessed within the EARD and mitigation measures provided.

Key Considerations:

As noted in the EARP changes to layout, turbine model or specifications, or advancement of optional turbine locations, may require updated sound and shadow flicker monitoring to ensure compliance with applicable standards.

Agriculture

Date: July 15, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Amy Melmock, Executive Director, Industry Development,
Nova Scotia Department of Agriculture

Subject: Harbour Hills Wind Project, communities of Port Bickerton, Country
Harbour Mines, Melrose, and Indian Harbour Lake in Guysborough
County, Nova Scotia

Thank you for the opportunity to review the documents for the above-noted project.

No agricultural impacts are anticipated given that:

- There is no agricultural activity, mapped agricultural land, or registered farm within the project area. The nearest farm is a Christmas tree operation located near the project boundary, approximately 3.8 km from the closest proposed turbine.
- Within 2 km of the project area, there are 49 agricultural fields: rotational crops (53%), long-term crops such as blueberries and Christmas trees (22%), and inactive agricultural land (25%).
- The nearest agricultural field, a blueberry field, is approximately 1.2 km from the closest proposed turbine, which is outside the 887 m setback requirement

From: [Zwicker, Stephen \(ECCC\)](#)
To: [Environment Assessment Web Account](#)
Cc: [Byrne, Mary Alliston \(elle | she, her\) \(ECCC\)](#)
Subject: Harbour Hills Wind Project, Guysborough County
Date: July 15, 2026 11:28:31 AM

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Good morning,

Environment and Climate Change Canada (ECCC) has reviewed the Environmental Assessment Registration for the Harbour Hill Wind Project and offers the following comments for consideration:

References

- ECCC 2025. *Nesting Periods*. <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>
- ECCC 2007a. *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds*. Prepared by Canadian Wildlife Service. https://publications.gc.ca/collections/collection_2013/ec/CW66-364-2007-eng.pdf
- ECCC 2007b. *Wind Turbines and Birds A Guidance Document for Environmental Assessment*. Prepared by Canadian Wildlife Service. https://publications.gc.ca/collections/collection_2013/ec/CW66-363-2007-eng.pdf
- Frick et al. 2026. *A global decision framework for reducing bat fatalities at wind energy facilities*. *Ecological Solutions and Evidence* 7(1). <https://doi.org/10.1002/2688-8319.70189>
- RGI [Renewables Grid Initiative] 2024a. *Avian-Power Line Collision: Overview of Risk Factors & Effectiveness of Wire Markers [Brochure]*. https://renewables-grid.eu/fileadmin/user_upload/Nature/Wire_Marker_Brochure_Digital.pdf
- RGI [Renewables Grid Initiative] 2024b. *Avian-Power Line Collision: Overview of Risk Factors & Effectiveness of Wire Markers [Methodology Report]*. https://renewables-grid.eu/fileadmin/user_upload/Nature/Wire_Marker_Brochure_Digital.pdf
- Calvert et al. 2013. *A synthesis of human-related avian mortality in Canada*. *Avian Conservation and Ecology* 8(2): 11. <https://ace-eco.org/vol8/iss2/art11/>
- Mahon et al. 2019. *Additive and interactive cumulative effects on boreal landbirds:*

winners and losers in a multi-stressor landscape. Ecological Applications 29(5). <https://doi.org/10.1002/eap.1895>

- Rioux et al. 2013. *Avian mortalities due to transmission line collisions: a review of current estimates and field methods with an emphasis on applications to the Canadian electric network*. Avian Conservation and Ecology 8(2): 7. <https://ace-eco.org/vol8/iss2/art7/>
- Balzer et al. 2021. *Capture Rate Declines of Northern Myotis in the Canadian Maritimes*. Wildlife Society Bulletin (45). <https://doi.org/10.1002/wsb.1223>

ECCC notes that the Nova Scotia Department of Natural Resources (NS DNR) holds technical expertise, jurisdiction, and management authority for birds not protected by the MBCA (e.g., raptors) and terrestrial species at risk (SAR) including bats, reptiles, amphibians, land-mammals, insects, plants, and lichen. ECCC advice on these species is derived from federal recovery strategies produced as per the SARA and are focused on species recovery. SAR are a shared responsibility between the federal government and the provinces, and ECCC comments reflect this.

The proponent should retain raw survey data (e.g., radar, breeding bird surveys) until appropriate data standards have been developed. Proponents are encouraged to share and store data with:

- The ECCC's Canadian Wildlife Service (SAR observations; scf-atldonneesei-cws-atliadata@ec.gc.ca)
- The Atlantic Canada Conservation Data Center (SAR/SOCC observations; <http://accdc.com/en/contribute.html>)
- NA Bat (acoustic bat data; <https://www.nabatmonitoring.org/upload-data>)
- The Wind Energy Bird and Bat Monitoring Database (bird and bat data; [NatureCounts - Wind Energy Bird & Bat Monitoring Database](#))

Migratory Birds and avian Species at Risk (SAR) and Species of Conservation Concern (SOCC)

ECCC notes that the project area provides potential breeding habitat for several waterfowl species and serves as an important migration and staging area for waterfowl. Although ECCC-CWS does not have breeding waterfowl data within the project area, CWS has an Eastern Waterfowl Survey plot 24 km North of the study area in similar habitat. Based on these data, it is expected that the following species will be breeding in the project area: American Black Duck, Canada Goose, Mallard, Ring-necked Duck, American Green-winged Teal, Common Merganser, Hooded Merganser, Wood Duck. Other non-waterfowl species such as Common Loon, Spotted Sandpiper, and yellowlegs species (Greater and Lesser).

Waterfowl are known to exhibit avoidance behaviour around wind turbines, resulting in functional habitat loss. Disturbance effects should be considered within a 1 km radius of each

proposed turbine. Accordingly, all wetland habitat within 1 km of each turbine should be interpreted as unavailable to waterfowl. Preliminary mapping suggests that while coastal habitats are likely unaffected by this buffer, most wetland habitat within and adjacent to the project area would be effectively removed for waterfowl use.

Although the loss of this habitat alone may not result in population-level effects, cumulative impacts should be assessed in relation to other existing and proposed wind projects in the region, as well as ongoing provincial wetland loss. In particular, cumulative effects (see Mahon, 2019) associated with the nearby Goldboro Gold Project, NSF Renewable Energy Park, Melford International Terminal, Ocean Lake Wind Project, Aulds Cove Wind Project, Goose Harbour Lake Wind Farm Project, Setapuktuk Wind Project, Upper Afton Wind Project and other developments should be evaluated.

The timing and methods of the baseline avian surveys likely did not adequately characterize waterfowl use of the study area, given that waterfowl generally breed earlier than passerines and use wetland habitats not well represented by standard point count surveys.

Precautionary Approach

Based on [ECCC 2007b](#), the level of concern for this project is “Category 4”, given that the project is located in proximity to known areas of importance for migratory birds (e.g., Country Island Complex IBA and Country Island NWA) and is considered “very large” (ECCC 2007b, Section 6.0) project size/extent (856 MW; 107 turbines; 1,380.3 ha clearing footprint). This level of concern may warrant additional measures to mitigate potential impacts to birds and bats during spring and fall migration periods when the project is operational.

Based on the level of concern for the project (Category 4), ECCC recommends that the proponent follow the precautionary principle and identify operational mitigation measures as part of the EA commitments and implement them such that impacts to migratory birds and bats will be avoided *before* they occur. Additionally, ECCC recommends that the proponent develop adaptive management plan(s) and undertake post-construction monitoring to monitor residual effects ([ECCC 2007a](#), [ECCC 2007b](#)).

Avian SAR and SOCC

Avian SAR listed under the *Species at Risk Act* (SARA) may occur in the Project area, including but not limited to:

- **Bank Swallow** (SARA-listed Threatened)
- **Barn Swallow** (SARA-listed Threatened)
- **Bobolink** (SARA-listed Threatened)
- **Canada Warbler** (SARA-listed Threatened)

- **Chimney Swift** (SARA-listed Threatened)
- **Common Nighthawk** (SARA-listed Threatened)
- **Eastern Wood-pewee** (SARA-listed Special Concern)
- **Evening Grosbeak** (SARA-listed Special Concern)
- **Harlequin Duck, Eastern population** (SARA-listed Special Concern)
- **Lesser Yellowlegs** (COSEWIC-assessed Threatened)
- **Olive-sided Flycatcher** (SARA-listed Threatened)
- **Red Crossbill** (SARA-listed Threatened)
- **Red Knot** (SARA-listed Endangered)
- **Red-necked Phalarope** (SARA-listed Special Concern)
- **Roseate Tern** (SARA-listed Endangered)
- **Rusty Blackbird** (SARA-listed Special Concern)
- **Savannah Sparrow, *princeps* subspecies** (SARA-listed Special Concern)
- **Short-billed Dowitcher** (COSEWIC-assessed Threatened)
- **Short-eared Owl** (SARA-listed Special Concern)
- **Snowy Owl** (COSEWIC-assessed Threatened)
- **Wood Thrush** (SARA-listed Threatened)

For projects undergoing environmental assessment, ECCC recommends that adverse effects of the project on SAR and their Critical Habitat be identified, and, if the project is carried out, that mitigation measures are taken to avoid or lessen those effects and that those mitigation measures:

- be consistent with best available information including any Recovery Strategy, Action Plan or Management Plan in a final or proposed version; and
- respect the terms and conditions of the *Species at Risk Act* (SARA) regarding protection of individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species.

As applicable, follow-up monitoring is recommended to verify impact predictions, adequacy of mitigation measures, and the need for adaptive management in the event that SAR or their critical habitat are adversely affected by the project.

Common Nighthawk

Quote (pg. 294): “*There were 10 common nighthawk observations made... territorial displays were observed on six occasions, indicating probably breeding evidence*” and quote (pg. 298): “*Common nighthawk is also presumed to breed within the Study Area based on the results of the targeted nightjar surveys*”.

Common Nighthawk and other ground or burrow-nesting migratory birds may be attracted to stockpiles or exposed areas for nesting, particularly if there is a delay between clearing activities and subsequent construction activities.

Additionally, Common Nighthawk may have a higher collision risk with turbines/blades than other bird SAR recorded during the breeding period, as this species is an aerial insectivore known to occupy open habitat areas and flying at various heights in search of insects. They also defend their territories by aerial displays (wing booms) that might make them more susceptible to collisions if they choose to nest close to turbines.

ECCC-CWS recommends the following:

- Undertake a habitat suitability assessment for this species and clarify whether areas with suitable breeding habitat will be avoided during micro-siting of turbines.
- Develop measures to deter birds from nesting in work areas, such as covering exposed areas or stockpiles when not in use and minimizing the delay between clearing and subsequent construction activities.
- Identify other targeted mitigation measures to avoid and minimize impacts on Common Nighthawk and its habitat;
- Develop a monitoring plan that includes:
 - Post-construction nightjar surveys (dusk and dawn);
 - Post-construction mortality monitoring to evaluate bird strikes; and
 - Adaptive management measures to be implemented should adverse effects be detected.
 - Reference the *Recovery Strategy for the Common Nighthawk (Chordeiles minor) in Canada [Final] (2016)* to inform the development of mitigation measures for this species: https://species-registry.canada.ca/index-en.html#/species/986-668#recovery_strategies

Pileated Woodpecker

Quote (pg. 294): “*Probable breeding evidence (presumed territory – observed in the same location twice during the breeding season ... pileated woodpecker ...*”. ECCC recommends the following measures regarding Pileated Woodpecker nesting cavities, which are protected year-round under Schedule 1 of the [Migratory Birds Regulations](#):

- Review and understand proponents’ responsibilities under the amended *Migratory Bird Regulations* (MBR 2022).
- Conduct a survey to identify suitable nesting habitat within the area planned for vegetation clearing.
- Inspect identified suitable nesting trees for any Pileated Woodpecker cavities and determine occupancy; Note: In the Maritimes, ECCC recommends surveying

during the second half of June to confirm nesting. By that time, the nestlings are large and loud and may be heard before the cavity can be seen.

- Notify the ECCC Minister through the [Abandoned Nest Registry](#) if any abandoned nesting cavities are found on trees that require removal.
- Monitor occupancy of cavity(ies) over the next 36 months prior to removal and establish a vegetated buffer around the tree. Note: it is important that the nest itself remains intact, and we strongly encourage the Proponent to maintain as much surrounding vegetation as possible to preserve the woodpecker's habitat. If the construction activities are expected to extend during the breeding season, then actions must be taken to ensure that the nesting woodpecker is not disturbed by the construction activities.

For more information on the amended nest protections under the MBR 2022, frequently asked questions on how these protections apply to migratory birds, including Pileated Woodpecker, and your responsibilities for reporting abandoned nests, please visit the following:

- Nest Protection Fact Sheet: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/fact-sheet-nest-protection-under-mbr-2022.html>
- MBR 2022 FAQ: <https://www.canada.ca/en/environment-climate-change/services/migratory-bird-permits/faq-migratory-birds-regulations-2022.html>.

Nest Sweeps

Quote (pg. 15): *“Nest sweeps will be conducted by a qualified professional prior to clearing activities, should vegetation removal be required within the nesting season”* and quote (pg. 322): *“If vegetation and tree clearing activities during the nesting/breeding season cannot be avoided, nest sweeps will be conducted by a qualified avian biologist.”*

Nests in complex habitats (e.g., forests, wetlands) are difficult to locate, and adult birds avoid approaching their nests in a manner that would attract predators to their eggs or young. In many circumstances, disturbance and/or harm to migratory birds is still likely to occur even when nest sweeps are conducted prior to vegetation clearing activities.

Therefore, ECCC does not recommend nest sweeps in vegetation prior to clearing or land disturbance activities during the breeding season. Rather, to promote compliance with the [Migratory Birds Convention Act](#) (MBCA) and its regulations and the [Species at Risk Act](#) (SARA), ECCC recommends that activities that may result in incidental take of nests or eggs, such as vegetation clearing and maintenance, occur outside the migratory bird nesting period (**mid-April to late-August** in this region; nesting zone “C3”, [ECCC 2025](#)).

For additional information, see “Vegetation Clearing” standard recommendations below.

Transmission Lines

The EARD does not identify measures sufficient to avoid potential effects of transmission and collector (“power”) lines on migratory birds.

Power lines have the potential to harm, injure, or kill migratory birds due to collision and electrocution. In Canada, collisions with power lines are estimated to be one of the top sources of human-related mortality in birds ([Calvert et al. 2013](#)), with estimated mortality ranging from 2.5 million to 25.6 million birds killed per year ([Roux et al. 2013](#)).

ECCC recommends the following beneficial management practices to avoid potential harm to migratory birds associated with transmission and collector (“power”) lines:

- Avoid building transmission, collection, or distribution lines over, adjacent, or near areas where birds are known to congregate or move, including:
 - Important breeding, staging, moulting areas;
 - Breeding colonies; and
 - Between breeding and foraging areas.
 - Consider installing underground power lines in high-risk areas for bird collisions.
- Design “avian-safe” configurations to reduce the risk of electrocutions, including:
 - Providing sufficient separation between energized phase conductors and between phases and grounded hardware;
 - Insulating exposed surfaces in high-risk areas;
 - Installing perch-management (e.g., perch guard) devices on poles; and
 - Removing or minimizing vegetation around poles and lines.
- Install measures on lines that reduce the risk of collisions:
 - Provide minimal vertical separation between lines;
 - Use self-supporting structures to reduce the number of guy wires;
 - Use line-marking devices to increase the visibility of the lines; and
 - Consider illuminating lines and towers with ultraviolet (UV) lighting to increase the visibility of lines in high-risk areas.

ECCC recommends that the Proponent refer to Avian Power Line Interaction Committee (www.aplic.org) for an understanding of avian risks from powerlines and guidance. For information on avian line marker (“bird diverter”) use and optimal design, ECCC recommends referencing guidance from the Renewables Grid Initiative ([RGI 2024a](#), [RGI 2024b](#)).

Post-Construction Monitoring Plan

Quote (pg. 322): “A detailed Post Construction Avian Monitoring Plan will be developed and submitted to NSECC and NSNR for review.”

ECCC notes that post-construction monitoring for migratory birds may require a *Migratory Birds Regulations* (MBR 2022) permit. Under the MBR 2022, a scientific permit is required to possess and handle any dead migratory birds used for observer efficiency or scavenging trials (ECCC, s.10.4 2007) and is recommended for the collection of a migratory bird (dead or alive), feathers, or part of a migratory bird (as defined in the *Migratory Birds Convention Act* [MBCA]) found during post-construction monitoring activities (e.g., carcass searches). To apply for an MBR permit, proponents should contact the ECCC-CWS permitting office at: SCF-ATLPermits@ec.gc.ca.

Please refer to *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds* ([ECCC 2007a](#)) and *Wind Turbines and Birds A Guidance Document for Environmental Assessment* ([ECCC 2007b](#)) for include guidance on developing post-construction monitoring programs for wind energy development projects in Canada.

Cumulative Effects

Adaptive Management and Post-construction Monitoring Plans should consider the potential for cumulative impacts of multiple wind energy and other development projects in the area on migratory birds. Where possible, post-construction mortality monitoring reporting should consider post-construction monitoring results from nearby sites (e.g. Ocean Lake Wind Project, Aulds Cove Wind Project, Goose Harbour Lake Wind Farm Project, Setapuktuk Wind Project, and Upper Afton Wind Project) to inform their monitoring programs. ECCC recommends referring to [Mahon et al. 2019](#).

Non-avian SAR and SOCC

Non-avian SAR listed under the *Species at Risk Act* (SARA) may occur in the Project area, including but not limited to:

- **Black Ash** (SARA-listed Threatened)
- **Blue Felt Lichen** (SARA-listed Species Concern)
- **Boreal Felt Lichen** (SARA-listed Endangered)
- **Eastern Waterfan** (SARA-listed Threatened)
- **Frosted Glass Whiskers – Atlantic Population** (SARA-listed Special Concern)
- **Scaly Fringe Lichen** (COSEWIC-assessed Threatened)
- **White-rimmed Shingle Lichen** (COSEWIC-assessed Threatened)

- **Wrinkle Shingle Lichen** (SARA-listed Threatened)
- **Little Brown Myotis** (SARA-listed Endangered)
- **Northern Myotis** (SARA-listed Endangered)
- **Tri-coloured Bat** (SARA-listed Endangered)
- **Monarch** (SARA-listed Endangered)
- **Yellow-banded Bumble Bee** (SARA-listed Species Concern)
- **Snapping Turtle** (SARA-listed Species Concern)
- **Wood Turtle** (SARA-listed Threatened)

For projects undergoing environmental assessment, ECCC recommends that adverse effects of the project on SAR and their Critical Habitat are identified, and, if the project is carried out, that mitigation measures are taken to avoid or lessen those effects and, that mitigation measures:

- be consistent with best available information including any Recovery Strategy, Action Plan or Management Plan in a final or proposed version; and
- respect the terms and conditions of the *Species at Risk Act* (SARA) regarding protection of individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species.

As applicable, follow-up monitoring is recommended to verify impact predictions, and adequacy of mitigation measures, and adaptive management in the event that SAR or their critical habitat are adversely affected by the project.

Bats

Quote (pg. 267) *“Migratory bat activity was higher than resident bat activity during the fall migration season, which may indicate that some southern migration occurs through the Study Area. Resident bat activity was higher during the summer maternity season (June and July), which may indicate that resident bats are feeding, roosting, and potentially raising pups (i.e. maternity roosting) in the area throughout the summer”*

ECCC notes that the following SAR/SOCC bat species/groups were detected during baseline monitoring (pg. 261): Myotis species (i.e., Little brown myotis and/or Northern myotis; SARA-listed Endangered), Tri-coloured Bat (SARA-listed Endangered), Hoary bat (COSEWIC-assessed Endangered), Silver-haired bat (COSEWIC-assessed Endangered), and Eastern red bat (COSEWIC-assessed Endangered).

The populations of the three SARA-listed bat species (Little Brown Myotis, Northern Myotis, and Tricolored Bat) are highly depressed in NS, primarily due to introduction of White-nosed Syndrome (WNS), and therefore few acoustic detections are expected. Any additional loss of SAR bat individuals, maternity roosts, or and/or hibernacula remaining on the landscape can

be biologically significant for these long-lived, k-selected species, and affect their recovery. Additionally, the three “migratory” bats, which have been assessed by COSEWIC as Endangered, are highly vulnerable to mortality due to wind turbines.

ECCC recommends that monitoring, mitigation measures, and adaptive management plans consider the COSEWIC-assessed migratory bat species as though they are SARA-listed SAR, in the event that they become listed during the lifetime of the Project.

Quote (pg 269): *“The Northern Myotis, once considered uncommon throughout Nova Scotia, is likely prevalent in forested regions of the province”*. ECCC emphasizes the SARA-listing of Endangered for this species. More recent research has shown that Northern Myotis are considered nearly extirpated in the region, post-WNS. Please refer to [Balzer et al 2021](#) for more information.

Quote (pg 275): *“To reduce the potential for bat mortality with wind turbines, scientific literature recommends that wind turbines be strategically sites away from bat habitats such as mature forests, wetlands, and waterbodies”*. ECCC-CWS advises that bat detectors have a detection radius of 30-40m under ideal conditions, and bat habitats should also include hibernacula and landscape features that facilitate movement/migration (e.g. coastlines, valleys, rivers). ECCC-CWS also advises that turbines, once erected, can attract bats.

Additionally, ECCC notes that the proponent’s two years of surveys had sufficient spatial coverage, however, the first year missed the breeding period (quote, pg. 256: *“passive acoustic monitoring in 2023 included 14 detectors deployed for 116 consecutive days within the Study Area between August 21 and December 15”*), while the second year missed the migration period (quote, pg. 258 *“passive acoustic monitoring in 2025 included 23 detectors deployed for 113 consecutive days within the Study Area between May 5 and August 26”*); this baseline sampling does not accurately inform collision risk. ECCC recommends targeted surveys (i.e. strategic detector placement), focusing on features such as suitable maternity roosting habitat, hibernacula, and features that facilitate movement (river valleys, coastlines, ridgelines, edges). The former can identify high-risk periods (i.e., migration timing through the site) which can inform operational mitigation; the latter information is useful for micro-siting decisions (e.g., turbine placement) that can aid in avoidance of impacts. Baseline surveys help understand if and when bats are present, and targeted surveys are needed to understand how the landscape is shaping their behavior, which is what ultimately drives impact prediction and mitigation.

Additionally, ECCC notes that the mitigation measures provided on page 277-278 do not include operational mitigations to prevent bat-turbine collisions. ECCC recommends including EA commitments to mitigation measures for minimizing potential impacts to SARA and COSEWIC-listed Endangered migratory bat species during the project’s operational

phase *before* impacts occur, such as increasing cut-in speeds, altering the pitch/feathering the blades during high-risk collision periods (e.g., during migration or swarming or when wind velocity is low) ([Frick et al. 2026](#)). ECCC supports the Proponents approach of motion lights but also recommends having lights downward pointing and longer wavelengths.

ECCC notes that site selection is the most important component of a successful mitigation strategy for bats with respect to wind power development, with turbines and other project infrastructure located as far away as possible from important bat habitat features (hibernacula, potential maternity roosts, migration pathways).

Quote (pg. 254): *“This research indicates four known hibernacula within a 100km radius of the Study Area (Table 10.20)”*. ECCC-CWS notes that there is a 5th hibernaculum <5km from the Study Area in Mill Cove, SSE of the Study Area. ECCC recommends that the Proponent identify collision risk of placing a turbine near hibernacula that bats from a broader geographic catchment area will be moving to/from twice a year.

Quote (pg. 273): *“Since the percentage of overlap with marginal habitat is consistently greater than the percentage of overlap with suitable habitat, modelling also indicates that higher quality habitat has been avoided in the Project design to a greater extent than lower quality habitat”*. ECCC recommends characterising bat maternity roosting habitat using known metrics of suitability, like snags/ha or >30cm dbh trees/ha. The categorization of suitable vs. marginal habitat could be skewed by using the average in the LAA.

Quote (pg. 276): *“It is unclear whether the roost tree is active based on the condition of the guano present at the base of the tree. Additional investigation is required...”*. ECCC supports the further investigation of this tree as removal of trees with roosting characteristics along with a 100m buffer should be avoided. ECCC also notes that a single roost tree is one in a network or assemblage of roost trees that a maternity colony will utilize depending on the thermal and energetic needs (roost switching). ECCC also recommends further clarification on how a roost will be determined to be active be provided.

Monarch

Quote (pg. 238): *“No observations of milkweed species, which support the monarch butterfly (SARA and ESA Endangered) were recorded during flora surveys.*

ECCC recommends that the Proponent avoid disturbance or clearing of milkweed from late May through September to prevent harm to Monarch eggs, larvae, and chrysalises. Seasonal restrictions and habitat protection measures should be incorporated into the Terrestrial Habitat and Wildlife Management Plan. ECCC-CWS recommends referencing the *Monarch (Danaus plexippus): management plan 2016* to inform the development of mitigation

measures for this species: <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/management-plans/monarch-2016.html>

Lichen

Quote (pg. 202): *“No evidence of boreal felt lichen (SARA and ESA Endangered) was observed during flora surveys, including targeted surveys of potential habitat polygons”.*

ECCC recommends that the Proponent conduct an epiphytic lichen survey of the area due to the overlap of Boreal Felt Lichen (SARA-listed Endangered, Schedule 1 Critical Habitat) and Wrinkled Shingle Lichen (SARA-listed Threatened). Critical habitat is defined as the habitat that is necessary for the survival and recovery of a listed wildlife species. One of the three previously documented occurrences is noted to be within the SMP 300-500m restricted zone, where clearing is proposed for new road and turbine pad. Any clearing within the 500m radius must consider cumulative disturbance and restocking conditions if prior clearing has occurred. The Amended Recovery Strategy for the Boreal Felt Lichen (*Erioderma pedicellatum*), Atlantic Population, in Canada [Final version] (2020) is available at: https://species-registry.canada.ca/index-en.html#/species/702-71#recovery_strategies .

Quote (pg.195): *“The 11 unique records of boreal felt lichen identified in the ACCDC report are located between 11 m and 4.8 km from the Study Area boundary, with no occurrences within the Study Area”.* ECCC-CWS notes that juvenile Boreal Felt Lichen are easy to overlook and detectability is often low. Any Boreal Felt Lichen record within 500m of a study area should be treated as extant occurrences.

ECCC defers to the Province of Nova Scotia for application of SMP requirements and habitat management decisions.

Wood Turtle and Snapping Turtle

Quote, pg. 234: *“No direct observations or signs of wood turtles (e.g. nests, eggs, shell fragments) were recorded during targeted wood turtle surveys. Transects in several of the surveyed watercourses had suitable habitat characteristics for wood turtles, such as moving water with deep pools, scalable banks, basking areas, and/or gravel areas. Potential nesting habitat was observed...and potential overwintering habitat.”*

ECCC recommends reviewing the following federal documents regarding Wood Turtle:

- [*Recovery Strategy for the Wood Turtle \(*Glyptemys insculpta*\) in Canada \(2020\).*](#)
- [*Species at Risk Guide: Mitigating Road Mortality of Reptiles and Amphibians \(2026\).*](#)

Quote, pg: 238: *“Two incidental observations of snapping turtles were recorded during field surveys in 2025. Both observations were on roadsides near ponded watercourses, one of which was in the Study Area and one immediately adjacent to the Study Area. During one encounter, a snapping turtle showed signs of nesting behavior (digging along a gravel roadside).”*

ECCC recommends reviewing the following federal documents regarding Wood Turtle:

- [*Snapping Turtle \(Chelydra serpentina\): Management Plan 2020*](#)
- [*Species at Risk Guide: Mitigating Road Mortality of Reptiles and Amphibians \(2026\)*](#)

The following advice was developed for federal lands but may be considered and applied, where appropriate, on other land tenure types for Wood Turtle and Snapping Turtle.

- Avoid known or suitable nesting areas (e.g., sandy or gravelly riverbanks and bars with high sun exposure) during the nesting period (May–July).
- Avoid known or suitable overwintering habitats, including deep pools in streams and other aquatic habitats used for overwintering.
- Schedule terrestrial work, where feasible, during the inactive season (November–March) when turtles are overwintering underwater. Avoid in-water works that could alter overwintering habitat conditions during this period.
- Develop measures to avoid disturbance, injury, and mortality during sensitive periods, including nesting (May–July), hatchling emergence (August–October), and seasonal movements between aquatic and terrestrial habitats (generally April–October).
- Implement measures to reduce mortality risk within Wood Turtle and Snapping Turtle habitat, including:
 - delaying mowing or material placement in meadows, hayfields, and floodplains until late summer where feasible;
 - maintaining mower blade heights of at least 10 cm; and
 - implementing road mortality mitigation measures along roads intersecting Critical Habitat and in areas of known turtle crossings or roadkill hotspots.
- Conduct pre-construction surveys, as appropriate, to confirm turtles are not present at a site prior to initiating work activities. Survey methods and any handling or relocation of turtles should follow guidance from the appropriate provincial species at risk specialist.
- Secure food and waste to avoid attracting predators such as raccoons and skunks.
- Do not share precise Wood Turtle or Snapping Turtle location information, maps, coordinates, or identifiable photographs outside of project requirements (e.g., on social media).
- Submit Wood Turtle and Snapping Turtle observations to the appropriate provincial species at risk specialist.
- ECCC defers to the province of Nova Scotia for further considerations on specific

survey design and protocols for turtles. ECCC is available to provide guidance, if requested.

National Wildlife Area (NWA): Country Island

Quote (pg. 280): *“The closest IBA is the Country Island Complex (NS028), a series of islands off the coast between the communities of Tor Bay and Drum Head”.*

ECCC notes that within Country Island Complex IBA is the Country Island National Wildlife Area (NWA). Under the [Canada Wildlife Act](#), this NWA is protected and managed in accordance with the [Wildlife Area Regulations](#). Of note, this NWA is a significant area for wildlife and is particularly important as a breeding colony (and critical habitat) for the Roseate Tern (SARA-listed Endangered), a breeding colony for Leach's Storm-Petrel (COSEWIC-assessed Threatened), nesting colony for Common and Arctic Terns, and a stop-over for migrating shorebirds and songbirds. ECCC reiterates recommendations related to avian mortalities due to wind turbines. Further information on the Country Island NWA can be found on ECCC's Country Island National Wildlife Area website: <https://www.canada.ca/en/environment-climate-change/services/national-wildlife-areas/locations/country-island.html>

Wetland

ECCC advocates for the conservation of wetlands, especially in areas where wetland losses have already reached critical levels (e.g., NB, NS, PEI, southern Ontario, Prairies), regionally important wetlands, and wetlands used by avian SAR and SOCC as part of their lifecycle (e.g., Canada Warbler, Chimney Swift, Olive-sided Flycatcher Common Nighthawk, Lesser Yellowlegs, Greater Yellowlegs, Spotted Sandpiper, Upland Sandpiper, etc.).

ECCC advocates for planning, siting and designing a project in a manner that considers wetland mitigation options in a hierarchical sequence – avoidance, minimization, and as a last resort, compensation.

Quote (pg. 157): *“Drone-assisted wet area modelling was employed to identify predicted wetlands (PWL) within the Assessment Area between September and November 2025 to collect data in areas of the Study Area that were inaccessible by foot or presented safety challenges”.* ECCC recommends that any drone-assisted wetland modelling should be field-verified prior to any alternations.

In assessing potential for avoidance and minimization impacts to wetlands and avian SAR and SOCC that use wetlands, ECCC recommends that the proponent consider implementing a 30-m buffer around wetlands for all project infrastructure (e.g., turbine pads, access roads, transmission corridors, substation). Any vegetation clearing (even if temporary) should be

considered an alteration requiring compensation or other measures to ensure wet soils and wetland functions are maintained for migratory birds and species at risk.

ECCC also recommends the following general measures:

- Developments on wetlands should be avoided;
- Hydrological function of the wetland should be maintained;
- Runoff from development should be directed away from wetlands;
- A 30-metre buffer from the high-water mark of any water body (1:100 Flood Zone) should be maintained in order to retain movement corridors for migratory birds. Please see <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html> for further information concerning buffer zones.

Applicable Legislation and Standard Advice

Migratory Birds Convention Act

The federal *Migratory Birds Convention Act* (MBCA) and its [regulations](#) protect migratory birds and their eggs and prohibit the disturbance, damage, destruction or removal of migratory bird nests that contain a live bird or a viable egg. Migratory birds are protected at all times; all migratory bird nests are protected when they contain a live bird or viable egg; and the nests of 18 species listed in [Schedule 1 of the MBR 2022](#) are protected year-round. These general prohibitions apply to all lands and waters in Canada, regardless of ownership. For more information, please visit: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html>.

For migratory birds that are listed as Endangered, Threatened or Extirpated on Schedule 1 of the *Species at Risk Act* S.32 (protection of individuals) and S.33 (protection of residences) apply to all land tenure types in Canada. For some migratory bird species listed under the *Species at Risk Act* (SARA), the residence prohibition will protect nests that are not active but are re-used in subsequent years (please note that the residence of a migratory bird may not necessarily be limited to their nest).

Section 5.1 of the MBCA describes prohibitions related to depositing substances harmful to migratory birds:

“5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

(2) No person or vessel shall deposit a substance to be deposited in any place if the substance, in combination with one or more substances, result in a substance – in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an

area – that is harmful to migratory birds.”

The proponent is responsible for ensuring that activities are managed to ensure compliance with the MBCA and associated regulations.

Species at Risk Act

The Species at Risk Act (SARA) “General prohibitions” apply to this project. In applying the general prohibitions, the proponent, staff and contractors, should be aware that no person shall:

- kill, harm, harass, capture or take an individual;
- possess, collect, buy, sell or trade an individual, or any part or derivative;
- damage or destroy the residence of one or more individuals.

General prohibitions only apply automatically:

- on all federal lands in a province,
- to aquatic species anywhere they occur,
- to migratory birds protected under the Migratory Birds Convention Act (MBCA) 1994 anywhere they occur.

Section 33 of SARA prohibits damaging or destroying the residence of a listed threatened, endangered, or extirpated species. For migratory bird species at risk (SAR), this prohibition immediately applies on all lands or waters (federal, provincial, territorial and private) in which the species occurs.

For project assessments, SARA requires:

79 (1) Every person who is required by or under an Act of Parliament to ensure that an assessment of the environmental effects of a project is conducted, and every authority who makes a determination under paragraph 82(a) or (b) of the [Impact Assessment Act](#) in relation to a project, must, without delay, notify the competent minister or ministers in writing of the project if it is likely to affect a listed wildlife species or its critical habitat.

(2) The person must identify the adverse effects of the project on the listed wildlife species and its critical habitat and, if the project is carried out, must ensure that measures are taken to avoid or lessen those effects and to monitor them. The measures must be taken in a way that is consistent with any applicable recovery strategy and action plans.

ECCC notes that all comments it provides concerning species at risk that are not migratory birds derive from federal recovery/management plans as posted on the Species at Risk Registry (<https://www.canada.ca/en/environment-climate-change/services/species-risk->

[public-registry.html](#)), and thus comments may not be comprehensive to the body of knowledge for the species.

For species which are not listed under SARA but are listed under provincial legislation only or that have been assessed and designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), it is best practice to consider these species in EA as though they were listed under SARA.

Vegetation Clearing

Clearing vegetation may cause disturbance to migratory birds and inadvertently destroy their nests and eggs. Many species use trees, as well as brush, deadfalls and other low-lying vegetation for nesting, feeding, shelter and cover. This would apply to songbirds throughout the region and waterfowl in wetland areas. Disturbance of this nature would be most critical during the key breeding period (mid-April to late-August in this region), however some species protected under the MBCA do nest outside of this time period. Please see the webpage “Nesting Periods” (<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>) for more specific information concerning the breeding times of migratory birds. This project falls within zone “C3”.

ECCC provides the following recommendations:

- Avoid certain activities, such as clearing, during the regional nesting period for migratory birds. The breeding season for most birds within the project area occurs between **mid-April and late-August** in this region (see above website for more specific time periods by zone).
- Active nests can be discovered during project activities outside of the regional nesting period. To reduce the risk of impacting nests or birds caring for pre-fledged chicks at those times, ECCC recommends implementation of measures such as the establishment of vegetated buffer zones around nests, and minimization of activities, in the immediate area until nesting is complete, and chicks have naturally migrated from the area. It is incumbent on the proponent to identify the best approach, based on the circumstances, to comply with the MBCA.
- Be cognizant that while most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, mitigations should be appropriate for migratory birds with different strategies. For example, several species nest at ground level (e.g. Common Nighthawk, Killdeer, sandpipers), in hay fields, pastures or in burrows. Some bird species may nest on cliffs or in stockpiles of overburden material from mines or the banks of quarries. Some migratory birds (including certain waterfowl species) may nest in head

ponds created by beaver dams. Some migratory birds (e.g. Barn Swallow, Cliff Swallow, Eastern Phoebe) may build their nests on structures such as bridges, ledges, or gutters.

- Develop and implement a management plan that includes appropriate preventative measures to minimize the risk of impacts on migratory birds (Please see 'Guidelines to reduce risk to migratory birds' at <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html>). For beneficial management practices regarding how to avoid the incidental take of migratory bird nests and eggs, please refer to the Avoidance Guidelines (Website: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/guidelines.html>). The management plan should include processes to follow should an active nest be found at any time of the year.

Lighting

Attraction of migratory birds and SAR to light at night or in poor visibility conditions during the day may result in collision with lit structures, their support structures, or with other migratory birds. Disoriented migratory birds are prone to circling light sources and may deplete their energy reserves and either die of exhaustion or be forced to land where they are at risk of depredation.

To reduce the risk of disturbance to migratory birds related to human-induced light, ECCC recommends implementation of the following beneficial management practices:

- The fewest number of site-illuminating light possible should be used in the project area. Only strobe lights should be used at night, at the lowest intensity and smallest number of flashes per minute allowable by Transport Canada.
- Lighting for the safety of the employees should be shielded down and only to where it is needed.
- LED lights should be used instead of other types of light where possible. LED light fixtures are less prone to light trespass (i.e., are better at directing light where it needs to be, and do not bleed light into the surrounding area), and this property reduces the incidence of migratory bird attraction.
- Lights should point downward with a shield to prevent bleeding into surrounding areas

Effects of Construction/Operations on Migratory Birds – Stranded Birds

Due to the propensity of seabirds from nearby colonies to be attracted to light, it is possible that migratory birds may be attracted to and potentially be stranded on the site. ECCC

recommends that a site monitoring plan be developed for the migratory bird breeding season as well as the spring and fall migration periods and implemented while floodlights are being used during nighttime hours. A site monitoring plan could include protocols such as dusk and dawn site inspections to look for stranded birds that may have landed on site, and/or inclusion of migratory bird searches into standard occupational health and safety daily inspections, etc. ECCC recommends, at minimum, daily searches during early morning hours, particularly during early September to late November, to search for migratory birds that may become stranded on-site.

Should birds become stranded on the project site, both during construction and operations phases, the proponent is recommended to adhere to Procedures for handling and documenting stranded birds encountered on infrastructure offshore Atlantic Canada (attached; it should be noted that this reference document has been developed for offshore vessels and may require modification for use on an onshore facility). ECCC should be notified if bird stranding incidents occur. A seabird handling permit will be required to implement the instructions in this reference document and the proponent must be advised that such a permit would have to be in place prior to the initiation of proposed activities. Please note that MBCA permit applications can be obtained from ECCC via email at scf-atlpermis-cws-atlpermits@ec.gc.ca.

If any birds are found stranded on-site, the proponent should immediately contact ECCC-CWS for further instructions. The contact is Sabina Wilhelm (ECCC-CWS Marine Issues Biologist) at sabina.wilhelm@ec.gc.ca or 709-764-1957.

Bird Mortality Events

ECCC-CWS Atlantic has a new email account dedicated to receiving notification of a migratory bird mortality events of 10 or more birds in one event, or an individual species at risk during a single event related to collisions with wind energy infrastructure in Atlantic Canada. This will assist proponents in receiving prompt ECCC-CWS advice to support them in adaptive management mitigation measures. The new inbox for reporting a bird mortality event is SCF ATL Évaluation d'Impact / CWS ATL Impact Assessment (ECCC) address is: SCFATLEvaluationImpact-CWSATLImpactAssessment@ec.gc.ca; or by calling the CWS Main Office (Sackville) 506-364-5044.

Notification should occur even if the formal post-construction bird monitoring program has ended, and should include specific details about the event (e.g., name and location of the wind farm, number of mortalities, species, map showing turbines and associated infrastructure and locations of collisions, meteorological conditions during previous night(s), details of lights at the site, any other factor which may have influenced the event). Staff and contractors should be instructed that if a mortality event (as described above) occurs, the area

around each wind turbine should be assessed more closely to better evaluate the extent of the event, even if this is not described in their wind farm's "regular" post-construction bird monitoring protocol, or if the formal post-construction bird monitoring program has ended. ECCC-CWS recommends a mitigation protocol in case of high mortality (e.g. ability to shut down problem turbines during poor visibility, during peak migration times, etc.).

Fuel Leaks

The proponent must ensure that all precautions are taken by the contractors to prevent fuel leaks from equipment, and that a contingency plan in case of oil spills is prepared. Furthermore, the proponent should ensure that contractors are aware that under the MBCA, *"no person shall deposit or permit to be deposited oil, oil wastes or any substance harmful to migratory birds in any waters or any area frequented by migratory birds."* Biodegradable alternatives to petroleum-based chainsaw bar oil and hydraulic for heavy machinery are commonly available from major manufacturers. Such biodegradable fluids should be considered for use in place of petroleum products whenever possible, as a standard for best practices. Fueling and servicing of equipment should not take place within 30 meters of environmentally sensitive areas, including shorelines and wetlands.

ECCC recommend incorporating a Wildlife Emergency Response Plan into emergency response contingency plans for scenarios that may impact avifauna directly (injury or mortality e.g. polluting incident) or indirectly (collisions causing mortality, stranding due to light attraction).

For consideration in emergency response and contingency planning related to accidents and malfunctions, ECCC has prepared *Guidelines for Effective Wildlife Response Plans* (ECCC 2022) available online at: <https://www.canada.ca/en/services/environment/wildlife-plants-species/national-wildlife-emergency-framework.html>. Plans should include:

- Measures to deter migratory birds from coming into contact with the oil or polluting substance;
- Measures undertaken if individuals of migratory birds and/or sensitive habitat become contaminated; and,
- The type, extent of monitoring, and reporting in relation to various spill events.

The proponent is responsible for ensuring that all precautions are taken by the contractors to prevent fuel leaks from equipment, and that a contingency plan is prepared in the case of spills. Furthermore, the proponent should ensure that contractors are aware of s.5.1 MBCA prohibitions.

Events involving a polluting substance should be reported to the 24-hour environmental emergencies reporting system: **1-800-565-1633**.

Bird mortality incidents of 10 or more birds in a single event, or an individual species at risk, should be reported via ECCC-CWS Main Office **(506) 364-5044** or via email to SCFATLEvaluationImpact-CWSATLImpactAssessment@ec.gc.ca.

Stockpiles

Certain species of migratory birds (e.g., Bank Swallows) may nest in large piles of soil left unattended/ unvegetated during the most critical period of breeding season (mid-April through late August). To discourage this, the proponent should consider measures to cover or to deter birds from these large piles of unattended soil during the breeding season. If migratory birds take up occupancy of these piles, any industrial activities (including hydroseeding) will cause disturbance to these migratory birds and inadvertently cause the destruction of nests and eggs. Alternate measures will then need to be taken to reduce potential erosion, and to ensure that nests are protected until chicks have fledged and left the area. For a species such as Bank Swallow, the period when the nests would be considered active would include not only the time when birds are incubating eggs or taking care of flightless chicks, but also a period of time after chicks have learned to fly, because Bank Swallows return to their colony to roost.

For additional information on designing mitigation measures for Bank Swallow, refer to the following guidance: <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/related-information/bank-swallow-sandpits-quarries.html>.

Invasive Species

Measures to diminish the risk of introducing invasive species should be developed and implemented during all project phases. These measures could include:

- Cleaning and inspecting construction equipment before transport from elsewhere to ensure that no vegetative matter is attached to the machinery (e.g., use of pressure water hose to clean vehicles before transport).
- Regularly inspecting equipment prior to, during and immediately following construction in areas found to support Purple Loosestrife or other invasive species to ensure that vegetative matter is not transported from one construction area to another.

Noise Disturbance

Anthropogenic noise produced by construction and human activity can have multiple impacts on birds, including causing stress responses, avoidance of certain important habitats, changes in foraging behavior and reproductive success, and interference with songs, calls, and

communication. Activities that introduce loud and/or random noise into habitats with previously no to little levels of anthropogenic noise are particularly disruptive.

ECCC recommends the following best management practices:

- Develop mitigations for programs that introduce very loud and random noise disturbance (e.g., blasting programs) during the migratory bird breeding season for their region.
- Prioritize construction works in areas away from natural vegetation while working during the migratory bird breeding season. Conducting loud construction works adjacent to natural vegetation should be completed outside the migratory bird breeding season.
- Keep all construction equipment and vehicles in good working order and loud machinery should be muffled.

Water Quality

Fisheries Act

Pollution prevention and control provisions of the Fisheries Act are administered and enforced by ECCC. Subsection 36(3) of the Fisheries Act prohibits “anyone from depositing or permitting the deposit of a deleterious substance of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter such water”.

It is the responsibility of the proponent to ensure that activities are managed so as to prevent the release of substances deleterious to fish. In general, compliance is determined at the last point of control of the substance before it enters waters frequented by fish, or, in any place under any conditions where a substance may enter such waters. Additional information on what constitutes a deposit under the Fisheries Act can be found here: [Frequently asked questions: Fisheries Act pollution prevention provisions - Canada.ca](https://www.ec.gc.ca/fisheries/eng/frequently-asked-questions-fisheries-act-pollution-prevention-provisions-canada-ca)

Please let me know if you have any questions.

Stephen Zwicker

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Date: July 10, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Department of Natural Resources and Department of Energy

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandates authorities and approvals required from the Department of Natural Resources (DNR) concerning Crown lands, wildlife species, Species at Risk, associated habitat including wetlands, Old Growth Forest, mineral exploration, health and safety, mineral development, and abandoned mine openings. The review also includes the Department of Energy's comments concerning onshore wind for hydrogen.

The review does not include Crown land research or assessments, including existing uses and encumbrances, which will be required as part of the application processes for authorities and approvals required from DNR.

List of Documents Reviewed: **Department of Natural Resources**

Land Strategy and Planning Branch

Land Administration Division (previously Crown Lands)

- Environmental Assessment Registration Document, including Plain Language Summary
- Appendices A to Q
- Drawings 2.1 to 16.1
- GIS shapefiles

Land Use Planning Division (previously Habitat, Flora and Fauna)

- Harbour Hills Wind Project Environmental Assessment Registration Document, including Plain Language Summary
- Appendices A, H, K, L, M, N, and Q
- GIS shapefiles

Geoscience and Mines Branch

- Environmental Assessment Registration Document – Harbour Hills Wind Project
- Nova Scotia's Registry of Claims (NovaROC)
- Mineral Occurrence Database
- Drillhole Database
- Abandoned Mine Openings Database
- [Geological Resource Atlas | novascotia.ca](https://novascotia.ca/geology/)
- **Guide to Accompany the Geological Resource Atlas of Nova Scotia (Open File Maps ME 2010-1, -2, -3 and -4)**, by Ryan, R J, Nova Scotia Department of Natural Resources; Fisher, B E, Nova Scotia Department of Natural Resources; MacHattie, T G, Nova Scotia Department of Natural Resources; Prime, G A, Nova Scotia Department of Natural Resources

Resources; O'Reilly, G A, Nova Scotia Department of Natural Resources; Calder, J H, Nova Scotia Department of Natural Resources, Open File Report ME 2010-002, 2010, 41 page(s), 14 map(s). ISN: 22637DP ME 43, Version 2, 2006, Digital Version of Nova Scotia Department of Natural Resources Map ME 2000-1, Geological Map of the Province of Nova Scotia, scale 1:500 000, Compiled by J. D. Keppie, 2000

Details of Technical Review:

Department of Natural Resources: Land Strategy and Planning Branch

Land Administration Division

Based on the information provided, the Project is located on private and Crown lands. The Proponent will require authorizations (such as a lease, licence, letter of authority, or easement) from DNR for any activity on Crown lands including:

- erecting, operating, maintaining, and decommissioning wind turbines and related infrastructure;
- temporary use and access of the land, such as requests to temporarily use existing Crown owned roads, install meteorological (MET) towers or LiDAR units, establish laydown yards/areas, develop and operate borrow pits/quarries, or to conduct geotechnical investigations;
- installing and maintaining overhead/underground transmission wires and collector lines, including for submerged Crown lands;
- requests to construct and use new access roads, or to widen or otherwise modify existing Crown roads;

Note: requests to use existing NSPI or Bell owned infrastructure located on Crown lands must be directed to the owner of the utility infrastructure.

Land Use Planning Division

Construction and operation activities of the proposed 107 turbine wind project occupying 207 km² of crown land will increase human access, cause disturbance, and remove and fragment habitat in ways that will negatively affect native flora and fauna, including species at risk and associated habitat in the Study Area (e.g., moose, lichens, turtles, birds and bats). The project footprint overlaps forest stands protected by the Nova Scotia Old Growth Policy. The Project is also likely to cause bird and bat mortality through collision with turbine blades. Collision risk is notable since the project is sited along a coastal bird/bat migratory path and among four Wilderness Areas.

The proposed creation of 110 km of new road will triple road density in the study area causing it to exceed a fragmentation threshold of 0.6 km/km². Pre-construction, the area has a road density of 0.26 km/km² whereas the post construction road density will be 0.79 km/km² and result in the creation of a fragmented landscape from a relatively undisturbed one. Road construction through wilderness creates habitat edges, increases public access and can lead to unintended impacts (e.g. wildfire or poaching). This increase in road, turbine sites and laydown areas also constitutes a sizable habitat loss event with over 6 km² of permanent habitat conversion.

The proposed 13.8 km² of clearing footprint overlaps with 6 identified old growth stands and 138 potential old growth stands. Only 13 old growth assessments were completed by the proponent. The proposed clearing footprint overlaps with 112 Boreal felt lichen habitat polygons and no lichen survey transects were provided to determine survey effort in those areas.

Survey effort for birds, bats and moose was not scaled up to reflect the size and scope of the project and large gaps in survey locations exist throughout the entire area. Across the 207 km² study area, only 2 locations were equipped with ARUs for birds, only 4 locations had trail cameras installed and only 14 and 23 locations (in 2023 and 2025, respectively) had bat detectors installed for a portion of the active season. No spatial data for bat species occurrences was provided in the EARD submission, and no field assessments were carried out on abandoned mine openings (AMOs) to determine if hibernacula are present. Other than 74 observations for 7 species at risk birds, the remaining 7504 observational waypoints for 117 bird species detected during point surveys were submitted in Appendix M of the EARD in over 100 pages of pdf tables. Survey effort for wood turtles within the study area was not sufficient and 10 of 26 wood turtle survey transects occurred outside the study area.

No bird, bat, moose, turtle, or flora surveys were completed within a 60 km² portion (over 25%) of the study area in which there are 30 proposed turbines and 40 kilometers of new roads planned. This gap in survey coverage in an area that represents this level of proposed development should be noted. The size of this area along with the proposed number of turbines and length of new road construction exceeds the entire EARDs for 16 of 19 the wind projects reviewed (and approved) since 2023. All 16 of those projects would represent less development activities than what is being proposed in this area (with no survey information provided to assess effects or inform avoidance or mitigation).

Avoidance is the preferred action to reduce impact, followed by preemptive mitigating measures developed in consultation with DNR and ECCC-CWS. Increasing turbine blade visibility, altering cut-in speeds during migratory periods, and stricter precautions for turbines near coastal bird/bat migration paths can help to reduce collision mortalities. Technologies for avian detection and turbine blade feathering can also enable real-time responses to reduce mortality risk. Installing access restrictions, implementing strategic wetland conservation or restoration, and DNR consultation could provide tactics to reduce wildfire risk associated with increased access in remote areas of the province.

Cumulative effects can be expected due to other development projects in this region of Nova Scotia. The proponent has taken some steps to minimize disturbance (e.g., maximize use of existing roads) but has not considered additional impacts associated with the proposed activities, adjacent wind power developments and corresponding cumulative effects. Consideration of the amount and source of aggregate needed for road construction should also occur in conjunction with the proposed project rather than under separate processes due to potential cumulative effects on wood turtles during the construction phase of the project.

Department of Natural Resources: Geoscience and Mines Branch

A preliminary review of the Harbours Hill Wind Project has been completed. The review notes the bedrock geological characterization of the proposed site is appropriate. The Study Area is mostly underlain by Cambro-Ordovician Goldenville Formation (sandstone turbites and slate) and Halifax Formation (slate, siltstone and minor sandstone), with Devonian muscovite biotite monzogranite intrusions. A small portion of the Study Area overlaps the Horton Group (Late Devonian to Early Carboniferous sedimentary rocks). Proposed mitigation measures should geohazards be encountered for acid rock drainage (ARD), karst topography and erosion and sedimentation are in place.

Geological maps included in application display relative location to planned project footprint. It is recommended that Proponent refer to detailed scale bedrock geology maps where available for use in site planning as the provincial scale map is too coarse for project specific land-use planning.

However, there is no recent detailed scale geology map for the Study Area currently available.

The Proponent lists the underlying geology as low risk for karst topography. The Proponent also recognizes the presence of sulphide-bearing slates within the Study Area and will perform a geotechnical evaluation to determine the likelihood of ARD. The Proponent will also develop and implement an erosion and sediment control plan. The Proponent identified a total of 17 abandoned mine openings (AMO) located within the Study Area, with some having warning signs and backfill, and others not. Most AMO are considered to have a low hazard rating, with 5 having medium-high hazard rating. None of these are contained within the Assessment Area but are present within the Study Area. The Proponent does recognize that mitigation measures may be necessary if construction disturbs unsecured or poorly characterized AMO. The Geoscience and Mines Branch requests that the Proponent report any undocumented abandoned mine openings to the Mineral Management Division.

Mineral Occurrences:

The proposed Study Area is ranked high for mineral potential for 60-70% of the area, medium mineral potential for 30-35%, and >5% low potential. The Study Area contains five mapped mineral occurrences (gold, silica), while there are 483 DDH identified within the Study Area.

The Study Area overlaps 41 existing exploration licenses (EL), with the Assessment Area overlapping with 31 EL. Mineral exploration investment on these licenses has been significant, in excess of \$3.5 M over the past 5 years. Due to the mineral rights held within the proposed area, consideration should be given to concurrent mineral exploration activities.

The EA registration document cites the Province's 2021 Mineral Resource Land Use Atlas as the source for identifying mineral exploration licenses within the study area. For future reviews, proponents are encouraged to reference the Nova Scotia Mineral Rights Database to more accurately identify mineral rights that overlap the study area.

Key Considerations: (provide in non-technical language)

Department of Natural Resources

Land Strategy and Planning Branch

Land Administration Division

No comment

Land Use Planning Division

The EARD submission for Harbour Hills Wind Project did not provide the necessary information to identify and assess the full scope of potential effects nor did it provide the baseline data needed to inform future avoidance, mitigation and adaptive management planning should the project proceed. Cumulative impacts of this project combined with those from Ocean Lake Wind and additional wind projects in the region merit further consideration particularly for birds, bats and mainland moose.

Additional surveys are required to establish the baseline information necessary to make informed decisions on project effects to avoid or minimize impacts to habitat, flora and fauna.

Additional Surveys and Data:

- Conduct additional full year of pre-construction surveys for moose, bats, birds and wood turtles throughout the entire project area.

- Conduct an additional two years of surveys for moose, bats, birds and turtles in the gaps of the study area including the 60 km² portion of the study area where 30 turbines and 40 km of new road are proposed and no surveys were carried out prior to the EARD submission.
- Further studies are required at seven locations deemed to have protected features for wood turtles (i.e., overwintering and nesting habitat).
- Field assessment of AMOs for bat hibernacula is needed to inform avoidance and mitigation required for proposed activities.
- Complete additional surveys in areas identified as habitat for rare flora species (i.e., BFL habitat polygons) that overlap with the proposed clearing footprint and provide all lichen survey transect data to Department of Natural Resources (DNR). Ensure lichen surveys are completed by an approved specialist.
- Carry out additional old growth assessments in polygons that are identified as potential old growth stands which overlap with the proposed clearing footprint.
- Provide precise locations and spatial data for all flora and fauna observations, to DNR including Species at Risk.
- Submit all survey results and survey efforts (transect lines and spatial coverage) to the DNR.

Wildlife Management Planning:

- Develop a Wildlife Management Plan in consultation with DNR and ECCC.
- Ensure baseline information is collected to inform avoidance, mitigation and adaptive management planning.
- Implement measures to reduce impacts on wildlife, including construction timing and road management practices.
- Include Species at Risk monitoring programs and response procedures.
- Consider additional mitigation options such as higher turbine cut-in speeds, blade feathering, real-time avian detection systems, or blade painting to reduce bat & bird mortality.

Legal Requirements:

Obtain all necessary permits as required under legislation related to wildlife and species at risk, watercourses and wildlife habitat alterations, including the Nova Scotia Wetlands Conservation Policy and An Old Growth Forest Policy for Nova Scotia.

It is the responsibility of the proponent to ensure compliance with federal and provincial legislation and regulations regarding resident and migratory flora and fauna species as well as corresponding habitat.

Geoscience and Mines Branch

The Study Area is subject to significant mineral exploration and development interest, including an advanced stage project (portion of the 15-Mile Processing Hub Project) currently in the early stages for Impact Assessment Determination, existing Mineral Exploration Licenses, numerous drillholes, and documented mineral occurrences. The concentration and extent of this activity indicate a substantive, ongoing exploration and mineral development potential within the area.

Given the density of exploration activity and mapped mineral potential of the area, the proposed permanent infrastructure and ground disturbance have the potential to materially restrict access to existing exploration targets and to sterilize near-surface mineralization. Such impacts could adversely affect present and future exploration and development opportunities, thereby

increasing costs and complexity for future mineral work in the area.

The Proponent is requested to undertake a review through NovaRoc to identify Exploration Licenses that may be affected by the proposed project. The Proponent should also describe measures that will be implemented to avoid, minimize, or mitigate sterilization of known mineral targets and confirm plans to notify and engage affected mineral rights holders. Please contact the Registry of Mineral and Petroleum Titles if assistance is required in identifying applicable rights holders and overlapping interests.

Given the extent of overlapping mineral interests and the potential for permanent sterilization of mineral resources, the Proponent may consider a phased or adaptive development approach that allows for further assessment, engagement with rights holders, and avoidance of high-value exploration areas prior to construction of permanent infrastructure.

Department of Energy
Energy Planning Branch

Energy Sector Development Division

Harbour Hills Wind Project is an onshore wind project that is intended to provide renewable energy to EverWind Fuels to produce green hydrogen and its derivatives primarily for an export market.

Produced using clean electricity, green hydrogen and its derivatives can help Nova Scotia grow its economy, reduce emissions and become a leader in clean energy exports.

The development of export focused green hydrogen projects can be a catalyst for Nova Scotia to build a domestic market that would contribute to de-carbonization. The Province's Green Hydrogen Action Plan recognizes that green hydrogen projects will make the best use of the province's natural resources and support sustainable prosperity and the achievement of Nova Scotia's climate change goals.

Re: [11.1.3] Effects Assessment (in 11.0, Socio-Economic Environment):

It is noted that several of the economic figures in this section are presented in aggregate with other projects in "Phase 1" and "Phase 2" of the proponent's portfolio, making it difficult to discern the direct economic effect of the Harbour Hills Wind Project.

The Study Area overlaps 41 active Mineral Exploration Licences with documented exploration expenditures exceeding \$3.5 million over the past five years. Although mineral rights are subsurface rights, the placement of permanent wind-energy infrastructure and the issuance of exclusive Crown land interests may effectively restrict access to exploration targets and significantly reduce or preclude future mineral development opportunities. Similarly, portions of the project area are subject to existing forestry tenure arrangements, and project development could affect access to forest resources and ongoing forest management activities.

The socio-economic assessment should recognize that approval of the project may create economic displacement effects for existing rights holders and resource industries that currently rely on access to these Crown lands.

These impacts should be evaluated alongside the projected economic benefits of the development to provide a balanced assessment of overall socio-economic effects.

From: [Maclean, Lachlan \(HC/SC\)](#)
To: [Environment Assessment Web Account](#)
Subject: RE: New EA Registration - Harbour Hills Wind Project, Guysborough County
Date: July 20, 2026 3:26:44 PM
Attachments: [Generic noise advice for wind farm projects EN.pdf](#)
[Human Health Considerations in IA.pdf](#)

**** 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

Unclassified / Non classifié

Hi Meghan,

As per your email regarding the Harbour Hills Wind Project, please identify any specific project-related human health issues where you are looking for Health Canada's advice or guidance.

As you know, HC's role in Impact/Environmental Assessment is founded in statutory obligations under the Canadian Impact Assessment Act, and its knowledge and expertise can be called upon by reviewing bodies (e.g., Impact Assessment Agency of Canada, review panels, Indigenous groups and/or other jurisdictions). In the absence of such a request from one of the above noted groups, HC is unable to carry out a comprehensive review of the project.

However, HC can accommodate specific requests for human health advice and guidance related to provincial environmental assessments within a reasonable timeframe. Health Canada currently possesses expertise in the following areas related to human health:

- air quality;
- recreational and drinking water quality;
- traditional foods (country foods);
- noise; and
- methodological expertise in conducting human health risk assessments.

To help with your review of human health impacts, I have attached a document of common human health considerations in project reviews including links to Health Canada's guidance documents and a document of generic noise advice for wind farm projects.

Let me know if you want to discuss anything further.

Thanks,
Lauchie

Lachlan MacLean, Ph.D., P.Geo.
Environmental Specialist

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Human Health Considerations when Assessing Noise Impacts Related to Wind Turbine Projects¹

Last updated: March 20, 2024

Health Canada (HC) provides the following general considerations for evaluating human health impacts of noise from wind turbine project-related activities. This is not an exhaustive list of human health concerns related to wind turbine projects, and issues will vary based on individual aspects of each project. Further HC guidance on other areas of expertise (i.e., air quality, recreational and drinking water quality, traditional/country foods, and methodological expertise in conducting human health risk assessment and health impact assessment) is available and referenced at the end of this document*.

Please note that HC does not approve or issue licenses, permits, or authorizations in relation to environmental/impact assessment (EA/IA). HC's role in EA/IA is founded in statutory obligations under the *Impact Assessment Act*, and its knowledge and expertise can be called upon by reviewing bodies (e.g., Impact Assessment Agency of Canada, review panels, Indigenous groups and/or other jurisdictions). In the absence of such a request from one of the above noted groups, HC is unable to carry out a comprehensive review of the project. However, whenever feasible, HC is able to accommodate requests for specific human health advice and guidance related to provincial EAs within a reasonable timeframe.

HC advises that an assessment of noise exposure for human receptors located near the project site consider the following:

	Consideration	Reference Document
Receptor Location		
It is important to identify and describe all existing and reasonably foreseeable human receptors (i.e., permanent, seasonal, or temporary) in the area that may be influenced by project-related noise—including a description of how the receptors were identified (e.g., recent land-use maps, verification in person).	HC prefers that noise assessments identify and describe any particular receptors that may have a heightened sensitivity to noise exposure (e.g., locations where Indigenous peoples' cultural or religious ceremonies occur, schools, childcare centres, hospitals).	Appendix G of HC's noise guidance ² provides a list of commonly encountered receptors and related characteristics.
	It may also be useful to include map(s) illustrating modelled noise levels from the project at receptor locations in the study area.	Section 6.1 of HC's noise guidance contains additional information regarding identification of human receptors in a project area.

¹ This document includes general advice on wind turbine noise and health. It should not be interpreted as formal Department guidance.

² Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://publications.gc.ca/site/eng/9.930338/publication.html>

Last updated: March 20, 2024

Health Impacts Associated with Noise		
In reviewing an EA/IA, HC focuses on noise exposure levels that have the potential for adverse human health effects. Wind turbine noise can be generated through modulation noise (caused by rotation), low frequency noise (rattle), or transformer noise. There may also be construction-related noise (e.g., heavy machinery). These noises may adversely impact human health predominately through sleep disturbance, decreased speech comprehension, and/or high levels of annoyance. Impacts may vary depending on the project phase (e.g.: impulsive noise events during the construction phase and continuous noise sources during the operational phase), sensitivity of nearby receptors, and duration and frequency of noise exposure.	• Sleep disturbance encompasses the following: difficulty falling asleep; awakenings; curtailed sleep duration; alterations of sleep stages or depth; and increased body movements during sleep. The short-term effects of sleep disturbance have been shown to include, but are not limited to: increased fatigue; irritability; and decreased concentration and performance. The guidelines and recommendations of the World Health Organization (WHO)^{3,4} regarding sleep disturbance can be considered in the EA/IA.	For more information on noise-induced sleep disturbance, please see Section 5.2 of HC's noise guidance².
	• The WHO's Guidelines for Community Noise (1999)³ report a threshold for sleep disturbance as being an indoor sound level of no more than 30 A-weighted decibels (dBA) equivalent continuous sound level (LAeq) for continuous noise, during the sleep period. ○ The WHO has published night-time noise guidelines that are intended to protect the public, including the most vulnerable groups, from adverse health effects associated with sleep disturbance due to night-time noise. The recommended annual average is 40 dBA night-time sound level (Ln) outdoors (WHO 2009)⁴.	

³ World Health Organization (WHO). 1999. Guidelines for Community Noise. Berglund, B., Lindvall, T. and Schwela, D.H (Eds.). Available online at: www.who.int/docstore/peh/noise/guidelines2.html

⁴ World Health Organization (WHO). 2009. Night Noise Guidelines for Europe. Hurtley, C. (Ed). Available online at: www.euro.who.int/en/health-topics/environment-and-health/noise/publications/2009/night-noise-guidelines-for-europe

	- For individual noise events, the WHO³ has stated: “<i>For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45 dBA LAmax (maximum A-weighted sound level) more than 10–15 times per night....</i>” - As people may keep windows partially open at night, HC uses an outdoor-to-indoor transmission loss of 15 dBA for windows at least partially open. Fully closed windows are assumed to reduce outdoor sound levels by approximately 27 dBA.	
	- To sustain adequate speech comprehension, HC holds the view that background noise levels (i.e., noise due to project activities as measured indoors) be maintained below 40 dBA. - When a school is identified as a potentially impacted receptor, the WHO recommends an ideal background noise level of 35 dBA in the classroom (WHO 1999)³.	Please see Section 5.3 of HC’s noise guidance ² for more information on interference with speech comprehension.
	In quiet rural areas, HC suggests that during construction, the short-term average day-night sound level (Ldn) be below 47 adjusted dBA at residences, as this is expected to be the threshold for widespread complaints for construction noise, and mitigation measures be considered if predicted noise levels are above this threshold.	Section 6.3.1 of HC’s noise guidance ² provides advice related to short-term construction noise (< 1 year).
	Community annoyance due to noise, measured as the Percent Highly Annoyed (%HA), can be thought of as an aggregate indicator of assorted noise effects that are creating a negative effect on the community. HC uses the change in %HA as an appropriate indicator of noise-induced human health effects from exposure to long-term construction noise and project operational noise.	Sections 6.3.1 and 6.3.2 of HC’s noise guidance ² provides advice related to long-term construction noise (≥ 1 year)

	○ To assess the impacts of noise from projects using this indicator, the project-related change in the sound environment and the related increase in %HA are evaluated. ○ Noise mitigation measures should be considered when a change in the calculated %HA at any given receptor location exceeds 6.5%.	Appendix F in HC's noise guidance ² presents the %HA equations as well as the methodology for obtaining variables used in the equations.
Low Frequency Noise (LFN) and Infrasound		
Low frequency noise (LFN) (typically 20-100 Hertz (Hz); whereas infrasound is typically defined as being below 20 Hz) may result from wind turbines, particularly from larger turbines (>2.3 Megawatts (MW)(Moller, H and C.S. Pederson, 2010) ⁵). LFN is an important component of the total noise levels experienced by receptors near large wind turbines.	• LFN is not generally well perceived by the human ear; however, it may induce vibrations in lightweight structures in residences or sleeping quarters that may be perceptible or cause a “rattle.” Research indicates that annoyance related to noise is greater when LFN is present (ISO 1996-1:2003)⁶ and one of the main reasons is the annoyance caused by rattles. ○ The indoor environment can also be evaluated in the assessment; however, this should be addressed on a case-by-case basis given the uncertainty associated with specific resonances indoors that may affect the audibility of tones indoors. Due to the potential for masking by certain octave bands indoors, it is possible that certain tones may be audible indoors but not outdoors and vice versa.	Please see Appendix C.2 of HC ² for more information on LFN.

⁵ Moller, H. and C. S. Pederson. 2010. Low-frequency noise from large wind turbines. J. Acoust. Soc. Am. 129(6), June 2011. Available at : <https://pubs.aip.org/asa/jasa/article/139/3/1431/910721/Wind-turbine-sound-power-measurements>

⁶ International Organization for Standardization (ISO). 2003. ISO 1996-1:2003 Acoustics – Description, measurement and assessment of environmental noise – Part 1: Basic quantities and assessment procedures. www.iso.org/iso/catalogue_detail?csnumber=28633

Last updated: March 20, 2024

	• As sound environments are usually characterized using A-weighted decibel levels (dBA) that reflect the frequencies most audible to the human ear, the impacts of low-frequency noise may need to be assessed separately. ○ To prevent rattles from low-frequency noise and the associated annoyance from this effect, American National Standards Institute ANSI indicates that the (energy) sum of the sound levels in the 16-, 31.5- and 63-Hz octave bands be less than 70 Z-weighted decibels (dBZ). If this 70-dBZ “rattle criterion” is exceeded, HC suggests the implementation of feasible mitigation measures. ○ Additionally, ANSI 2005⁷ provides a more sophisticated mathematical procedure for assessing %HA when low-frequency noise is present. HC prefers using this procedure when the C-weighted Ldn exceeds the A-weighted Ldn by more than 10 dB. ○ Broner (2011)⁸ has provided simplified outdoor dBC LFN criteria based on the type of receptor (i.e., residential and commercial) and time of day. Based on these criteria, LFN does not generally require further consideration if outdoor Ld is ≤ 60 dBC, and $L_n \leq 55$ dBC. At 10 Hz, 60 dBC is approximately 69 dBZ.	The ANSI standard on environmental sound regarding noise assessment and the related prediction of long-term community response (2005)⁷ provides guidance for low-frequency sound (or infrasound) in the 16-63 Hz octave bands. Appendix D of ANSI 2005⁷ further outlines the procedure for assessing %HA when low-frequency noise is present.
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⁷ American National Standards Institute (ANSI). 2005. Quantities and Procedures for Description and Measurement of Environmental Sound Part 4: Noise Assessment and Prediction of Long-Term Community Response (ANSI S12.9-2005/Part 4). Standards Secretariat Acoustical Society of America.

⁸ Broner, N. 2011. A Simple Outdoor Criterion for Assessment of Low Frequency Noise Emission. Acoustics Australia: 39:1–7. Available at:

https://www.acoustics.asn.au/journal/2011/2011_39_1_Broner.pdf

Last updated: March 20, 2024

Noise Modelling, Mitigation and Monitoring		
Assessing potential impacts to human health from project-related noise, including calculating %HA, may require measuring baseline noise levels, modelling predicted project-related noise levels, and monitoring noise levels during project's construction and operational phases to verify model predictions.	- When baseline measurement is conducted, HC prefers that the measurement be completed in accordance with the International Organization for Standardization (ISO) 1996-2:2007⁹ at each representative receptor (existing and reasonably foreseeable), and that the reports include the dates and hours used to characterize these measurements. - HC recommends adjustments to baseline noise levels in certain settings, for example, baseline levels in quiet rural areas are adjusted by adding 10 decibels (dB). This 10 dB adjustment also applies to the predicted project noise levels in determining %HA, resulting in a greater change in %HA than would occur with unadjusted noise levels. - In addition, HC recommends that non-anthropogenic sounds (e.g. ocean, wind, and animal noises) be removed from baseline measurements. Not removing them may result in an overestimation of baseline sound pressure levels and impact baseline and future changes in %HA calculations. - HC recommends use of an appropriate windscreen must always be used and sound is not to be measured in the presence of precipitation or when wind speeds exceed 14 km/hr (3.9 m/s) unless these effects can be shown to be negligible (ISO 1996-2:2007)⁹. The specific windscreen required will be dependent on atmospheric conditions including wind speed and air turbulence (Van den Berg, 2006)¹⁰. For wind speeds below 14 km/hr, outdoor measurements always require a minimum 70 mm	For more information on adjustments, please see Section 6.1 of HC's noise guidance ² .
		Please see Section 6.2.1 of HC's noise guidance ² for more information on removing non-anthropogenic sounds.

⁹ International Organization for Standardization (ISO). 2007. ISO 1996-2:2007 Acoustics – Description, measurement and assessment of environmental noise – Part 2: Determination of environmental noise levels. www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=41860

¹⁰ Van den Berg, G. P. 2006. Wind-induced noise in a screened microphone. J. Acoust. Soc. Am; 119:824-833. <https://doi.org/10.1121/1.2146085>

	diameter windscreen. For other conditions, including evaluating low frequency sounds (e.g., C-weighted decibels or dBC), larger windscreens may be required.	
	- It is important that the predicted operational noise levels for both daytime (Ld) and night-time (Ln) at all representative receptor locations should be reported in the EA/IA. To permit a proper comparison of noise levels, the units, averaging times and other measurement parameters (including the uncertainty associated with any of the measurements) should be the same as those used in establishing the baseline. - The assessment should clearly identify the model(s) used and justify their suitability. Specific models may be selected on a site-by-site basis and different modelling software may be appropriate depending on the size of the turbine(s). HC prefers that any assumptions used are conservative (i.e., reasonable worst-case scenarios, including for wind speed and ground attenuation) and be adequately described in the assessment. - It is recommended that the EA/IA indicate whether or not there will be a transformer located adjacent to each wind turbine. If individual transformers are present, it is recommended that this additional noise source be included in any operational noise modeling.	Please see Section 6.3.2 of HC's noise guidance ² for more information on modelling project operational noise.
	- While modelling software can be useful in predicting wind turbine noise at nearby receptors, actual noise levels may differ from predicted levels due to uncertainties in model predictions. - If there are uncertainties in the noise modelling, consider monitoring noise levels, particularly in the event of public complaints.	Section 6.4 of HC's noise guidance ² provides additional information on noise management and noise monitoring plans.

	• If Ldn levels from table 6.2 in HC Noise guidance for short-term construction noise cannot be obtained or if 6.5 % of HA is attained for long-term construction and operational noise with the use of quieter technology during construction, HC suggests that community consultation be undertaken to determine work schedules and to inform the public of the times and duration of noisy activities (including blasting if applicable). In general, HC suggests that impulsive sources (e.g., hammering, pile driving) be avoided at night and in the early morning. • If noise levels are predicted or measured to exceed acceptable levels at the exterior of any nearby receptor location (during construction or operation), the implementation of additional mitigation should be considered.	Sections 6.4.1 and 6.4.2 of HC's noise guidance² provide advice on appropriate mitigation noise levels. Please see Appendix H of HC² for suggested construction noise mitigation measures. Section 6.4 of HC's noise guidance² provides additional information about mitigation.
Developing a community consultation plan may be helpful for wind turbine projects. Community reaction to noise impacts following community consultation is more likely to be understanding and accepting of noise, and more likely to make appropriate adjustments to limit noise exposure. Meaningful community consultation and engagement throughout the lifespan of the project can be an effective way to identify and mitigate project-related noise concerns.	• It is recommended that the EA/IA should specify whether community consultation with respect to noise has occurred, and whether any human health concerns have been expressed by potentially impacted receptors. • Consider implementing a formalized complaint-response protocol (i.e., a formalized means of receiving and responding to complaints in a timely fashion) with additional monitoring and mitigation measures defined, particularly in the event of public complaints. ○ Noise management and noise monitoring plans, including complaint resolution plans, are often incorporated as part of the EA/IA's Environmental Management Plan.	Section 6.4.1 of HC's noise guidance² provides additional information on community consultation as it relates to noise.

For more information on HC's guidelines relating to project noise and the use of these guidelines, please see:

Health Canada. 2023. *Guidance for Evaluating Human Health Effects in Impact Assessment: NOISE*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://publications.gc.ca/site/eng/9.930338/publication.html>

- Appendix B of this guidance document provides a checklist that may be beneficial in verifying that the main components of a noise impact assessment are completed.

Please also refer to HC's other guidance documents for evaluating human health impacts in environmental/impact assessments:

Health Canada. 2023. *Guidance for Evaluating Human Health Impacts in Impact Assessment: Air*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://publications.gc.ca/site/eng/9.902734/publication.html>

Health Canada. 2023. *Guidance for Evaluating Human Health Impacts in Impact Assessment: Water Quality*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://publications.gc.ca/site/eng/9.902736/publication.html>

Health Canada. 2023. *Guidance for Evaluating Human Health Impacts in Impact Assessment: Country Foods*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://publications.gc.ca/site/eng/9.930343/publication.html>

Health Canada. 2023. *Guidance for Evaluating Human Health Impacts in Impact Assessment: Human Health Risk Assessment*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. <https://publications.gc.ca/site/eng/9.930345/publication.html>

*For consideration of other human health impacts (i.e., other than noise; including atmospheric impacts during construction, run-off to recreational water, etc.) related to EA/IA, please find the attached document entitled *Human Health Considerations in IA*. Additionally, please contact HC if you are interested in the draft *Interim Guidance on Health Impact Assessment of Designated Projects Under the Impact Assessment Act*, which focuses on a determinants of health approach.

Human Health Considerations in Impact Assessment

Health Canada (HC) provides the following generic considerations for evaluating human health impacts in environmental/impact assessment (EA/IA). Please note that this is not an exhaustive list of human health concerns that may result from projects, and that issues will vary based on project specifics. Please also note that HC does not approve or issue licenses, permits, or authorizations in relation to the IA. HC's role in Impact Assessment is founded in statutory obligations under the Canadian Impact Assessment Act, and its knowledge and expertise can be called upon by reviewing bodies (e.g., Impact Assessment Agency of Canada, review panels, Indigenous groups and/or other jurisdictions). In the absence of such a request from one of the above noted groups, HC is unable to carry out a comprehensive review of the project. However, HC is able to accommodate specific requests for human health advice and guidance related to provincial environmental assessments within a reasonable timeframe.

HC currently possesses expertise in the following areas related to human health: air quality, recreational and drinking water quality, traditional foods (country foods), noise, and methodological expertise in conducting human health risk assessment. Based on Health Canada's "Guidance for Evaluating Human Health Impacts in Environmental Assessment", please consider the following information on these topics to assist in your review.

	Consideration	Reference Document
Receptor Location(s)		
Please ensure the registration document clearly identifies the locations of all receptors that may be impacted by the proposed project, including any receptors located along the transportation route, if applicable.	It is important to clearly describe the location and distance from the proposed site(s) to all potential human receptors (permanent, seasonal or temporary), taking into consideration the different types of land uses (e.g. residential, recreational, industrial, etc.), and identifying all vulnerable populations (e.g. in schools, hospitals, retirement or assisted living communities). Note that the types of residents and visitors in a particular area will depend on land use, and may include members of the general public and/or members of specific population subgroups (Indigenous peoples, campers, hunters, etc.)	<i>Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf
	If there is the potential that project-related activities could affect human receptors, impacts to human health should be considered.	

Atmospheric Environment		
Project impacts to the atmospheric environment include changes to air quality and noise, and can occur in both the construction, operation and decommissioning phases of the project. Project impacts to air quality are commonly caused by emissions from equipment or vehicles as well as by dust. Noise impacts are commonly caused by equipment as well as by activities such as blasting.	• If there are receptors that could be affected by project-related activities, impacts to the atmospheric environment should be considered. Changes to the atmospheric environment that may impact human health include: ○ impacts to air quality (dust or fumes including PM_{2.5}, NO_x, SO_x, PAHs) ○ increased noise from construction or operations	<i>Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf <i>Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Air Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf
	• If there are receptors who could be impacted by project-related noise, it may be necessary to inform receptors prior to loud activities, such as blasting.	
	• If there is the potential for impacts to human receptors from noise and/or air quality changes from the project, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required.	
Recreational and Drinking Water Quality		
The proponent should consider whether any nearby waterbodies are used for recreational (i.e. swimming, boating, or fishing) or drinking water purposes, as well as whether there are any drinking water wells in the area potentially impacted by the project. Nearby drinking and/or recreational water quality may be impacted by	• If there is the potential for impacts to drinking and/or recreational water quality from the project site, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required.	<i>Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Drinking and Recreational Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf

accidents or malfunctions, such as a fuel spill; by dust and increased sediment runoff; and by other chemical discharges to the environment. Additionally, wells in the area potentially impacted by the project may be impacted by activities such as blasting.	• The proponent should consider preparing a response plan in the event of an accident or malfunction with the potential to impact drinking and/or recreational water quality. Response plans should include a spill response kit, adequate spill response training, and a communication plan to notify all recreational and drinking water users in the impacted area as well as all relevant authorities. • In some cases, for projects that are likely to have an impact on drinking and/or recreational water quality, the proponent should consider conducting water monitoring prior to the start of the project (to establish a baseline). Monitoring would continue throughout the construction, operation and decommissioning phases of the project (as applicable) to monitor for any changes in water quality or quantity.	
Country Foods		
If there are plants or animals present in the area potentially impacted by the project that are consumed by humans, there may be potential for impacts to country foods. The proponent should consider all country foods that are hunted, harvested or fished from the area potentially impacted by the project. Impacts to country foods may occur from the release of contaminants into soil or water (including from an accident or spill) or from deposition of air borne contaminants.	• If there is the potential for impacts to country foods from the proposed project, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required. • The proponent should consider preparing a response plan in the event of an accident or malfunction with the potential to impact country foods. Response plans should include a spill response kit, adequate spill response training, and a communication plan to notify all potential consumers of country foods in the impacted area as well as all relevant authorities.	<i>Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.</i> https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf

For more information on HC's guidelines for evaluating human health impacts in environmental assessments, please see:

*Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: **Noise**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf

Appendix B of this guidance document provides a checklist that may be beneficial in verifying that the main components of a noise environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Air Quality**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of an air quality environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Drinking and Recreational Water Quality**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of a water quality environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Country Foods**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of a country foods environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Human Health Risk Assessment**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf

Appendix B of this guidance document provides a checklist that may be beneficial in verifying that the main components of a human health risk assessment are completed.

Date: July 15th, 2026

To: Meghan Rafferty, Environmental Assessment Officer

From: Protected Areas – Sustainability and Applied Science

Subject: **Harbour Hills Wind Project, Guysborough County, Nova Scotia**

Scope of review:

This review focuses on the following mandate: Protected Areas

List of Documents Reviewed:

EA registration document and appendices

Details of Technical Review:

Project was reviewed to assess potential impacts to protected areas

Key Considerations: (provide in non-technical language)

The project almost surrounds two existing Wilderness Areas: Big Plains Wilderness Area and Archibald Lake Wilderness Area. It is within one km of the southern boundary of the Nine-Mile Woods Wilderness Area, within 6 km of the Big Bog Wilderness Area and 7 km from the pending Isaacs Harbour Wilderness Area.

The project also borders on the St Mary's River Conservation Lands.

The project proposes approximately 29 turbines within proximity to existing protected areas.

Ecological features within protected areas may be impacted by the presence of adjacent turbines. Protected areas and the species that use them interact extensively with surrounding landscapes including through wildlife movement, shared ecological processes and flow of resources, including water. Potential impacts include increased tree blow down and loss of interior habitat within a protected area resulting from adjacent forest clearing.

The project proposes 110 km of new roads and the upgrading of 53 km of existing roads. Approximately 25 km of roads are located adjacent to a protected area.

Ecological features within protected areas may be impacted by the presence of an adjacent road. Potential impacts include siltation and disruption of natural water flows, and impacts resulting from human activities facilitated by roads, such as increased hunting and fishing pressure, potential introduction of invasive species and elevated forest fire risk.



Kwilmu'kw Maw-klusuaqn Negotiation Office

Mi'kmaq Rights Initiative

Our Rights. Our Future.

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July 9, 2026

Meghan Rafferty

Environmental Assessment Officer Environmental Assessment Branch

Nova Scotia Environment and Climate Change

E-mail: meghan.rafferty@novascotia.ca

**Re: Consultation with the Mi'kmaq of Nova Scotia on Harbour Hills Wind Project,
Guysborough County, NS**

Ms. Rafferty,

I write in response to your letter dated June 23, 2026, with respect to the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process* (ToR), ratified on August 31, 2010, regarding the above-noted project. We wish to proceed with Consultation.

While your previous letter states that “potentially have impacts to Aboriginal and Treaty Rights at the minimal level”, the Kwilmu'kw Maw-Klusuaqn (KMK) would like to stress that the scale and footprint of this proposed project are significant. The proposed project is of considerable scale, involving up to 107 wind turbines, substantial land disturbance on Crown lands, long-term operational impacts, and occurring within a region already subject to multiple existing and proposed industrial developments. There will be impacts to the Mi'kmaq's Section 35 Rights.

Both the Harbour Hills Wind Project and Ocean Lake Wind Project being proposed for Guysborough County are the largest wind farms being proposed in Nova Scotia. As we have stressed in previous letters, cumulative impacts must be considered, and projects cannot be viewed in isolation. Guysborough County continues to see a number of industrial developments being proposed and approved in a short period of time, such as other wind projects, various other renewable energy project developments, the Goldboro Gold Project, the Canso Spaceport, and various quarry projects. KMK recommends that a cumulative impacts study be required for this county. This study should be completed in collaboration with the Mi'kmaq of Nova Scotia.

Mainland Moose remains endangered in Nova Scotia and the moratorium on Moose hunting in the Cape Breton Highlands remains. With mainland moose being located in the Project Study Area, industrial activity within moose habitat must be approached with caution and mitigated responsibly. The cumulative effects from continued development, including other renewable energy developments, forestry, mining, agriculture, and road construction, risk long-term and potentially irreversible impacts to moose populations. These impacts include water degradation and the immediate and future loss of secure habitat and safe food sources. Sustained efforts are

needed to protect the remaining population in Mainland Nova Scotia for the next seven generations of harvesters and beyond.

With the Environmental Assessment Registration Document (EARD) stating that there are Wisqoq (Black Ash) observed within the Project Area, our office has yet to be consulted on impacts to this culturally- and historically significant species, to which the Mi'kmaq assert harvesting rights. We also query what direction the province has provided to the proponent regarding the importance of collaborating with the Mi'kmaq on the protection and management of this species. In the past, our team has collaborated with other proponents to great success regarding this species, yet there have been no such invitations to collaborate on this occasion. There should be a requirement for a Wisqoq Management Plan to be developed with our office to ensure the species is handled with respect and care.

The EARD has identified lichens in this Study Area. The importance of lichens to our environment cannot be limited to just one value. Lichens in general can provide us with very valuable information about our surrounding environment. Some lichens can only be present in areas of low pollution, while others can inhabit areas of moderate to high pollution, converting that atmosphere into a healthier, more sustainable one. Lichens also hold a strong value within the Mi'kmaq nation in Nova Scotia. Through research, multiple words have been identified in the Mi'kmaq language to reference lichens, proving their importance to Nova Scotia Mi'kmaq. Further, traditional use of various lichens has been documented and noted to be medicinal and ceremonial. Any changes to habitat supporting endangered lichens should be done with full collaboration of the Mi'kmaq.

The scale and footprint of this proposed wind farm are substantial. Groundwork for this project will involve forest clearing and road developments that may affect the harvesting of traditional medicines such as sweetgrass, medicinal plants, and other culturally significant gathering areas. The Mi'kmaq Ecological Knowledge Study (MEKS) has yet to be finalized. Without the finalized MEKS, the Crown cannot reasonably conclude that impacts to traditional land use and gathering practices are minimal. The MEKS remains a key component for our office when assessing the impacts to the Mi'kmaq's Section 35 Rights.

The KMK Archaeological Research Department (ARD) has reviewed documentation for Harbour Hills Wind Project EARD, particularly Section 12 of the EARD (Pages 342-346), an Archaeological Resource Impact Assessment (ARIA)(A2026NS045), conducted by CRM Group Ltd. The ARIA used a predictive model to identify high potential based on background research, engagement, and in relation to potential historic structures and roads, and proximity to water. At this time, the project's infrastructure has not been finalized, therefore the model addresses the entire area where Project-related ground impacts may occur totalling 215.6 square kilometres in

Guysborough County. To date, no field work component was completed and no subsurface testing.

Based on the scale of the project (total number of turbines projected as 107 locations) it would be presumptuous to assume that there would not be any impact on Section 35 rights on community members. ARD can support, at this time, the recommendation that “planning initiatives for the Harbour Hills Wind Project ensure that site-specific archaeological assessment, involving ground truthing of the potential model, take place prior to Project-related developments” (A2026NS045: 37). CRM Group describes the goal of the assessment would be to determine any requirement for sub-surface archaeological testing and/or the timely application of mitigative archaeological measures developed through further engagement with Special Places” (A2026NS045: 37).

We would like to emphasize that whenever a landscape has been used for hunting, fishing, and harvesting, both aquatic and terrestrial, in the past and currently, there is a chance that remains of cultural heritage may also be present. Any time there is a watercourse, named or unnamed, regardless of size or velocity, and whether there is terracing or not, there is a heightened probability of encountering Mi’kmaw archaeological heritage. Often, smaller streams or rivers were, and sometimes continue to be, used by Mi’kmaq on journeys by foot because they not only provide a safe and clear route of travel, but provide fresh water, plants to harvest, and a variety of aquatic resources or animals drawn to the water. This has been confirmed in the ARIA recognizing that “[a]rchaeological resources are not randomly distributed across the landscape. Oral and written history and past archaeology have revealed that they have patterns in their distribution that correlate with a complex array of cultural factors and environmental influences” (A2026NS045: 6).

The Assembly of Nova Scotia Mi’kmaw Chiefs expects a high level of archaeological diligence with evidence-based decisions grounded in an understanding of the subsurface environmental data. The Maw-lukutijik Saqmaq (Assembly of Nova Scotia Mi’kmaw Chiefs) expects subsurface data, adequate to eliminate concern for presence, protection, and management of Mi’kmaw archaeological and cultural heritage as part of assessment of potential in advance of any development. Without subsurface testing, the *evidence* of a lack of concern in impact areas does not exist. Disturbance is defined, for archaeological purposes, as the dislocation of soils and/or sediments, such as that by heavily treaded or tracked vehicles, as well as purposeful excavation by heavy equipment.

We consider any construction project that may exist in proximity to a water course or wetland to have elevated potential for encountering Mi’kmaw belongings, regardless of size or record of traditional use, such as animal or plant harvesting. The implications of the landscape outweigh the lack of historical information. The lack of archaeological evidence may reflect a lack of study.

Given the scale of the project, we would like final confirmation of where turbines may be located, a project schedule / work plan to anticipate high potential areas after ground truthing has been conducted, and be kept updated whenever subsurface testing may commence in relation to construction activity areas in relation to turbine locations, roads, and laydown areas and intersecting high potential areas identified in the ARIA.

KMK does not represent the communities of Millbrook and Sipekne'katik First Nations. Please contact Patrick Butler, Consultation Manager at KMK, with any questions.

Yours in Recognition of Mi'kmaw Rights and Title,

Director of Consultation
Kwilmu'kw Maw-Klusuaqn

C.C.:

Kwilmu'kw Maw-klusuaqn
, Kwilmu'kw Maw-klusuaqn
Gillian DesRoche, Nova Scotia Office of L'nu Affairs
Doreen Mackley, Nova Scotia Environment and Climate Change, Compliance Division
Greg Stewart, Nova Scotia Environment and Climate Change, Compliance Division
Devin Austen, Nova Scotia Environment and Climate Change, Compliance Division
Cindy Steele, Nova Scotia Department of Natural Resources

FORM NAME Environmental Assessment - Project Comments

SUBMISSION ID ec3f1ef9

SUBMISSION DATE 25/06/2026 17:22

SUBMISSION STATUS

SUBMITTED



Panel

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Select a Project:

harbourHillsWindProject

Comments:

I want to say how disappointing it is to see the measures the province has taken to eliminate its reliance on coal.

Blighting the landscape with technology that will probaly be updated within the decade. And in many cases used to produce energy for overseas benefit.

The lack of transparency when the phase out of coal was originally presented was worrying then. It's disturbing to say the least now.

I understand the province needs industry and development but measures like this windfarm do not seem to offset the cultural loss nor the are the benefits going last generations. Windmills have a short lifespan and there is no money in taking them down.

Apparently it will be over 3000htr of woodland cut down in one of the last wild areas of the

province. Please paint one of the turbine blades black at least, in hopes of lessening the impacts on birds

Name:

Email:

City/Town

Postal Code

Attachment(s):

Please note:

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Yes, I agree (must be selected to proceed)

Uploaded document(s)

No documents to display.

FORM NAME Environmental Assessment - Project Comments

SUBMISSION ID 2c4198b9

SUBMISSION DATE 30/06/2026 09:57

SUBMISSION STATUS

SUBMITTED



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Select a Project:

Comments:

Name:

Email:

City/Town

Postal Code

Attachment(s):



[Letter of Support- Everwind HH EA Final.pdf \(/Admin/View-Document/941013f0-4cc3-435c-867f-dc16b61c6e0e/83ff402e-e49d-41d2-9d09-1a0286768e64\).](#)

5.99 MB

Please note:

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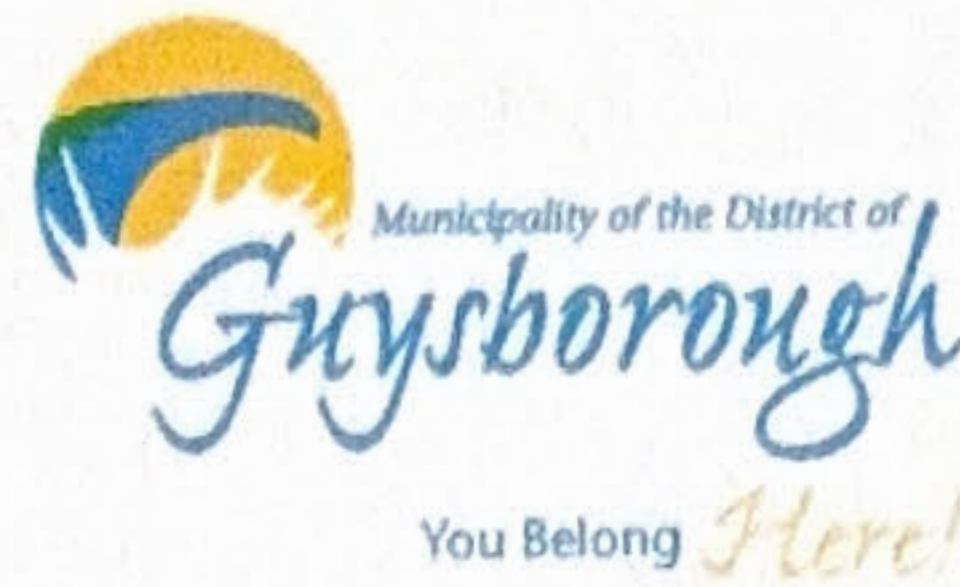
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Yes, I agree (must be selected to proceed)

Uploaded document(s)

Total Documents: 1

[Letter of Support- Everwind HH EA Final.pdf \(/Admin/View-Document/941013f0-4cc3-435c-867f-dc16b61c6e0e/83ff402e-e49d-41d2-9d09-1a0286768e64\).](#)



To Whom It May Concern,

On behalf of the Municipality of the District of Guysborough, I am pleased to provide this letter of support for EverWind Fuels' proposed Harbour Hills Wind Project.

The Municipality recognizes the significant opportunity this project represents for our region. Harbour Hills has the potential to generate meaningful economic activity through construction and long-term operations while supporting local employment, business growth, and investment throughout the Municipality.

The project aligns with the Municipality's vision of fostering sustainable economic development and building on the region's growing role in the renewable energy sector. We believe Harbour Hills will contribute to the continued growth and diversification of our local economy while creating lasting opportunities for residents and businesses.

The Municipality values the collaborative relationship we have established with EverWind Fuels and appreciates the company's continued engagement with municipal staff, local businesses, and community stakeholders throughout the planning process.

We look forward to continuing to work with EverWind Fuels as the Harbour Hills Wind Project advances and believe it represents an important investment in the future of the Municipality of the District of Guysborough.

Sincerely, 

Warden, Municipality of the District of Guysborough

FORM NAME Environmental Assessment Project Comments **SUBMISSION ID** cbef95a2

SUBMISSION DATE 27/07/2026 19:05 **SUBMISSION STATUS** SUBMITTED

Panel

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Select a Project:

harbourHillsWindProject

Comments:

I submit this comment as a long-established rural resident with direct lived experience living among multiple turbine installations, formal training in ecotourism, and decades of work in fisheries, farming, tourism, and rural community development. My full submission provides a comprehensive cumulative-effects analysis of the Harbour Hills Wind Project within the broader industrial transformation occurring across Eastern Nova Scotia.

The evidence shows that Harbour Hills cannot be responsibly evaluated as an isolated wind farm. It is part of a regional build out of approximately 800 turbines, of which only 135 will serve Nova Scotians. The remaining are intended to power Port Hawkesbury Paper, and export hydrogen, ammonia, and SAF industries. This industrial expansion is occurring without regional land use planning, without cumulative-effects assessment, and without meaningful public engagement.

Key concerns include:

Loss of municipal authority through provincial setback overrides and NSRAB decisions that force approval of projects municipalities have rejected.

Limited public transparency, misleading project names, and only 30 days for public review of highly technical EA documents.

Ecological risks including forest fragmentation, watershed alteration, wetland disturbance, wildlife displacement, species at risk impacts,

and legacy contamination from abandoned mine sites.

Industrial wind's full lifecycle impacts, including rare earth mining, gold extraction, steel and cement emissions, non-recyclable blades, and permanent concrete foundations.

Wind's "green" image being used to justify expanded mineral mining, new gas-plant construction, and new pipeline corridors across Nova Scotia.

Absence of Indigenous communities in Guysborough County, where Harbour Hills is proposed, and a disconnect between who receives economic benefits and who absorbs environmental impacts.

Ignored alternatives such as floating solar, in stream hydro, landfill gas capture, algae-based carbon conversion, fish-safe hydro, sustainable biomass, waste to energy, and ocean thermal energy.

Social and cultural impacts on rural landscapes, traditional industries, heritage viewsheds, and long-established settler communities.

My full submission outlines responsible regulatory standards previously proposed at the municipal level — including stronger setbacks, turbine spacing, decommissioning rules, marshland protections, watercourse buffers, and wildlife corridor safeguards — none of which are reflected in current provincial policy.

Harbour Hills should not be approved without a full cumulative-effects assessment across all wind, hydrogen, ammonia, SAF, mining, transmission, and industrial projects in Eastern Nova Scotia.

The attached document provides detailed evidence, references, and analysis supporting this conclusion.

Name:

Email:

@gmail.com

City/Town

Postal Code

Attachment(s):



Harbour Hills EverWind.docx (/Admin/View Document/941013f0 4cc3 435c 867f dc16b61c6e0e/07d2ca36-d1ee-483e-968a-6a13f0e138f0).

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Please note:

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Yes, I agree (must be selected to proceed)

Uploaded document(s)

Total Documents: 2

[Harbour Hills EverWind.docx \(/Admin/View-Documents/941013f0-4cc3-435c-867f-dc16b61c6e0e/07d2ca36-d1ee-483e-968a-6a13f0e138f0\)](#)

[Current-moose-distribution-in-mainland-Nova-Scotia-and-Cape-Breton-Island-showing-core.png \(/Admin/View-Documents/941013f0-4cc3-435c-867f-dc16b61c6e0e/d2050553-61f8-47a4-8dee-d13b3763858c\)](#)

Environmental Assessment – Harbour Hills Project Comments

July 27, 2026

1. Introduction

As a rural Nova Scotian living in the regions targeted for onshore wind development, I am deeply concerned that the Province's Green Hydrogen Action Plan presents an ambitious export-driven hydrogen strategy without acknowledging the cumulative impacts that its enabling infrastructure will impose on rural communities. While the Plan speaks of clean energy leadership, responsive regulation, and meaningful engagement, the lived reality in Eastern Nova Scotia is that large-scale wind, transmission corridors, industrial roads, and associated land-use changes are advancing rapidly with limited transparency, minimal public participation, and no regional cumulative-effects assessment. The Action Plan emphasizes offshore wind as the long-term source for hydrogen production, yet current proposals rely almost entirely on massive onshore wind build-outs that transform rural landscapes, watersheds, wildlife habitat, and cultural environments long before offshore wind is available. As a resident directly affected by these developments, I urge regulators to reconcile the promises of the Action Plan with the actual impacts being imposed on rural communities, and to ensure that hydrogen sector growth does not come at the expense of ecological integrity, public trust, or the well-being of Nova Scotians who live closest to these projects.

My name is _____, and I submit this comment as a long-established rural resident of Nova Scotia with deep ancestral, cultural, and economic ties to this region. My ancestry traces back to Nova Scotia's earliest Acadian explorers and settlers — and the Indigenous peoples they later traded with, lived beside, and married into, including connections formed with Chief Membertou's people. When the British took possession of the mainland, my Acadian ancestors relocated to Petit-de-Gras in Cape Breton, and around Chedabucto Bay. Later, my ancestors of German soldiers from the British 60th Regiment, were granted lands in and around Little Dover and Fox Island. Over time, those families that once stood on opposite sides of conflict learned to live together in peace, forming our democratic country, Canada and the communities that shaped future generations of Maritimers. It is from that continuity, and from the responsibility I feel to speak for those who came before, that I offer this comment.

I am a retired lobster fisher, having worked thirteen seasons as a deckhand on District 31A waters. I spent more than twenty years in a family tourism operation in Antigonish and hold formal training in ecotourism development. Today I operate a small fruit farm, board dogs, preserve food, and serve as an FMNS-trained market manager at the _____ in Pictou County. I have lived through multiple cycles of industrial development in this region, including the boom associated with Sable offshore gas and the limited long-term benefit that followed.

My home and farm now sit between two three-turbine installations — Aulds Mountain and Avondale — developed as community-based carbon-reduction projects. Glen Dhu's thirty-two turbines stand along the ridgeline eight kilometres away. None of these existed when I purchased this neglected heritage farm with ecotourism development in mind. I supported community wind when I believed it would meaningfully reduce carbon and provide cleaner air. Living among turbines for many years, hearing the hum, noticing local weather pattern changes, and participating extensively in municipal bylaw processes seeking stronger residential setbacks, I have come to understand the cumulative impacts more clearly. Despite local input, the province mandated a minimum setback of only 0.8 km across Nova Scotia.

Based on this lived experience, I must state plainly: it is not acceptable for large-scale industrial projects — including Harbour Hills — to be approved without knowing their full scope, without regulations to govern emerging industries, without adequate emergency-response capacity, without adequate public understanding, without cumulative-effects analysis, and without concern for rural lifestyles, the wildlife and ecosystems we coexist with.

2. Regional Industrial Context: Eastern Nova Scotia as the Epicentre

Eastern Nova Scotia is undergoing an unprecedented industrial transformation driven by large-scale wind, hydrogen, ammonia, and Sustainable Aviation Fuel (SAF) export projects. These developments are approved individually, but their impacts accumulate across counties, watersheds, cultural landscapes, and rural communities.

Across all existing and approved, confirmed wind projects I have examined, +700 turbines are now part of the regional wind infrastructure build-out. Of these, only ~ 135 turbines are designated for domestic electricity supply. The remaining turbines are intended to power industrial production such as Port Hawkesbury Paper, and export-oriented hydrogen, ammonia, and SAF. This imbalance shows that less than one in five turbines will serve Nova Scotians directly, while rural communities absorb nearly all of the land-use, noise, health impacts, disruption, ecological effects, and emergency-response burdens.

This industrial turbine count does not include the additional wind or solar generation required for the Goldboro SAF project, which has already received EA approval without disclosing how its production will be powered. The absence of an energy plan for Goldboro SAF represents a major cumulative-effects gap. Until the proponent reveals its full energy requirements, the true industrial footprint cannot be known — but it will exceed the current export-designated turbines.

These wind projects do not exist in isolation. They are layered on top of:

- Two EA-approved hydrogen and ammonia export facilities (EverWind, Bear Head Energy, Point Tupper) – unregulated industries currently under federal jurisdictions
- EA-approved SAF production (Nova Sustainable Fuels, Goldboro), including undisclosed power plans and unregulated by current industry standards

- EA-approved industrial gold mining (Goldboro Gold)
- In EA review Fifteen Mile Stream/Touquoy Hub environmental disturbances
- Legacy contaminated sites from historic gold mining
- Forgotten PCB toxic waste dumps and offshore ammunition dumps
- Undisclosed sites of Arrow oil tanker spill waste across Guysborough County.
- The operating Point Tupper Generating Station wind development and site operations
- Port Hawkesbury Paper's EA-approved industrial wind development and ongoing site operations
- The Canso Spaceport, an emerging, entirely unregulated industry in Canada with undisclosed ties to the National Department of Defence
- Legacy wind approvals still active on the landscape
- Multiple EA-approved wind installations not associated with hydrogen export
- Expanding transmission corridors, substations, and grid infrastructure
- Major-sized quarries and industrial ports
- Two fast-acting gas plants in Pictou County

Each of these projects has been advanced without a regional land-use plan, without cumulative-effects analysis, and without meaningful public discourse. Once EA approval is granted, citizens have no further procedural recourse. Rural Nova Scotia is being industrialized through fragmented approvals that collectively reshape entire counties.

3. Multiple Provincial Incentive Streams Driving Wind Expansion

Nova Scotia is incentivizing wind development through three parallel streams, each encouraging more turbine construction:

3.1 Provincial Procurement Stream

Large volumes of wind power are being procured through competitive tenders that:

- prioritize rapid deployment
- emphasize cost over community impact
- encourage large-scale industrial wind clusters
- do not require cumulative-effects analysis
- create tensions between neighbouring rural property owners
- disrupt communities and populations of wildlife
- cause fragmentation of ecologically important ecosystems

3.2 Private Venture Stream

Private developers advance wind projects outside procurement, often:

- for direct sale to industrial buyers
- for private power purchase agreements

- for speculative development tied to future hydrogen/ammonia markets
- create tensions between neighbouring rural property owners
- disrupt communities and populations of wildlife
- cause fragmentation of ecologically important ecosystems

3.3 Industrial Supply Stream

Wind farms are being built specifically to power:

- hydrogen production
- ammonia synthesis
- SAF production
- industrial export terminals
- create tensions between neighbouring rural property owners
- disrupt communities and populations of wildlife
- cause fragmentation of ecologically important ecosystems

These represent the majority of turbines in Eastern Nova Scotia.

These streams operate simultaneously, without coordination or cumulative oversight, resulting in:

- overlapping turbine clusters
- overlapping transmission corridors
- overlapping environmental footprints
- overlapping impacts on rural communities

Harbour Hills is part of this multi-stream industrial build-out.

4. Mi'kmaq Geography and Participation

4.1 Guysborough County — where Harbour Hills is proposed — has:

- no registered Mi'kmaq First Nation communities, and
- no historical Mi'kmaq settlements.

The nearest registered bands are:

- Paqtnkek Mi'kmaw Nation (Afton, Antigonish County) — ~75 km away
- Pictou Landing First Nation (Pictou County) — ~120 km away
- Millbrook First Nation (Colchester County) — ~180 km away

Despite this, Mi'kmaq organizations from Membertou and other areas are entering into benefit agreements for this and other projects located far outside their territories, while rural settler

communities who actually live in the affected counties — fishers, farmers, cottage owners, and long-established families — have limited procedural rights and no meaningful role in approvals.

This creates a disconnect between:

- who receives economic benefits, and
- who absorbs the environmental, social, and cumulative impacts.

4.2 Mi'kmaq Participation and Rights

Most of these industrial projects include formal agreements with Mi'kmaq organizations, often framed as benefit-sharing, equity participation, or economic reconciliation. These agreements demonstrate meaningful economic engagement.

However, economic participation does not replace:

- cumulative environmental assessment
- protection of cultural landscapes
- ecological stewardship
- consideration of traditional land use
- regional planning that reflects long-term environmental change

Mi'kmaq participation in project agreements does not mean cumulative impacts have been fully addressed. Economic reconciliation and environmental reconciliation are not the same, and both must be considered in cumulative-effects review.

5. Medical Effects Reported by Residents Living Near Turbines

Residents living within the ultra-low-frequency (ULF) and low-frequency noise fields of existing turbines have reported:

- sleep disturbance
- headaches
- tinnitus
- difficulty concentrating
- stress or irritability
- a sense of pressure or vibration
- fatigue

These reports are consistent across multiple rural communities. People experiencing these symptoms are not taken seriously by doctors for symptoms of wind turbine stress.

Health Canada's Position

Health Canada's research does not demonstrate a direct causal link between wind turbine noise and adverse health effects. Their studies acknowledge annoyance, sleep disturbance, and stress responses in some individuals, but do not conclude medical harm. Modern studies correlating heart arrhythmia and blood pressure symptoms have not been considered.

Even without confirmed medical causation, the lived experience of rural residents is real. When hundreds of turbines are approved across multiple counties, the cumulative exposure to ULF and low-frequency noise increases. Rural residents are being asked to absorb these effects without meaningful consultation, mitigation, or regional planning.

6. Loss of Municipal Planning Authority

A major cumulative-effects concern is the erosion of municipal authority over wind development.

6.1 Provincial Override of Setbacks

In 2025, the Province of Nova Scotia imposed mandatory setback limits, preventing municipalities from setting their own limits and project acceptances.

This override removed the ability of municipalities to set larger setbacks based on local geography, safety concerns, or community preference.

6.2 Antigonish County Example

Antigonish County attempted to maintain its own setbacks — including 600 m from homes and 1 km for EA-triggering wind farms — but the province's rules rendered these bylaws non-compliant. When the County voted not to adopt the provincial setback reductions, several turbines in the proposed Upper Afton wind farm were left in violation of municipal bylaws.

6.3 West Hants Example (Bear Lake)

From the NSRAB decision: West Hants Council refused the Bear Lake Wind development agreement due to:

- inadequate fire suppression
- concerns about industrialization of the forest

The Nova Scotia Regulatory and Appeals Board overturned the municipal decision and ordered Council to approve the development agreement. This confirms that municipalities no longer have meaningful authority to refuse industrial wind projects, even when local planning strategies support their decision.

7. Lack of Public Awareness, Transparency, and Engagement

A critical cumulative-effects failure is the absence of meaningful public awareness and engagement in industrial wind development. Take note of the total number of public comments in this project EA submission period as evidence that the NS population is not actively engaged in this conversation.

7.1 Misleading Project Names

Many wind projects use branding names that do not reflect their true geographic locations. This makes it difficult for residents to understand:

- where turbines will actually be built
- which communities will be affected
- how projects overlap
- how transmission corridors will be routed

7.2 Multiple Projects Advancing Simultaneously

Several wind and hydrogen projects are being developed at the same time, often by the same proponents, creating confusion about:

- which project is which
- which EA applies to which turbines
- which transmission lines belong to which development
- how many turbines are actually being approved

7.3 Only 30 Days to Respond

Once a project enters the EA process, the public has only 30 days to:

- read hundreds of pages of technical documents
- understand the project
- identify concerns
- prepare a submission

This timeline is not reasonable for rural residents, especially when multiple projects are advancing simultaneously, and larger projects are advancing in a disjointed fashion.

7.4 Limited Public Engagement

Public engagement is minimal and often consists of:

- one information session
- one public meeting
- limited notice

- no regional cumulative-effects discussion
- no meaningful opportunity to influence outcomes
- influence and generalizations of “green” energy benefits
- public pressure to advance jobs in rural areas known for outmigration
- public pressure to advance carbon-free initiatives, even when not so in reality
- government pressure to advance economic activity to provide public services

Harbour Hills is being advanced within this context of limited transparency and limited public participation.

8. Ecological and Environmental Impacts

Several ecological concerns apply directly to cumulative wind development:

8.1 Forest Management and Biomass Pressure

Industrial projects in the region already propose kilotons of wood waste per year and 60 truckloads per day of biomass. This raises concerns about:

- long-term forest health
- provincial oversight
- sustainability of biomass extraction
- cumulative pressure on forest ecosystems
- fragmentation of habitat and sensitive species impact

8.2 Water Extraction and Drought Risk

Freshwater pipelines proposed for industrial projects “to allow flexibility” do not adequately explain:

- water extraction needs
- drought impacts
- effects on lakes, rivers, and groundwater
- cumulative watershed stress

Wind projects also require:

- road construction
- blasting
- soil displacement
- wetland alteration

8.3 Legacy Contamination

Documented and unknown industrial sites in Eastern Nova Scotia already contain:

- Mercury
- Arsenic
- Petroleum hydrocarbons (eg. Arrow tanker spill waste clean-up)
- PCB's
- Cyanide
- Endocrine disruptors
- PFAS
- Acid drainage

Wind development adds:

- more roads
- more soil disturbance
- more exposure pathways
- more pressure on contaminated landscapes

8.4 Air Quality and Flaring

Industrial projects operating and planned in the region that are supported by wind developments admit flaring of:

- methane
- carbon monoxide
- carbon dioxide
- carbonyl sulphide
- ammonia
- hydrogen

Local communities previously suffered flaring impacts from Sable Gas. Cumulative air-quality governance, monitoring and public reporting is essential.

9. Industrial Wind Is Not Environmentally Neutral

Wind energy is often marketed as “green,” but the full lifecycle of industrial wind development reveals significant environmental impacts that must be considered in cumulative-effects assessment.

9.1 Rare Earth Elements and Gold

Wind turbines contain rare earth elements and gold, both of which are mined through processes known to cause:

- severe ecological degradation
- toxic waste discharge
- long-term contamination of soil and water
- human rights concerns in global supply chains

9.2 Steel and Cement

Industrial wind requires:

- large volumes of steel (high-emission production)
- massive cement foundations (energy-intensive, often containing industrial waste additives)

Cement bases remain permanently in the ground after decommissioning, altering hydrology and potentially leaching contaminants into local watersheds.

9.3 Road Construction and Watershed Impacts

Industrial wind development requires:

- highway-scale access roads
- blasting
- slope alteration
- forest clearing
- wetland disturbance

These activities:

- fragment ecosystems
- spread invasive species
- alter water flow
- increase erosion
- degrade watersheds
- permanently change mountaintop environments

9.4 Wildlife Impacts

Wind turbines have documented impacts on:

- songbirds (avoidance, mortality, behavioral change)
- bats (barotrauma, mortality)
- moose (habitat fragmentation, disturbance)
- insects (unassessed but significant mortality documented in emerging research)
- species at risk

- sensitive barrens ecosystems
- historic contaminated mine sites that remain unrestored

9.4.1 Impacts on Migratory Birds (Peer-Reviewed and Government-Sourced Evidence)

Wind turbines pose well-documented risks to migratory birds, especially in regions with concentrated turbine clusters, coastal flyways, and ridgeline installations — all conditions present in Eastern Nova Scotia. Peer-reviewed studies, federal wildlife agencies, and international monitoring programs consistently show that industrial wind development can cause mortality, displacement, behavioral disruption, and long-term habitat fragmentation for migratory species.

a) Mortality Rates and Collision Risk

The U.S. Fish & Wildlife Service (USFWS) reports that wind turbines kill hundreds of thousands of birds annually in the United States, with mortality concentrated among migratory species that travel at night or during low-visibility conditions. USFWS notes:

“Migratory birds are particularly vulnerable to collision with turbine blades during nocturnal migration, fog, and low cloud conditions.”

Key findings from peer-reviewed studies:

- Loss et al. (2013, Biological Conservation) estimated 234,000 to 573,000 bird deaths per year at U.S. wind facilities.
- Smallwood (2020, Journal of Wildlife Management) found mortality rates higher than previously reported, especially for raptors and long-distance migrants.
- Marques et al. (2014, Biological Conservation) concluded that collision risk is strongly influenced by turbine density, placement along ridgelines, and proximity to migratory routes.

Eastern Nova Scotia’s ridgelines and coastal corridors match these high-risk conditions.

b) Displacement and Habitat Avoidance

Wind farms do not only kill birds — they displace them from traditional migratory stopover sites and feeding grounds.

Key findings:

- Pearce-Higgins et al. (2009, Journal of Applied Ecology) found that many bird species exhibit long-term avoidance of wind farms, reducing habitat availability.

- Zimmerling & Francis (2016, Avian Conservation and Ecology) documented significant displacement of migratory songbirds at Canadian wind farms, especially in forested landscapes similar to Eastern Nova Scotia.
- Kuvlesky et al. (2007, Journal of Wildlife Management) warned that cumulative displacement effects may be more ecologically significant than direct mortality.

Given the number of wind projects proposed regionally (~800 turbines), displacement effects will be cumulative and widespread.

c) Coastal and Marine Migratory Pathways

Nova Scotia lies directly within the Atlantic Flyway, one of North America's major migratory bird routes.

Environment and Climate Change Canada (ECCC) notes:

"The Atlantic Flyway supports millions of migratory birds annually, including species of conservation concern."

Wind turbines placed near:

- coastal barrens
- ridgelines
- fog-prone areas
- marine shorelines
- inland lakes and wetlands

pose elevated risks because migratory birds often fly at turbine height during:

- fog
- storms
- nighttime migration
- seasonal weather shifts

Eastern Nova Scotia's fog systems and coastal winds increase collision risk.

d) Species at Risk

Several migratory species in Nova Scotia are federally listed as Species at Risk, including:

- Canada Warbler
- Olive-sided Flycatcher
- Rusty Blackbird
- Barn Swallow

- Bank Swallow
- Common Nighthawk

Peer-reviewed studies show these species are disproportionately affected by wind turbines due to:

- nocturnal migration
- aerial feeding behavior
- long-distance flight patterns
- reliance on forested stopover habitat

ECCC's Species at Risk Public Registry warns that habitat fragmentation and collision mortality are "significant threats" for these species.

e) Cumulative Effects — The Missing Assessment

No wind project in Nova Scotia has conducted:

- cumulative migratory bird mortality modeling
- regional displacement analysis
- Atlantic Flyway risk assessment
- fog-related collision modeling
- multi-project turbine-density impact analysis

Yet Eastern Nova Scotia is facing:

- +700 turbines
- multiple ridgeline projects
- multiple coastal projects
- hydrogen/ammonia wind supply farms
- SAF wind supply farms
- transmission corridors through migratory habitat

Peer-reviewed research shows that cumulative turbine density is one of the strongest predictors of migratory bird mortality (Marques et al., 2014).

Nova Scotia has no cumulative-effects rules, meaning these risks are not being assessed.

Given Eastern Nova Scotia's location within the Atlantic Flyway, the density of proposed turbine clusters, and the documented risks to migratory birds in peer-reviewed research, a cumulative migratory-bird impact assessment is essential before approving additional wind projects such as Harbour Hills.

The belief that wind's climate benefits outweigh all other environmental concerns is not supported by evidence; industrial wind reduces carbon emissions but also creates measurable impacts on migratory birds, wildlife, watersheds, and rural landscapes that must be assessed honestly.

9.5 Non-Recyclable Blades

Fiberglass turbine blades are:

- non-recyclable
- landfilled at end of life
- expected to accumulate in large volumes as industrial wind expands

9.6 Landscape and Cultural Impacts

Industrial wind alters:

- scenic landscapes
- rural character
- cultural heritage view sheds
- tourism value
- sense of place

9.7 Regional Atmospheric and Microclimate Impacts of Large-Scale Wind Development

Although wind turbines are not known to alter global climate, there is a growing body of peer-reviewed research showing that large-scale wind development can alter local and regional atmospheric conditions, especially in areas with multiple turbine clusters. These effects occur because turbines interact directly with the lower atmosphere, creating turbulence, redistributing heat and moisture, and changing airflow patterns.

Documented Microclimate Effects (Peer-Reviewed Research)

a) Increased nighttime surface temperatures Multiple studies (Zhou et al., *Nature Climate Change*, 2012; Rajewski et al., *Journal of Applied Meteorology and Climatology*, 2013) show that wind farms can increase nighttime surface temperatures by 0.5°C to 1.5°C due to vertical mixing of air layers.

b) Altered wind patterns and turbulence Large turbine arrays generate wake effects that can extend 10–20 km downwind, altering local wind speeds, turbulence, and airflow (Baidya Roy, *Journal of Geophysical Research*, 2004; Vanderwende & Lundquist, *Wind Energy*, 2016).

c) Changes in moisture distribution and fog formation Studies in coastal and humid regions show that turbine-induced turbulence can affect fog formation, dew deposition, and local humidity patterns (Huang et al., *Boundary-Layer Meteorology*, 2019).

d) Modified snow deposition and melt patterns Research in northern climates (Zhang et al., *Renewable Energy*, 2019) demonstrates that turbine wakes can influence snow drift, accumulation, and melt rates, especially in hilly terrain.

e) Localized changes in cloud formation and precipitation Large wind farms have been shown to influence low-level cloud formation and localized precipitation patterns due to boundary-layer mixing (Siedersleben et al., *Atmospheric Chemistry and Physics*, 2018).

With +700 turbines proposed or approved regionally, the cumulative atmospheric effects may be significantly larger than those documented in single-project studies.

Nova Scotia's EA process does not require:

- microclimate modeling
- wake-effect modeling across multiple projects
- regional atmospheric impact assessment
- analysis of turbine-induced turbulence on fog, snow, or moisture
- cumulative boundary-layer modeling

This is a major gap, especially in a region with:

- coastal fog systems
- sensitive watersheds
- agricultural microclimates
- snow-dependent forestry and wildlife patterns
- rural communities living directly within turbine clusters

Harbour Hills is not an isolated project. It is part of a regional turbine network that will:

- increase atmospheric turbulence
- alter local wind behavior
- affect moisture and fog patterns
- influence snow deposition
- change nighttime surface temperatures
- interact with wakes from other wind farms

These effects are scientifically documented, predictable, and relevant — yet not assessed in Nova Scotia's EA process.

Given the scale of wind development proposed for Eastern Nova Scotia, cumulative atmospheric and microclimate impacts must be assessed before approving additional turbine clusters such as Harbour Hills.

9.8 Greenwashing

The perception of wind as inherently “green” is now driving approvals for more mining, more gas plants, and more pipelines — in Nova Scotia and beyond — without examining the full environmental cost. The perception of wind as environmentally friendly is being used to justify:

- expanded mineral mining (rare earths, gold, steel inputs; Rio Tinto leasing land on the Bay of Fundy)
- two new gas plants in Pictou County to back up intermittent wind
- new pipelines for distribution

This is not limited to Eastern Nova Scotia — it is province-wide political theology. I focus here on Eastern Nova Scotia because the full provincial scope is too large for one EA submission.

9.9 Cumulative effects

Nova Scotia’s fast-acting gas plant proposals in Marshdale and Salt Springs highlight the same cumulative-effects failures present in the Harbour Hills Wind Project: unclear project scope, reliance on imported or potentially fracked natural gas, absence of long-term environmental safeguards, and a continued pattern of industrial energy development advancing without transparent public engagement or exploration of cleaner alternatives. These projects reinforce the broader concern that Nova Scotia is expanding multiple high-impact energy systems simultaneously — wind, hydrogen, ammonia, gas, mining, and transmission — without cumulative-effects rules, rural protection frameworks, or meaningful consultation with the communities who will bear the environmental and health consequences. The gas plant proposals demonstrate that Nova Scotia’s energy development is being built exactly to meet industry demands — not to serve a coherent, balanced provincial energy strategy — and each approval further entrenches an export-driven industrial agenda that increases ecological risk, fossil-fuel dependence, and pressure on rural landscapes.

9.10 Employment Realities — Wind Creates Construction Jobs, Not Long-Term Rural Employment

Wind energy is often promoted as a source of rural economic development, but peer-reviewed studies and industry data consistently show that industrial wind projects create very few long-term jobs once construction is complete. The majority of employment occurs during the 12–24 month construction phase, after which staffing drops sharply.

a) International Energy Agency (IEA) Findings

The IEA's *Renewables 2023* report states:

“Wind power employment is heavily concentrated in manufacturing and construction. Operational staffing requirements are low relative to installed capacity.”

IEA data shows that over 70–80% of wind-related jobs occur before the turbines begin operating.

b) U.S. Department of Energy (DOE) — Wind Workforce Statistics

The DOE's *Wind Technologies Market Report* (2022) notes:

“Utility-scale wind plants typically require only 6–10 permanent employees per 100 turbines.”

This equates to 0.06–0.1 long-term jobs per turbine.

For a 15-turbine project like Harbour Hills, this means 1–2 permanent jobs, often specialized technicians who do not live in the rural host community.

c) National Renewable Energy Laboratory (NREL)

NREL's *Jobs and Economic Development Impact (JEDI)* model shows:

- Construction phase: hundreds of temporary jobs
- Operations phase: “very low ongoing employment requirements”
- Decommissioning phase: short-term contract work

NREL concludes:

“Wind energy's long-term employment footprint is small and does not provide sustained rural job creation.”

d) Canadian Renewable Energy Association (CanREA)

CanREA acknowledges that:

“Operations and maintenance staffing for wind facilities is minimal.”

Most Canadian wind farms operate with 2–6 technicians, often covering multiple sites across a region.

e) Peer-Reviewed Economic Studies

Academic research confirms the same pattern:

- Slattery et al. (Energy Policy, 2011) — long-term job creation from wind is “modest and often overstated.”
- Brown et al. (Journal of Regional Analysis & Policy, 2012) — rural counties hosting wind farms “do not experience significant long-term employment growth.”
- Lyon & Yin (Energy Policy, 2010) — economic benefits are “front-loaded” and “decline sharply after construction.”

Eastern Nova Scotia is being asked to absorb:

- permanent landscape alteration
- ecological fragmentation
- noise and ULF exposure
- watershed impacts
- wildlife impacts
- industrial roads and transmission corridors
- emergency-response burdens

Yet the long-term employment benefit is negligible.

Wind developers often highlight construction jobs, but these:

- last only months
- are frequently filled by specialized crews from outside the region
- do not provide sustained rural economic development
- do not offset the long-term industrial footprint left behind

Industrial wind provides short-term construction employment but almost no long-term rural jobs, meaning rural communities bear permanent environmental and social impacts without receiving meaningful or lasting economic benefit.

10. Missing Regulatory Safeguards and Proper Wind Siting Standards

During Pictou County municipal bylaw development, I submitted a comprehensive set of wind-siting standards based on internationally recognized best practices for protecting rural communities, ecological systems, and traditional land use. These included: 2.5× turbine-height setbacks from lot lines, roads, water bodies, and cottages; 3,000-metre residential and camp setbacks; 1.2-kilometre spacing between turbines; 25-kilometre spacing between large commercial projects; mandatory biodiversity and environmental-impact reporting; annual operational and wildlife-mortality audits; strict decommissioning requirements; and explicit protections for marshlands, watercourses, shorelines, and wildlife corridors.

Regions with multiple wind clusters (eg. Spain, Germany, and Denmark) have learned that overlapping noise fields, overlapping ecological impacts, overlapping transmission corridors, and cumulative landscape industrialization require regional spacing, not just turbine spacing.

These measures reflect the level of protection used in jurisdictions that prioritize human health, ecological integrity, and cumulative-effects management, and they represent what rural Nova Scotia requires to remain safe, livable, and environmentally intact. Instead of adopting these evidence-based standards, the Province of Nova Scotia has overridden municipal authority and imposed weakened setback rules that do not reflect rural realities. Municipalities are now prohibited from implementing stronger protections, even when local geography, safety concerns, or community preference demand them.

Harbour Hills is being advanced under these diminished provincial rules, not under the best-practice standards that would safeguard rural communities.

11. Alternative Renewable Energy Technologies Ignored by the Province

I identified multiple renewable-energy technologies that Nova Scotia is not investing in, despite their potential to:

- reduce industrial wind pressure
- diversify renewable energy sources
- protect rural communities
- reduce ecological impacts
- support municipal energy independence

These include:

- floating solar on industrial wastewater lagoons
- in-stream hydro in municipal pipes and drains
- fish-safe hydro turbines
- landfill and sewage gas capture
- coal mine methane capture
- algae-based carbon capture and biomass production
- sustainable biomass from non-forest sources
- waste-to-energy technologies
- gravity storage systems
- pumped hydro storage of solar
- ocean thermal energy conversion (OTEC)

Harbour Hills is being advanced without exploring these alternatives, which is a failure of governance, foresight, and cumulative-effects planning.

12. Social, Cultural, and Rural-Lifestyle Impacts

Traditional rural industries — fisheries, farming, forestry, tourism — are being displaced or overshadowed by industrial energy production. Rural lifestyles, heritage landscapes, and community identities are being altered without consideration or consent.

Communities in Pictou, Antigonish, Guysborough, and Colchester counties are facing simultaneous industrial pressures:

- wind farms
- hydrogen/ammonia facilities
- SAF production
- gold mining
- transmission corridors
- substations
- marine terminals
- rocket launch operations

Nova Scotia has no fisheries-first planning framework, and industrial energy projects — including hydrogen/ammonia terminals, offshore wind, and port expansions — are being sited near working wharves and traditional fishing grounds without regard for long-established marine industries.

The EA system does not capture the lived reality of these overlapping impacts.

13. Emergency Response Capacity (Fire, Hazmat, Hydrogen, Ammonia)

I must explicitly stress:

- rural volunteer fire departments cannot respond to hydrogen/ammonia/gas/wind or industrial rocket emergencies
- proponents are not required to provide industrial-level emergency response
- industrial hazards exceed rural capacity and require specialized emergency response

Industrial energy hazards associated with hydrogen, ammonia, gas plants, and large-scale wind infrastructure exceed the capacity of rural volunteer fire departments, and proponents must be required to provide industrial-level emergency response and training.

14. Conclusion

Harbour Hills is part of a much larger industrial build-out. It should not be approved without:

- a full accounting of regional turbine allocation
- disclosure of sources and timeline of Goldboro SAF's energy requirements
- cumulative-effects analysis across all wind, hydrogen, ammonia, SAF, mining, storage, and transmission projects
- emergency-response planning and training for industrial energy hazards
- emergency-response provisions by proponents instead of volunteer departments
- protection of wildlife, watersheds, and ecological corridors
- consideration of rural community impacts and traditional industries

- transparent governance and regional land-use planning
- acknowledgement of reported medical effects and lack of modern understanding
- recognition of Mi'kmaq economic participation and the need for environmental reconciliation
- restoration of meaningful municipal authority over land-use decisions
- coordination across all provincial, private, and industrial wind-development streams
- meaningful public engagement and adequate time for review
- accurate project naming and clear geographic disclosure
- ecological safeguards for forests, water, and contaminated lands
- exploration of alternative renewable technologies
- protection of rural landscapes, cultural heritage, and traditional land use

Eastern Nova Scotia deserves development that is transparent, accountable, and respectful of the communities and ecosystems that have existed here for generations. The current approach — approving industrial projects without cumulative oversight — is not sustainable, not responsible, and not in the public interest.

Nova Scotia is at a crossroads. The rapid layering of offshore wind, onshore wind, hydrogen, ammonia, gold mining, other mining, oil & gas exploration, opened-up fracking rules, new gas plants, rocket testing, transmission corridors, and port expansions is happening without cumulative-impact rules, rural industrial zoning, coastal-community protections, or meaningful consultation with the people who already live and work in these regions. As this new energy-and-mining economy has accelerated, traditional rural industries — fisheries, forestry, farming, and tourism — are being crowded out by industrial footprints that permanently alter watersheds, ridgelines, wildlife habitat, and working waterfronts. The issue is not that emerging industries are inherently harmful; it is that they are being placed on top of long-established rural communities without respect for their history, livelihoods, or future. Harbour Hills is part of this broader pattern. Until Nova Scotia adopts cumulative-effects planning, rural protection frameworks, and clear limits on industrial encroachment, approving yet another large-scale wind project risks trading stable, place-based livelihoods for short-cycle, high-impact development. Regulators must pause and assess the full picture so rural Nova Scotia is not overwhelmed by an industrial agenda that advances rapidly while the protections for our communities, industries, and ecosystems lag far behind.

Cumulative atmospheric impacts — including turbulence, fog alteration, moisture redistribution, and wake interactions — must also be included in regional cumulative-effects analysis, as these changes directly affect rural agriculture, forestry, wildlife, and community conditions.

Regulators are the ones standing at this crossroads, and the choices they make now will define the long-term legacy of Nova Scotia's rural landscapes, working waterfronts, and community livelihoods. These decisions determine whether future generations inherit a balanced province that protects its ecosystems, rural communities, and traditional industries, or one permanently reshaped by unchecked industrial expansion.

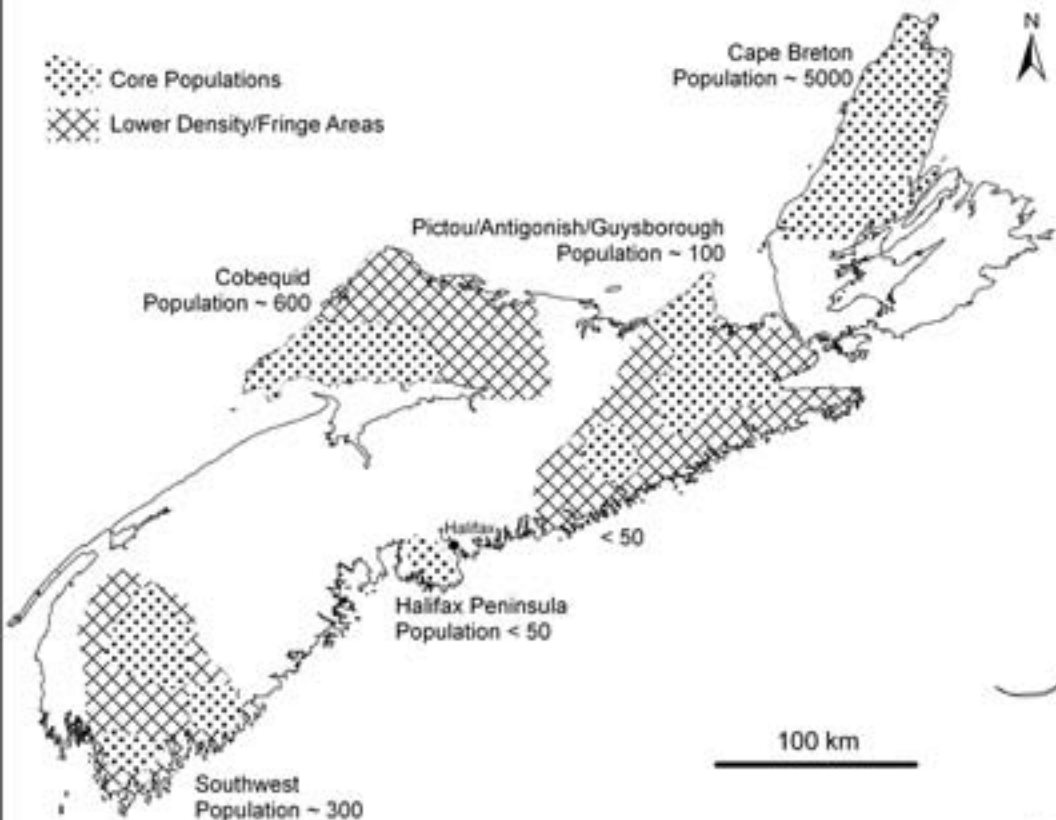
Harbour Hills must be evaluated within this full regional context, not as an isolated wind farm.

I thank you for your time and attention to these matters of great public concern.

Kind regards,

Concerned Citizen of & for NS

- Core Populations
- Lower Density/Fringe Areas



FORM NAME Environmental Assessment - Project Comments **SUBMISSION ID** 62fc0f77

SUBMISSION DATE 28/07/2026 09:22 **SUBMISSION STATUS** SUBMITTED

Panel

All comments received from the public consultation will be posted on the department's website for public viewing, following the necessary redactions of personal information in accordance with the Freedom of Information and Protection of Privacy Act. **By submitting your comments to the Department, you are consenting to the posting of your comments on the department's website.**

The name, email address, and contact information of people who submit comments on behalf of an organization, such as a community group, business, or non-government organization (NGO) will be included with their comment posted on the website.

The name, email address, and contact information of individuals will be removed before their comments are posted on the website.

Privacy Notice

Your personal information submitted as comments on an Environmental Assessment Project is collected in accordance with the Nova Scotia Environment Act, Environmental Assessment Regulations, and the Nova Scotia Freedom of Information and Protection of Privacy Act.

We collect and use your personal information to administer the environmental assessment review process, to verify comments, and to assess the project's proximity to you.

We may only use or disclose your personal information for another purpose if we are authorized by law to do so, or if we obtain your consent.

By submitting your personal information to us, you acknowledge that the information provided to us is correct and accurate, and you understand that any personal information you provide is collected, used, and disclosed for the purpose of administering the review process.

To read more about how government respects your privacy when interacting with us, review our

full [privacy statement \(https://beta.novascotia.ca/privacy\)](https://beta.novascotia.ca/privacy). For questions about how your personal information is handled by the program, you may contact us at 902-424-3600 or [ea@novascotia.ca \(mailto:ea@novascotia.ca\)](mailto:ea@novascotia.ca).

Select a Project:

harbourHillsWindProject

Comments:

hello....A direct and emphatic NO for the amount of windmills designated for all these areas...it is beyond reason and comprehension...compromising land....nature in all fields, and homeowners ...that would all directly suffer...very very concerning, and it seems the knowledge of it all happening has to be gotten with research...how many people even know...very sad state of affairs for Nova Scotia...

Name:

Email:

@eastlink.ca

City/Town

Bible Hill

Postal Code

Attachment(s):

Please note:

By submitting your comments, you are consenting to the posting of your comments on the department's website.

☒

Yes, I agree (must be selected to proceed)

Uploaded document(s)

No documents to display.

Maritime Aboriginal Peoples Council



The Maritime Regional Aboriginal Leaders
Intergovernmental Council of Aboriginal Peoples
Continuing to Reside on Traditional Ancestral Homelands

Forums

- ☐ Leaders Congress
- ☐ MAPC Commissions/Projects
- ☐ MAARS Secretariate
- ☐ MAPC Administration

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July 31st, 2026

EverWind NS Holdings Ltd.

2101 - 1969 Upper Water Street
Halifax, Nova Scotia, B3J 3R7

RE: Harbour Hills Wind Project

To Whom It May Concern,

On behalf of the Native Council of Nova Scotia (NCNS), the Maritime Aboriginal Aquatic Resources Secretariate (MAARS) is providing comments to the Environmental Assessment Branch of the Nova Scotia Department of Environment and Climate Change regarding the Environmental Assessment Registration Document (EARD) for the Harbour Hills Wind Project being undertaken by EverWind NS Holdings Ltd. and Membertou Development Corporation.

While stated in Section 2.2 that this project will support provincial and federal goals of decarbonization, the energy produced from this project will not be distributed to the Nova Scotia power grid and will instead be connected directly to the Point Tupper Green Hydrogen plant through the EverWind Transmission Line. It is unclear how this project will directly contribute to the goals of decarbonization if the energy produced will be solely owned and used by one of the proponents, EverWind.

Section 3.5.5 details the potential construction of temporary workforce housing, which has been an issue raised with other projects in the area, namely the Goldboro LNG project, and this is something of significant concern for the community. The Nova Scotia Native Women's Association published a news release regarding the Goldboro LNG project which outlined many concerns around the correlation between resource extraction and violence against Indigenous women, girls, and 2SLGBTQQIA people. It also notes that "large numbers of transient workers and work camps bring with them an increase in racial, sexual, and physical violence against Indigenous women and within Indigenous communities; abductions of Indigenous women and

children; drugs, crime, and gang activity”. MAARS has requested that the proponent engage appropriately with the local Indigenous community and the NS Native Women’s Association directly to address these concerns in a meaningful way.

EverWind should commit to drafting a Code of Conduct for workers, and this document must be drafted in consultation with Indigenous communities, including opportunities for community impact statements and participation in incident response. Community engagement sessions affirming the EverWind’s commitment to mitigating risk of these harms is essential, such as regular engagement with NCNS community support counsellors and other relevant staff, mutual supports for initiatives like the Welkaqnik Next Step Shelter, Native Women Association, and the Mi’kmaq Legal Support Network for off-reserve Native Council membership to access legal supports is critical.

Section 3.5.9 of the EARD details the potential use of borrow pits during construction to supply materials, with limited details on where these pits would be placed or how they would be operated. While we can appreciate that the proponent has not committed to using borrow pits, this is an important factor in the consideration of this project as whole, given that it will contribute to the clearing footprint and disturbance area. The use of these borrow pits contributes to the cumulative effects assessment of this project and given the already extensive clearing footprint for this project, could contribute more significantly to the overall impacts of the project. Given that the use of borrow pits in the construction of wind energy has not been common practice in Nova Scotia, more information is needed on how this will contribute to the already significant environmental impacts of this project.

Despite the majority of the project area being assessed as part of this EARD, there remains 287 hectares which have not yet been assessed, which equates to approximately 15% of the total assessment area. Without the assessment completed for all areas, it is difficult to draw conclusions around the potential project impacts without understanding the full scope of the project impacts.

When discussing the potential impacts of the project on wetlands (Section 9.2), the EARD identifies 252 potential wetland-project interactions, including 14 wetlands classified as potential Wetlands of Species Significance (WSS), and predicts direct impacts to approximately 62 hectares of wetland habitat. While the assessment states that only one wetland will be completely lost as a result of the development, MAARS emphasizes that an additional 17 wetlands will experience direct impacts to more than 75% of their delineated area. Furthermore, two potential WSS are expected to experience impacts affecting 40-50% of their area.

Of the potentially impacted wetlands, 11 areas identified as potential WSS contained observations of Canada Warbler (*Cardellina canadensis*), while five contained observations of Olive-sided Flycatcher (*Contopus cooperi*). These habitats are expected to be altered during construction. Wetlands provide critical ecosystem functions, including water storage, filtration, nutrient cycling, and habitat for a wide range of aquatic, terrestrial, and plant species. Consequently, impacts to wetland function can result in significant ecological effects extending beyond the footprint of the development itself.

In this context, MAARS finds it difficult to accept the conclusion presented in the wetland effects assessment (Section 9.2.5) that impacts to 62 hectares of wetland habitat are "partially reversible." While certain disturbed areas may recover over time, the permanent loss or substantial alteration of wetland habitat and function cannot reasonably be considered reversible. Given the ecological importance of these habitats and the extent of the predicted impacts, MAARS requests the opportunity to review the wetland compensation plans once they become available.

MAARS also has concerns regarding the potential effects of the proposed development on wetland function and overall watershed hydrology. To date, EverWind has not completed a water balance assessment to evaluate potential changes to surface hydrology, surface water flows, or watershed function associated with the proposed alteration and loss of approximately 30% of the field-delineated wetlands. MAARS believes that projects involving substantial impacts to wetlands and watercourses should be required to undertake this level of analysis, in addition to wetland functionality monitoring.

As such, MAARS requests that EverWind complete a watershed water balance assessment, given the magnitude of the proposed wetland impacts and the potential use of borrow pits. While MAARS acknowledges that such assessments are not typically required for wind energy developments, the scale of the proposed wetland and watercourse impacts warrants additional evaluation. Without a comprehensive assessment of potential watershed-level effects, MAARS finds it difficult to accept the conclusion presented in Section 9.2.5 of the EARD that impacts to wetlands will be "not significant."

As part of Section 10.1.4.2, the field assessment results for the Terrestrial Environment indicate the presence of three priority species of lichen; Blue Felt Lichen, Eastern Waterfan, and Frosted Glass-Whiskers. The EARD also discusses the potential for construction to impede upon the buffer requirements for all of these at-risk species and that steps will be taken to "minimize encroachment within buffers". Nova Scotia's At-Risk Lichens—Special Management Practices states that "there is to be no active clearing, removal or disturbance of trees, soil or wetlands" within the 200-metre buffer for Table 1 species, including Eastern Waterfan, or the 100-metre buffer for Table 2 species, which is inclusive of Blue Felt Lichen and Frosted Glass-Whiskers. Additionally, the Special Management Practices dictate that there is to be no construction of new roads or trails within the buffer zones except in "exceptional situations". With this, we call upon the Province of Nova Scotia to apply these management practices and ensure that the buffer zones are maintained for both species.

Additionally, both Environment and Climate Change Canada (ECCC)'s Management Plan for the Blue Felt Lichen (*Degelia plumbea*) in Canada (2022) and the Committee on the Status for Endangered Wildlife in Canada (COSEWIC)'s Assessment and Status Report on the Blue Felt Lichen (*Degelia plumbea*) in Canada (2010), Blue Felt Lichen is highly sensitive to changes in habitat, more specifically the reduction in humidity due to deforestation and edge effects. In ECCC's 2022 report, they identified renewable energy, more specifically wind farms, as having the potential to cause extreme effects through the impacts of deforestation and biomass harvesting. ECCC also identified that logging, even within a few hundred metres of this lichen, can significantly enhance drying effects to which this lichen is particularly susceptible. Given the highly sensitive nature of this species, MAARS has concerns over the potential for this

development to impede upon the recommended buffer zone which could have the potential to cause significant harm to an at-risk species. MAARS requests that every effort be made to avoid impacts to the 100-metre buffer for Blue Felt Lichen.

Section 10.2 of the EARD describes the potential project interactions with terrestrial wildlife, particularly Mainland Moose. This development encompasses area that is both within the Mainland Moose Concentration Area but also an area of Core Habitat for this species. The clearance footprint of this project anticipates a total clearing area of 1,380 hectares much of which meets one or more habitat requirements as identified in the Mainland Moose Recovery Plan, including the clearing of 487 ha of fair to best habitat. Despite the area being composed of mainly fair to neutral habitat suitability, this development can still further negatively impact the surrounding habitat, especially as it relates to fragmentation and habitat connectivity.

To ensure meaningful protection and long-term stewardship of key habitat for Mainland Moose, we must acknowledge that ongoing development and the safeguarding of essential Core Habitat cannot coexist in the same space. There is a need to approach development activities in core habitat with far greater caution and scrutiny if we hope to see true recovery of Mainland Moose.

With this, we call upon the Province of Nova Scotia to commit seriously to the Recovery Plan for Mainland Moose and focus management to *“maintain existing identified high-quality habitat as well as enhancing habitat suitability in the remainder of the Core Habitat with the goal of improving future HSI rankings”*. Developments such as this across Mainland Moose habitat continue to shrink the area acceptable to an already at-risk species that is also culturally significant to the Mi’kmaq people. It is not acceptable to continually decimate or fragment the habitat available to Mainland Moose.

We also request that a Wildlife Management Plan be developed, including provisions for continuous Mainland Moose and White-Tailed Deer monitoring throughout the lifetime of the project. This is especially important given that the Mainland Moose Recovery Plan lists renewable energy development as a medium impact activity, with moderate severity impacts due to habitat loss, fragmentation, and stress from light disturbance. Additionally, the proximity of this project to several large-scale deer wintering areas indicates the need to also monitor for White-Tailed Deer.

Within Section 10.3 Bats, it is unclear whether the proponent has incorporated mitigation measures during the post-construction/operational phase of this project. These mitigation measures can be critical to ensuring the safety of birds and bats, and particularly those species which are migratory. The three migratory bat species in Nova Scotia (Hoary Bat, Eastern Red Bat, and Silver-haired bat) have recently been assessed by COSEWIC as endangered. One of the key threats identified in COSEWIC’s assessment report was wind energy development, classifying wind energy as having a high to very high impact on this species and other migratory bat species, even acknowledging that the current projections of fatality rates by wind farms are likely gross underestimates. COSEWIC identifies turbine curtailment during key periods as an important mitigation measure, with the potential to reduce fatalities by up to 50%.

During the biophysical assessments for bats (Section 10.3), the presence of migratory bat species was noted throughout the project area, particularly in the Middle Country Harbour area. While the

proponent has adjusted the project layout to provide further setbacks from this area, we have significant concerns over the potential impacts of this project on migratory bats. MAARS recommends that the proponent, in collaboration with ECCC's Canadian Wildlife Service, develop mitigation measures and curtailment protocols for migratory bats to ensure the protection of these at-risk species.

The mitigation measures for birds and bats (Section 10.3 and 10.4) lack consideration for the timing of activities outside of key migration and nesting periods for both birds and bats. Mitigation measures for all avifauna (birds and bats) must also include consideration of the timing of vegetation management and herbicide spraying, which are key factors in protecting migratory bats, and these activities, as well as removals of potential roosting habitat, must be done outside the key season for these species. Additionally, a Post-Construction Avian Monitoring Plan should be developed to include post-construction bird and bat mortality monitoring. This type of monitoring is essential to understanding the impacts of construction activities on avifauna and must be completed throughout the lifetime of the project to inform adaptive management decisions and minimize impacts to these species. We also request to review the results of the second year of bird surveys when available.

As it relates to Avifauna (Section 10.4), this project is situated within 2 km of the Country Island Complex, which includes the Country Island National Wildlife Area, an area of important habitat for migratory birds, particularly the roseate tern. With limited information on the potential project impacts to this important habitat, we have concerns over the potential effects of this project and the proximity of such a significant development to an important bird area and a national wildlife area, which supports critical habitat and breeding habitat for endangered species at risk.

As noted in Section 3.4, this project is also directly adjacent or near several other protected areas, parks, and the above-mentioned Important Bird Area. This includes the James River Watershed Protected Water Area, Archibald Lake Wilderness Area, Big Plains Wilderness Area, and Guysborough Headlands Wilderness Area. These protected areas provide important habitat for a number of species at risk including Mainland Moose, and protect significant ecosystem features such as the Big Plains wetland complex and undeveloped ocean frontage on the Atlantic coast. The proximity of the proposed development to these protected areas is of particular concern, as activities associated with construction and operation have the potential to extend beyond the project footprint through habitat fragmentation, increased disturbance, hydrological changes, and edge effects. MAARS does not believe that projects should be sited immediately adjacent to protected areas where there is a substantial risk of further degrading habitat quality or compromising the conservation objectives for which these areas were established.

Archeological resources must be treated with the utmost care. Information within the EARD notes that no field assessments have been completed for archeological resources in the Study Area, including in the areas which have been modelled as elevated archeological potential. Without a thorough understanding of the potential impacts to archeological resources, it is not possible to accurately assess impacts and as such it is not possible to draw any conclusions about the potential effects. Following thorough field assessments, we expect the proponent will undertake all necessary measures to protect and preserve archeological resources in this area, through diligent work practices and consistent involvement of certified archeologists during ground disturbing

activities. MAARS requests to review the findings from the archeological field assessments once they have been completed.

We draw attention to the potential cumulative effects that would be associated with approval of this proposed project, particularly since this project connects to the Point Tupper site and additional onshore wind projects. While this project alone already encompasses a large footprint, the anticipation of future works, compounding the existing impacts to several species mentioned above. This includes continued shrinking of Mainland Moose habitat, increased impacts to migratory birds and bats, destruction of habitat for lichen SAR, and additional potential impacts to wetlands, including WSS, and/or watercourses. When considered only in conjunction with the other EverWind-managed projects, the Phase 1 projects encompass a total of 1,898.6 hectares and directly impact 53.03 hectares of wetland habitat, while the Phase 2 projects encompass 1,657 hectares and directly impact 120 hectares of wetland habitat. Additionally, the EverWind-managed wind projects include the installation of a total of 427 wind turbines, greatly increasing the potential cumulative effects of development on avifauna.

Lastly, we do not consider the overall conclusion that the adverse residual effects of this project are “expected to be low and not significant” to be accurate. The conclusion that the effects are not significant is deeply concerning, given the cumulative and compounding impacts of continued development and destruction of important ecosystems. We must prioritize the protection of these ecosystems over the financial gain of one company, as continued degradation poses serious long-term risks.

For contextual purposes

We would like to take this opportunity to reiterate that it is important for all proponents of projects to understand that the Off-Reserve Aboriginal Community represented by the NCNS is included within the definition of the word “Indian” of Section 91(24) of the *Constitution Act*, 1982. The Supreme Court of Canada in a landmark decision in *Daniels v. Canada (Indian Affairs and Northern Development)*, 2016 SCC 12, declared that “the exclusive Legislative Authority of the Parliament of Canada extends to all Indians, and Lands reserved for the Indians” and that the word “Indians” in s.91(24) includes the Métis and non-Status Indians¹. Since 2004, in multiple decisions passed by the Supreme Court of Canada: *Haida Nation*², *Taku River Tlingit First Nation*³, and *Mikisew Cree First Nation*⁴, has established that,

“Where accommodation is required in decision making that may adversely affect as yet unproven Aboriginal Rights and title claims, the Crown must balance Aboriginal concerns reasonably with the potential impact of the decision on the asserted right or title and with other societal interests.”

¹ *Daniels v. Canada (Indian Affairs and Northern Development)*, No. 35945 (Supreme Court of Canada 2016).

² *Haida Nation v. British Columbia (Minister of Forests)*, 3 SCR 511 (Supreme Court of Canada 2004).

³ *Taku River Tlingit First Nation v. British Columbia (Project Assessment Director)*, 3 SCR 550 (Supreme Court of Canada 2004).

⁴ *Mikisew Cree First Nation v. Canada (Minister of Canadian Heritage)*, 3 SCR 388 (Supreme Court of Canada 20051124).

Further, both the Government of Nova Scotia and the Government of Canada are aware that the “Made in Nova Scotia Process” and the *Mi’kmaq-Nova Scotia-Canada Consultation Terms of Reference* does not circumvent the Provincial Government’s responsibility to hold consultations with other organizations in Nova Scotia that represent Indigenous Peoples of Nova Scotia. While the proponent may have to engage with the thirteen Mi’kmaq First Nations through the Assembly of Nova Scotia Mi’kmaq Chiefs, represented by the Kwiilmu’kw Maw-klusuaqn Negotiation Office (KMKNO), the KMKNO does not represent the Off-Reserve Aboriginal Community who have elected to be represented by the NCNS since 1974.

We assert that the Off-Reserve Aboriginal Communities, as 91(24) Indians, are undeniably heirs to Treaty Rights and beneficiaries of Aboriginal Rights as substantiated by Canada’s own Supreme Court jurisprudence. As such, there is absolutely an obligation to consult with the Off-Reserve Community through their elected representative body of the NCNS. The Crown’s duty is to consult with all Indians, not only the Indian Act Bands.

For over forty years, the three Native Council partners of the Maritime Aboriginal People’s Council (MAPC) have continued to be the Aboriginal Peoples Representative Organizations representing and advocating for the Rights and issues of the Mi’kmaq/Wolastoqiyik/Peskotomuhkati/Section 91 (24) Indians, both Status and non-Status, continuing to reside on their unceded Traditional Ancestral Homelands. In the early 1970s, the communities recognized the need for representation and advocacy for the Rights and Interests of the off-Reserve community of Aboriginal Peoples, “the forgotten Indian”. Women and men self-organized themselves to be the “voice to the councils of government” for tens of thousands of community members left unrepresented by Indian Act-created Band Councils and Chiefs. Based on the Aboriginal Identity question, Statistics Canada (2021 Census - 25% sample) enumerate 25,415 off-Reserve Aboriginal Persons in New Brunswick, 42,580 in Nova Scotia, and 2,865 in Prince Edward Island.

Each Native Council in their respective province asserts Treaty Rights, Aboriginal Rights, with Interest in Other Rights confirmed in court decisions, recognized as existing Aboriginal and Treaty Rights of the Aboriginal Peoples of Canada in Part II of the Constitution Act of Canada, 1982. Each Native Council has established and maintains Natural Harvesting Regimes, and each have a co-management arrangement with DFO for Food, Social, and Ceremonial use of aquatic species, through the: Najiwsgetaq Nomehs (NBAPC), the Netukulimkewe’l Commission (NCNS), and the Kelewatl Commission (NCPEI).

The Native Council of Nova Scotia was organized in 1974 and represents the interests, needs, and rights of Off-Reserve Status and Non-Status Section 91(24) Indians/Mi’kmaq/Aboriginal Peoples continuing to live on our Traditional Ancestral Homelands throughout Nova Scotia as Heirs to Treaty Rights, Beneficiaries of Aboriginal Rights, with Interests to Other Rights, including Land Claim Rights.

The Native Council of Nova Scotia (NCNS) Community of Off-Reserve Status and Non-Status Indians/Mi’kmaq/Aboriginal Peoples supports projects, works, activities and undertakings which do not significantly alter, destroy, impact, or affect the sustainable natural life ecosystems or natural eco-scapes formed as hills, mountains, wetlands, meadows, woodlands, shores, beaches, coasts, brooks, streams, rivers, lakes, bays, inland waters, and the near-shore, mid-shore and off-

shore waters, to list a few, with their multitude of in-situ biodiversity. Our NCNS Community has continued to access and use the natural life within those ecosystems and eco-scapes where the equitable sharing of benefits arising from projects and undertakings serve a beneficial purpose towards progress in general and demonstrate the sustainable use of the natural wealth of Mother Earth, with respect for the Constitutional Treaty Rights, Aboriginal Rights, and Other Rights of the Native Council of Nova Scotia Community continuing throughout our Traditional Ancestral Homeland in the part of Mi'kma'ki now known as Nova Scotia.

We would appreciate an opportunity to engage on the Harbour Hills Wind Project with the proponent, EverWind, directly. We respectfully request that these concerns be addressed in full and that further engagement with the Native Council of Nova Scotia and local communities be prioritized as this project moves forward. We look forward to further dialogue as we continue to advocate for the rights of Off-Reserve Status and Section 91(24) Indians/Mi'kmaq/Aboriginal Peoples of Nova Scotia.

Advancing Aboriginal Fisheries and Oceans Entities
Best Practices, Management, and Decision-making

Habitat Impact Advisor, MAARS

Executive Director, MAARS & MAPC Projects

CC:

Chief & President, NCNS
, Commissioner, Netukulimkewe'l Commission, NCNS

FORM NAME Environmental Assessment Project Comments **SUBMISSION ID** 9c6e8995

SUBMISSION DATE 03/08/2026 23:50 **SUBMISSION STATUS** SUBMITTED

Panel

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Select a Project:

harbourHillsWindProject

Comments:

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Name:

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Seal Harbour, Nova Scotia

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Attachment(s):



Harbour Hills Wind Project EA Public Input Climate Change.pdf
(/Admin/View-Document/941013f0-4cc3-435c-867f-dc16b61c6e0e/3b6da1f4-8173-419e_a014_db815f9f421a).

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[Harbour Hills Wind Project EA Public Input - Climate Change.pdf \(/Admin/View-Documents/941013f0-4cc3-435c-867f-dc16b61c6e0e/3b6da1f4-8173-419e-a014-db815f9f421a\)](#)

Seal Harbour, Nova Scotia BOH 1L0
Canada

August 3, 2026

Hon. Timothy Halman
Minister of Environment and Climate Change
Department of Environment and Climate Change
1894 Barrington Street, Suite 1800
Halifax, NS B3J 2A8

RE: Public input to the Environmental Assessment Registration Document Harbour Hills Wind
Project, Section 7.2 “Climate Change”

Dear Minister Halman,

Summary

Pursuant to Section 12(c) of the Nova Scotia Environmental Assessment Regulations (the Regulations), I ask that you fully consider the concerns expressed by the public in this letter regarding the environmental assessment registration documents (EA) claim that the proposed Project will support Nova Scotia’s Clean Power Plan by helping to achieve its percent renewable energy generated and greenhouse gas (GHG) reduction targets.

In support of this claim, the EA employs an alternative accounting methodology for estimating the Project’s greenhouse gas benefits. The “Critique” section below, finds that both the EA’s substituted methodology and its resulting claim to support Nova Scotia in reaching its climate goals are inadequately substantiated. Consequentially, I respectfully request that pursuant to Section 13(1)(a) of the Environmental Assessment Regulations, the Minister requires the proponent to submit an addendum with additional evidence and explanation that addresses the shortcomings identified in the Critique.

Representations

The following provides the representations made in the EA registration documents.

Harbour Hills wind project summary

The quote that follows is from page one of the project summary that appears as a link¹ that precedes the Harbour Hills Wind Project EA registration documents on the Nova Scotia Environment and Climate Change (NSECC) EA projects web page.

“The Project supports Nova Scotia’s Clean Power Plan, which aims for 80% renewable electricity by 2030 and a 90% reduction in greenhouse gas (GHG) emissions from electricity compared to 2005 levels. The Project helps achieve these targets by producing energy for new industrial activity without adding to the province’s GHG emissions. This will help the province meet its climate goals while creating jobs and building its export economy. Although GHGs will be released during the transportation and construction of Project components, Project emissions will be offset in less than four months of operations through the production of renewable energy.”

This quote makes the four principal claims that follow:

- 1) The Project “helps achieve” Nova Scotia’s 80% renewable electricity by 2030 target.
- 2) The Project “helps achieve” Nova Scotia’s 90% reduction in GHG emissions to 2005 levels by 2030 target.
- 3) Emissions from Project transportation and component construction will be offset in less than four months by the Project’s operation.
- 4) The renewable energy Project helps achieve the Nova Scotia targets by powering a “new industrial activity” (EverWind’s ammonia production facility) without adding to Nova Scotia GHG emissions.

The fourth claim does not assert Nova Scotia GHG emissions will be reduced. Instead, it says that by EverWind deciding to power their ammonia plant with the Project’s renewable wind energy, GHGs will *not increase* by the amount that would have been emitted had they decided to power the facility by connecting it to the Nova Scotia grid which has some fossil generation.

Harbour Hills Wind Project Environmental Assessment

The Project EA Section 7.25 “Effects Assessment” (p90) final paragraph states,

“Following the commissioning of the Project, the annual GHG emissions reduction is expected to be 1,311,471.36 tCO_{2e}. A one-time 4,834.04 tCO_{2e} may be subtracted from any annual reduction; however, the annual reduction rate will be applied for the Project’s lifespan (35+ years). The Project is anticipating a 0.26-year payback period to offset the construction-related GHG emissions. Following this period, the Project will positively offset GHG emissions that would be typically emitted from conventional production methods employed by NS Power.”

¹ <https://novascotia.ca/nse/ea/ocean-lake-wind/ocean-lake-summary.pdf>

This quote makes the two principle claims that follow:

- 1) Construction GHG emissions will be offset within 0.26 years.
- 2) Following the payback period, the Project will offset GHG emissions (about 1.3 million tonnes annually) that would have been emitted by NS Power.

The first claim is an alternative wording of the third claim in the foregoing section.

The second claim is an alternative wording of the fourth claim in the foregoing section.

While “emissions reduction” phrasing is used in the first sentence, the last sentence appears to qualify the emissions as those that would have been produced if the ammonia plant had been connected to the Nova Scotia grid.

Critique

The EA explains the claimed GHG benefits using an accounting methodology that differs from accounting approaches used for estimating GHG reductions from a proposed wind power plant. In examining whether the EA provides adequate and proper substantiation for this methodology, this section identifies a lack of regulatory attribution and several logical inconsistencies which challenge the EA’s claim of helping Nova Scotia to achieve its renewable energy and GHG reduction targets.

Harbour Hills Wind Project Configuration

Fundamental to critiquing the EA’s rationale for helping the province meet its climate change goals is the Project’s configuration with respect to the Nova Scotia grid and EverWind’s ammonia production facility. The EA Section 2.1 (p3) describes these relationships as follows,

“Phase 2 includes the development of approximately 2 gigawatts (GW) of clean energy from up to three additional onshore wind projects, the associated high-voltage transmission line, and the portion of the high-voltage transmission line that crosses the Strait of Canso to provide a connection directly to the Facility.”

Consequently, the three additional wind projects (which includes Harbour Hills) are not connected to the Nova Scotia grid. Instead, these wind power plants are to be connected directly to the EverWind ammonia production facility. With no connection to the Grid, these wind projects cannot displace fossil generation on the Grid and thereby reduce GHG emissions.

With proper contracts and grid interfacing hardware, it is possible for the Project which is connected “behind the meter” to the ammonia plant, to push excess generation onto the grid and accomplish some GHG reductions. However, given EWF’s projections of producing 800,000 tonnes of ammonia annually from the three off-grid wind power plants (including Harbour Hills) the amount of energy is proportionally very small to the wind power plants’ gross generation. Regardless, the EA does not mention this type of connecting configuration or mode of operation for the Project. It is therefore of no consequence to this discussion.

Alternative GHG emissions accounting methodology unsupported

The Proponent's Guide to Environmental Assessment (the Guide) instructs proponents to describe

"... the project's contribution to achieving provincial greenhouse gas emissions reduction targets, or how the project contributes to the Province's renewable energy targets."

The Harbour Hills EA does not directly demonstrate either proposition. Instead, it substitutes a different basis for claiming that the Project contributes to those targets. From the Harbour Hills Project Summary,

"The Project helps achieve these targets by producing energy for new industrial activity without adding to the Province's GHG emissions."

The "new industrial activity" is EverWind's ammonia production facility. The EA reasons that because EverWind proposes to power this facility directly from the Harbour Hills Wind Project rather than from the Nova Scotia electricity grid, provincial GHG emissions will not increase by the amount that would have been *hypothetically* emitted if the facility had instead been connected to the grid.

In effect, the EA substitutes the Guide's intention with its own:

- The Proponent's Guide asks how a project contributes to provincial targets for reducing GHG emissions and increasing renewable generation.

The EA responds by claiming avoidance of a hypothetical increase in GHG emissions from a new industrial load.

These are not self-evidently equivalent and because the EA's GHG benefit representation depends on treating the above two propositions as equivalent, the EA should explain why they are the same; it does not. It cites no legislation, regulation, policy, guidance, or precedent case demonstrating that this alternative accounting methodology is a recognized means by which Nova Scotia measures progress toward its provincial GHG reduction or renewable energy targets.

Alternative GHG emissions accounting methodology consequences

On the other hand, there are several reasons to suspect that avoiding a hypothetical increase in emissions is not the same as demonstrating a contribution toward achieving a provincial emissions reduction target or renewable energy target.

Different quantities measured

To begin with, the quantities being measured are different. For its measurement, the provincial GHG emissions target is expressed as an absolute outcome, specifically 90% below 2005 levels. The EA substitutes the alternative measurement which is that GHG emissions are not increased. The reduction target measures actual emissions levels. The EA measures where emissions levels might have been; these are not the same thing.

Different subjects of analysis

The EA's substitution also changes the subject of the analysis. The Guide asks how the Project contributes to achieving provincial targets. The EA asks how the EWF ammonia plant should be powered to avoid GHG emissions. The latter is a different question about a different subject. The EA's claimed benefit arises from selecting one electricity supply option (the Project) over another (the Nova Scotia grid) for powering the EWF ammonia plant and not from the environmental performance of the wind Project itself.

Indeed, the reported GHG emissions benefit depends entirely on the assumed comparator which is completely at the EA's discretion. Had a higher-emitting electricity source than the Nova Scotia grid (e.g., a diesel generation farm) been selected for comparison to the Project, the reported benefit could increase even further. Had, on the other hand, a lower-emitting source, such as dedicated SMRs, been selected, the reported benefit would decrease to essentially zero. This demonstrates that the GHG benefit the EA reports is determined by the assumed baseline rather than by the Project's intrinsic emissions performance.

Emissions not increased versus reduce logical dilemma

Finally, if one were to accept the EA's rationale that a wind power plant's avoiding hypothetical GHG emissions increases for a new load is the same as achieving real emissions reductions by displacing fossil generation for existing loads, then one is presented with a logical dilemma. If the province allows this accounting scheme for one wind power plant, then it must do so for any plant making the same claim.

Consider that if all of Nova Scotia's wind power plants were directly connected to new loads instead of the grid as is the case with this wind Project, then each project could claim substantial avoided emissions while provincial reported emissions remained unchanged. The aggregate of the claimed avoided emissions could therefore greatly exceed any actual change in Nova Scotia's reported greenhouse gas inventory.

Project helps achieve 80% renewable energy target claim

The Nova Scotia Renewable Electricity Regulations section 6B (1) defines the "Renewable electricity standard 2030" as follows:

"Each year beginning with the calendar year 2030, each load-serving entity must supply its customers with renewable electricity in an amount equal to or greater than 80% of the total amount of electricity supplied to its customers as measured at the customers' meters for that year."

Further, section 2 (1) defines "load-serving entity" as follows:

"load-serving entity" means any one of the following:

- (i) NSPI,*
- (ii) a municipal electric utility that purchases any or all of its electricity supply from a supplier other than NSPI,*
- (iii) an independent power producer that exports electricity;"*

Finally, section 3 (1) defines "independent power producer" as follows:

"independent power producer" means a renewable low-impact electricity generator

- (i) of which no more than 49% of the securities entitling the holders to vote for the election of its directors are held by a public utility in combination with any affiliate of the public utility, and*
- (ii) that sells electricity*
 - A. in the Province to public utilities for retail sales to the utilities' customers,*
 - or*
 - B. for export outside of the Province;*

Based on these regulations, the Project does not qualify for contributing to the province's renewable electricity standard. While it meets the independent power producer requirement 3(1)(i), it does not meet either option A or B under 3(1)(ii) as the Project connects directly to EverWind's ammonia production facility and neither sells its electricity to public utilities nor exports its electricity outside of the province.

Because the EA identifies no other accounting mechanism by which the Project's electricity may be quantified and counted toward the province meeting its renewable energy targets, the Project's generation does not appear to enter the province's accounting framework used to determine compliance with the Renewable Electricity Regulations.

Helps achieve 90% reduction in 2005 GHG emissions target claim

Nova Scotia Power is required to report its greenhouse gas emissions under Canada's Greenhouse Gas Reporting Program (GHGRP) established under the Canadian Environmental Protection Act, 1999. Facilities emitting above the reporting threshold must annually report their actual emissions. The report is based on measured fuel consumption and emissions factors or, where installed, continuous emissions monitoring.

Canada's National Inventory Report (CNIR), which includes Nova Scotia, is prepared using the Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories. These guidelines form the basis for Canada's reporting under the UN climate treaties. Like the GHGRP, it relies upon actual emissions measured by actual fuel burned and their emissions factors or on continuous CO₂ monitoring. Neither the GHGRP nor the CNIR appears to contain a category for hypothetical emissions avoided because an industrial facility selected one electricity source rather than another and the EA identifies no other accounting mechanism by which the Project's claimed avoidance of 1.94 million tonnes of CO₂ annually may be recorded in either emissions reporting protocol.

Offset of project construction and life-cycle emissions conflict

Under section 7.2.5 "Effects Assessment," the EA states,

"The Project is anticipating a 0.26-year payback period to offset the construction-related GHG emissions."

The "construction-related" emissions referenced in the quote are estimated in the EA's section 7.2.4.3 "Quantification of GHG emissions – Construction Phase" and include construction-related emissions such as the production and transportation of the concrete and steel used in the turbine foundations as well as the life-cycle emissions from the material processing and construction of the wind turbines themselves. These are real CO₂ emissions that will be released into the atmosphere.

On the other hand, the EA's claimed avoidance of emissions that would have occurred had the ammonia plant been connected to the Grid are hypothetical and do not represent the displacement of any CO₂ emitting forms of electricity generation; the Grid emissions levels are unchanged. For example, consider:

- Harbour Hills Wind Project produces 100 MWh.
- Electrolysers consume all 100 MWh.
- There is no export.
- There is no grid connection.

Then physically,

- no Nova Scotia customer receives additional renewable electricity,
- no fossil generator reduces output because of Harbour Hills,
- no renewable electricity becomes available for someone else.
- The wind energy has simply been converted into hydrogen and then ammonia.

This gives rise to a fundamental accounting question, “Where do the avoided CO₂ emissions actually occur?” The answer is not self-evident and cannot simply be assumed. One conceivable explanation is that the ammonia produced could displace fossil-based ammonia in some other downstream process and effect an offset in GHG emissions. However, the EA provides no analysis, let alone quantification, of downstream emissions avoidance by their ammonia product. Even if it did, if the downstream avoidance is in a different GHG accounting zone, such as displacing fossil-based ammonia or hydrogen in the EU, then that avoidance would be counted in the EU and not be applicable to Nova Scotia’s GHG emissions levels. As a result, the EA’s claim to a payback period is questionable.

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SUBMISSION DATE 03/08/2026 23:52 **SUBMISSION STATUS** SUBMITTED

Panel

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Attachment(s):



[- Harbour Hills Wind Project EA Public Input - Noise.pdf \(/Admin/View-Document/941013f0-4cc3-435c-867f-dc16b61c6e0e/dbfc481d-6b91-4e00-8e27-a3a121f1e476\)](#)

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Total Documents: 1

[Harbour Hills Wind Project EA Public Input - Noise.pdf \(/Admin/View-Document/941013f0-4cc3-435c-867f-dc16b61c6e0e/dbfc481d-6b91-4e00-8e27-a3a121f1e476\).](#)

Seal Harbour, Nova Scotia BOH 1L0
Canada

August 3, 2026

Hon. Timothy Halman
Minister of Environment and Climate Change
Department of Environment and Climate Change
1894 Barrington Street, Suite 1800
Halifax, NS B3J 2A8

RE: Public input to the Environmental Assessment Registration Document Harbour Hills Wind Project, Appendix E: “WSP Noise Assessment”

Dear Minister Halman,

Summary

Pursuant to Section 12(c) of the Nova Scotia Environmental Assessment Regulations (the Regulations), I ask that you fully consider the concerns expressed by the public in this letter regarding the potential adverse noise effects on the surrounding local community as posed by the Harbour Hills Wind Project (the Project).

After reviewing Appendix E “WSP Noise Assessment” of the environmental assessment registration materials (the EA), my opinion is that the EA is substantially incomplete and lacks sufficient information for the Minister¹ to reasonably decide if the Project’s ISO 9613-2 (the Standard) based noise model (the Model) for predicting receptor site noise levels, reliably demonstrates that the Project’s operational noise levels at all receptor sites will comply with the Nova Scotia regulatory noise limit (the Limit) of 40 dB(A). To enable an informed decision by the Minister, the proponent should submit an addendum with additional evidence and explanation that addresses:

- 1) The specific type of acoustical quantity the Limit represents.
- 2) The relationship between the type of acoustical quantity the Model’s predicted noise levels represents and the type of acoustical quantity the Limit represents.
- 3) How the Project’s wind turbines will be managed to ensure their continuous operation in a reduced sound power mode.
- 4) Quantification of Model conservative assumptions the EA uses to justify excluding the Model’s accuracy (the Accuracy) when assessing receptor compliance.
- 5) An explanation of how the Standard's stated accuracy and additional limitations identified in Section 9 were considered and applied in the compliance assessment.

¹ “Minister” refers to the Nova Scotia Minister of Environment and Climate Change

- 6) Justification for using the Model to predict noise levels for receptor sites at distances greater than 1 kilometer in a region where the Standard states there is no specified accuracy.

The six sections that follow the next section provide evidence and discussion that supports each of the foregoing EA informational deficiencies and provide additional details for required information.

Approval conditions do not remedy insufficient information

A condition of approval imposed by the Minister after the environmental assessment review process is closed cannot substitute for information that was necessary for the Minister to make an informed decision during the assessment process itself.

The purpose of the environmental assessment process is to provide the Minister with sufficient information to evaluate potential environmental effects and determine whether a project undertaking requires additional information (i.e., proponent addendum, focus report, environmental assessment report), is approved, is approved with conditions, or is rejected. Where information *necessary* to make that determination is absent from the registration documents, a post-decision condition cannot remedy the deficiency because the decision has already been made.

Further, an approval condition cannot provide the public with a meaningful opportunity to review and comment on information that was not available during the assessment process. Public review and participation are core objectives of the process.

Therefore, where the registration information is insufficient for an informed, Minister's decision, additional information must be obtained pursuant to Section 13(1)(a) of the Environmental Assessment Regulations rather than deferred to or replaced by a future condition of approval.

1: Noise limit acoustical quantity undefined

In identifying the noise regulatory framework with which the Project must comply, Section 3 of Appendix E “WSP Noise Assessment” of the EA cites the “Environmental Assessment Supplemental Checklist: Wind Energy Project (Nova Scotia 2024)” (the EA Guide) as the source that establishes the Limit against which the Project’s operational noise levels will be assessed. In specifying the Limit, the EA Guide states that the EA must,

“Include standard modeling to show that operational noise at permanent and seasonal receptors (within 2 km) will not exceed 40 dBA.”

However, this Limit specification is incomplete. As an acoustical quantity, the Limit must also specify the measurement method. The quote does this in part by specifying that the measurement is A-weighted (dBA), but it does not quantify the measurement duration. For example, a typical Class 1 noise level meter will have “Fast,” “Slow,” “Impulse,” and “time averaging” modes. The latter mode also must include the time interval over which averaging occurs such as ten seconds, one minute, ten minutes, one hour, etc. Neither the EA Guide nor

the EA itself provides this information. Hence the specific type of acoustical quantity against which the Model's predicted noise levels are to be compared has not been adequately specified.

Interestingly, the EA's Appendix E mentions the Nova Scotia Environment and Climate Change document "Guidelines for Environmental Noise Measurement and Assessment" (Guidelines) which does contain a "compliance period" of one-hour as the time averaging mode; this could complete the definition. However, the Guidelines are cited for assessing low frequency noise as opposed to broadband noise for which the Limit applies. If the intent is to also use a one-hour averaging mode when assessing the operational broadband noise levels and the Limit is to be treated as a one-hour average as well, then this needs to be stated.

As it stands, the EA registration information does not provide the Minister with a clearly defined broadband noise limit compliance criterion. The absence of this information does not allow the Minister to determine if the Model's predicted noise levels reliably indicate compliance. Pursuant to Section 13(1)(a) of the Environmental Assessment Regulations, the proponent should submit an addendum with additional evidence that identifies and explains the specific type of acoustical quantity the Limit represents.

2: Model predicted sound level relation to Limit is undefined

Section 5 of the Standard describes the Model's predicted sound level as an A-weighted, sound pressure level averaged over a short time interval for meteorological conditions specified in that section. The standard does not provide a precise value for "short time interval" such as five minutes. However, Section 8 distinguishes between the short-term quantity calculated by the basic model and long-term averages for which a meteorological correction factor may be applied. This distinction suggests that the Model output is not a long-term average which would require a correction factor.

Given that the Limit does not completely identify its type of acoustical quantity (as discussed above), and given that the Standard describes its predictions as a short-term, averaged sound pressure levels without defining the averaging interval, the registration documents do not establish whether the Model's predictive sound levels and the Limit represent the same type of acoustic quantity. Nor do the registration documents provide the mathematical, statistical, empirical, or regulatory relationship by which the Model's predicted levels can be compared to the Limit criterion if it does not represent the same acoustic quantity type.

The EA registration's lack of a definitive relationship between the types of acoustic quantity represented by the Model's predicted sound levels and the Limit does not allow the Minister to determine how the acoustical quantity being predicted by the Model should be compared to the Limit against which compliance at a receptor site is being assessed. Pursuant to Section 13(1)(a) of the Environmental Assessment Regulations, the proponent should submit an addendum containing additional information that:

- 1) Unambiguously identifies the type of acoustical quantity the Limit represents.
- 2) Clearly explains and underwrites with credible evidence a method by which the Model's predictive noise levels may be compared to the Limit.
- 3) Or clearly demonstrates via credible evidence that the Model's predictive noise levels may be directly compared by value to the Limit.

3. Wind turbine reduced sound power mode uncertain

The EA's Appendix E, Section 2 "Project Description," Table 1 "Project Noise Sources and Operating Modes" identifies all the wind turbines as operating in Sound Reduction Mode 4 (SRM4s). Table 4 "Project Noise Emissions" ascribes a total sound power level of 106.5 dB(A) for the Goldwind GWH182 8.0-MW wind turbine operating in this Sound Reduction Mode. Footnote (b) to Table 1 on Appendix E page 8, describes this mode stating,

"SRM4s = Sound Reduction Mode 4 with STE [serrated trailing edge] blades"

For comparison, on page 92 in Section 7.1.3.4 "Assessment Methodology" of the Setapuktuk Wind Project Environmental Assessment Registration Document it states,

"The standard power mode for the Goldwind GHW182-8.0 machine produces a maximum noise level of 112.0 dBA"

Therefore, the same wind turbine model as cited in this EA when operating in "standard" power mode has a total sound power rating 5.5 dB(A) greater than that when operating in the SMR4 mode. The minimum predicted noise level in Table 5. "Predicted Project and Cumulative Noise Levels" is 35.9 dB(A). Applying the difference between the cited standard mode and SRM4 sound power levels to the minimum receptor level reported in Table 5 suggests that receptor locations presently reported as compliant may not remain compliant if the turbines operate in standard mode. This suggests the Project's compliance with the regulatory noise limit is contingent upon continuous operation of all Project wind turbines in the SMR4 mode. This raises several questions:

- Under what wind speeds and directions is the SRM4 active?
- What monitoring and enforcement mechanisms ensure the turbine remains in SRM4 after commissioning?
- Is the enforcement mechanism automated?
- If so, has the enforcement mechanism been demonstrated to reliably maintain the wind turbine in SRM4 mode continuously under all conditions?
- What is the associated reduction in energy production penalty when operating in the SMR4 mode? (If substantial, there may be a significant financial disincentive to maintain the SMR4 mode of operation precisely.)

Other than the Table 1 footnote, the EA registration makes no further comment on the nature of the SMR4 operating mode.

The EA's lack of any information regarding how the SMR4 mode is to be managed, does not allow the Minister to determine that all wind turbines in the Project can be reliably operated in the prescribed SMR4 mode on a continuing basis. Pursuant to Section 13(1)(a) of the Environmental Assessment Regulations, the proponent should submit an addendum containing additional information that answers the questions above and that explains how the SMR4 mode is managed and in so doing demonstrates that the mode can be reliably maintained on a continuing basis.

4: Model Accuracy excluded when assessing compliance

As described in the EA Appendix E Section 4.3 “Noise Prediction Methodology,” the Standard’s predicted noise level accuracy is +/- 3 dB(A) for distances between source and receptor up to 1 km and for greater distances is not stated². The EA further notes that the accuracy of the total sound power noise emission inputs for the model is often +/- 2 dB(A). Treating these two accuracies as independent phenomena, the EA correctly calculates a combined accuracy³ of +/- 3.6 dB(A).

Including this Accuracy in assessing receptor site compliance would mean that any receptor, for which the difference between the Model’s predicted sound level and the Limit is less than the 3.6 dB(A) Accuracy⁴ falls within the Model’s range of uncertainty with respect to the Limit. However, the EA’s Table 6 “Compliance Assessment” in Section 6.1 “Broadband Noise – Operations” does not include this Accuracy value when determining compliance as revealed by Table 5 “Predicted Project and Cumulative Noise Levels” for which model results greater than 36.4 dB(A) and as high as 40 dB(A) are all reported as “Compliant.”

A review of EA Table 5 reveals that most all receptors have a Model predicted sound level of 36.5 dB(A) or greater thereby rendering their compliance uncertain when the EA’s Accuracy is included in the assessment.

In Section 4.3, the EA seeks to justify the Accuracy’s omission by having applied the three conservative modeling assumptions that follow:

- 1) Each receptor was assumed to be downwind from each source 100% of the time which "likely" overestimates noise effects.
- 2) The wind turbines were modelled with maximum noise emissions 100% of the time. Given turbines often operate less than 100% of the time (e.g., during periods of low wind) this "likely" overestimates noise levels.
- 3) Acoustical screening from buildings and trees was not considered which will "tend" to overestimate noise effects.

In making this argument, the EA relies upon these three qualitative assertions to more than offset the 3.6 dB(A) uncertainty margin with respect to the Limit by ostensibly overpredicting noise levels. However, the EA appears unsure of this offsetting effect using words such as “likely” and “tend” in describing the influence their conservative assumptions would have on the Model’s noise estimates. Further, the EA does not *quantify* the degree of conservatism associated with those assumptions, nor does it demonstrate that the cumulative conservatism is sufficient to

² All the receptor sites itemized in Table 2, "Potential Receptor Locations and Distance to Project Noise Sources," are reported as being more than 1 km from the nearest project wind turbine and therefore lie beyond the distance range for which ISO 9613-2 provides an estimate of predictive accuracy. The discussion in this section and the following section is relevant if the proponent provides evidence supporting the application of the stated accuracy estimate beyond 1 km or otherwise provides a justified basis for assessing prediction uncertainty at those distances. Should a different estimate of prediction uncertainty be demonstrated, the range of model uncertainty discussed herein would be adjusted accordingly.

³ Henceforth, the term Accuracy shall refer to the Model’s combined accuracy.

⁴ The predicted sound level is greater than 40 dB(A) minus 3.6 dB(A) or 36.4 dB(A).

completely compensate for the uncertainty margin for receptors having modeled noise levels within the Accuracy range (3.6 dB(A)) of the Limit (i.e., greater than 36.4 dB(A)).

The EA's lack of any information that quantifies the three conservative modeling assumptions does not allow the Minister to determine if the Model's Accuracy can be reasonably omitted from determining a receptor site's compliance with the Limit. Pursuant to Section 13(1)(a) of the Environmental Assessment Regulations, the proponent should submit an addendum containing additional information that:

- 1) Provides evidence that can reasonably quantify in dB(A) the degree to which each of the three conservative assumptions can offset the Model's Accuracy.
- 2) Demonstrates that the cumulative offset afforded by the three conservative assumptions is greater than the uncertainty margin (3.6 dB(A)) introduced by the Model's Accuracy into the noise compliance assessment.
- 3) Or, failing (1) and (2), revises the receptor site compliance Table 6 to accurately reflect the compliance uncertainty for receptor sites where the Model's predicted noise level exceeds 36.4 dB(A).

5: Model's Accuracy definition incomplete

The EA draws the Standard's accuracy information from Table 4 in the Standard's Section 9 "Accuracy and limitations of the method." However, the Table 4 values, by themselves, do not completely characterize the Standard's estimate of predictive accuracy. Section 9 describes the accuracy further stating,

"The estimates of accuracy in Table 4 are for downwind conditions averaged over independent situations (as specified in Clause 5). They should not necessarily be expected to agree with the variation in measurements made at a given site on a given day. The latter can be expected to be considerably larger than the values in Table 4."

The EA neither acknowledges nor quantifies this "considerably larger" variation in measurements which will increase the Model's Accuracy range of 3.6 dB(A) by some unknown amount. This in turn increases the offset for which the EA's three conservative assumptions must compensate.

Absent a complete consideration of all aspects of the Standard's accuracy, the EA's registration information is insufficient for the Minister to determine that the EA's conservative assumptions will also account for the model's accuracy range which extends beyond +/- 3.0 dB(A) by an unprescribed amount. Pursuant to Section 13(1)(a) of the Environmental Assessment Regulations, the proponent should submit an addendum containing additional information that:

- 1) Based on the available professional and/or academic literature, identifies and justifies a reasonable estimate for the "variation in measurements" described in the Standard's Section 9.
- 2) Demonstrates that the cumulative conservative assumptions in item (4) above accommodate the increased accuracy range.
- 3) Or, failing (2), revises the receptor site compliance Table 6 to reflect the increased accuracy range.

6. Model's Accuracy beyond 1 km undefined

As described in item 3 above, the EA Appendix E Section 4.3 "Noise Prediction Methodology," states the Standard's predicted noise level accuracy is +/- 3 dB(A) for distances between source and receptor up to 1 km and for greater distances is not stated. All the receptor sites itemized in the EA's Table 2. "Potential Receptor Locations and Distance to Project Noise Sources," are reported as being greater than 1 km to the nearest wind turbine in the Project and therefore in a region where the model's noise prediction accuracy is undefined. Interestingly, the EA makes no further mention of this limitation.

The absence of any evidence or discussion in the EA regarding the Standard's lack of a stated prediction accuracy for receptor sites greater than 1 km from the noise source, does not allow the Minister to determine whether the EA's conservative noise modeling assumptions will also account for the Model's undefined accuracy beyond 1 km. Pursuant to Section 13(1)(a) of the Environmental Assessment Regulations, the proponent should submit an addendum containing additional information that:

- 1) Identifies the evidence, validation studies, professional guidance, or academic literature supporting the use of ISO 9613-2 predictions at receptor locations beyond 1 km.
- 2) Explains the basis upon which confidence in those predictions can be assessed despite the absence of an accuracy estimate in the Standard.
- 3) Demonstrates that the project's compliance conclusions remain reliable at receptor locations beyond 1 km.

Conclusion

Taken individually, each of the six foregoing issues identifies information that is absent from the EA registration documents and that appears necessary to evaluate the reliability of the Project's predicted receptor-site noise levels. Taken collectively, these issues raise substantial uncertainty regarding the evidence and reasoning upon which the EA concludes that all Project receptor sites will comply with the 40 dB(A) maximum noise limit once the Project is operational.

I therefore respectfully submit that the EA registration information is insufficient to allow the Minister to make a fully informed decision regarding the Project's potential operational noise effects on the surrounding community and that additional information detailed in this letter should be required from the proponent pursuant to Section 13(1)(a) of the Environmental Assessment Regulations.

To Whom It May Concern

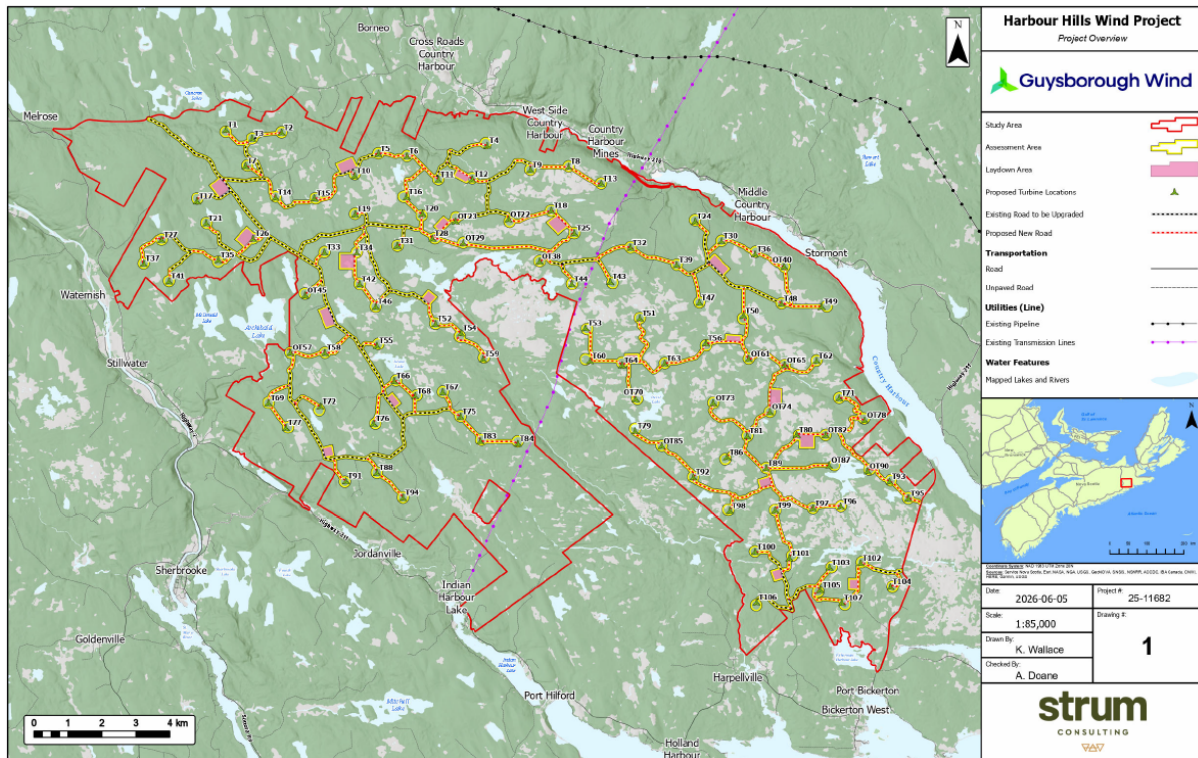
Comments and concerns related to the Harbour Hills Wind project

Date: July 31, 2026 By a Concerned resident of Nova Scotia

1. Project overview

The Project is an onshore wind farm with up to 107 proposed wind turbines capable of generating up to 856 MW of renewable energy, to be used for green hydrogen and ammonia, local use and export.

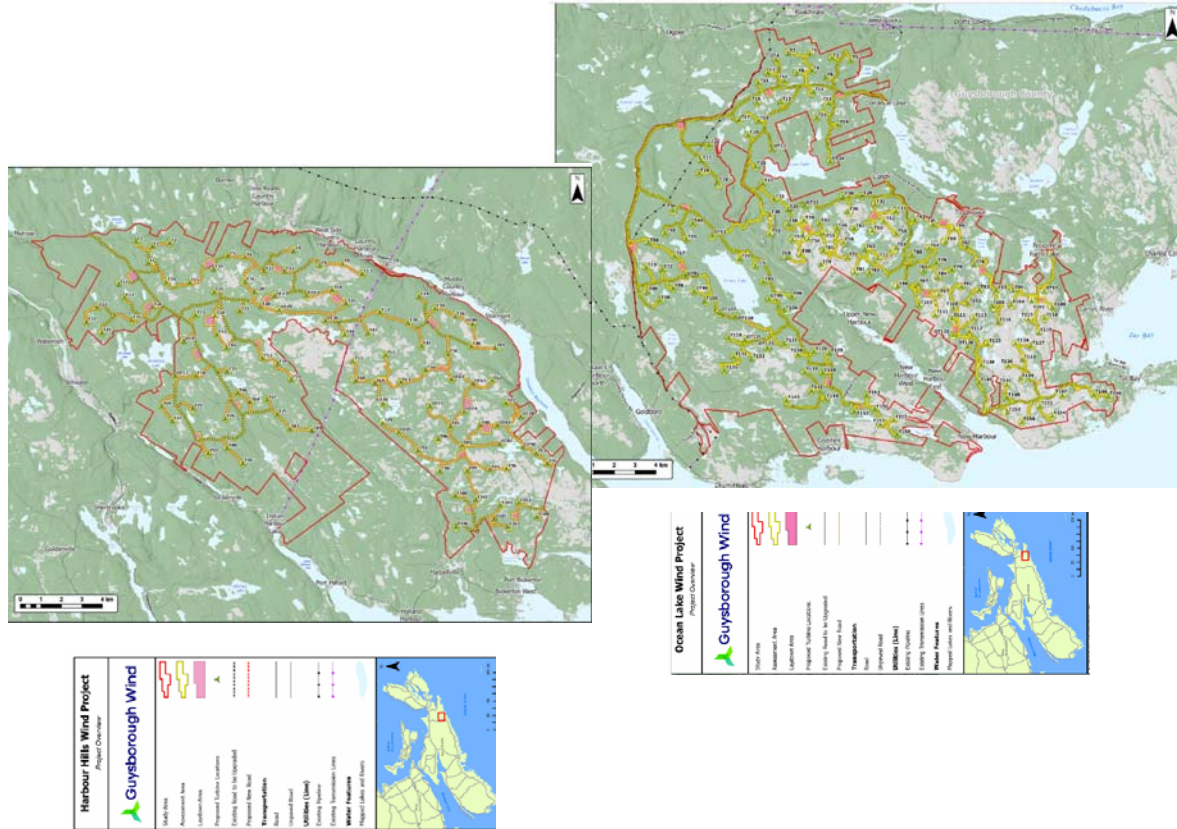
Att 1 (from EA registration documents)



Comments and Questions: This is a megaproject, especially when combined with the nearby Ocean Lake wind farm of 158 turbines. From Stormont to Goldboro, the study area boundaries of the two projects are separated by only ~5 to 7 km (see Att 2). With this close proximity and the large areas of each, the two projects should be considered as one in terms of environmental effects.

Has there been specific consideration of the interactions of both projects, especially in terms of (but not limited to) noise and shadow flicker to nearby homes and seasonal dwellings, birds and bats (they may manage to pass through one wind farm, but potentially not both), the large area fragmented and opened up to more human traffic, wildlife migration out of the turbine areas, etc? What effect will the outward migration of wildlife have on existing populations in adjacent area habitats?

Att 2 (from EA registration documents for Harbour Hills and Ocean Lake)



The EA notes that most of the 107 turbines are on Crown Land. Specific data should be provided on how many are on Crown Land, how many are on private land, and the locations (PIDs, map) and agreements for the private land locations (e.g., are there any NDA's?)..

2. Green energy

Data should be provided on how much of the power generated is to be used in Nova Scotia for Nova Scotians, how much is to be exported elsewhere, and what is the breakdown of exports (amounts and locations)? The amount in each category should be clearly stated. When one considers all the natural resources and fossil fuels used in activities such as (but not limited to) building/production of turbines in China, shipping the turbines from China, site road clearing, forestry harvesting and trucking, road widening, movement of turbine parts on site, excavation and concrete and rebar for turbine foundations, cranes for setting up and dealing with repairs during the operational life, maintenance activities and site decommissioning later, one wonders how 'green' this and other similar projects really are for the environment. For example, shipping from Dafeng port, Dafeng District, Yancheng, Jiangsu Province, China to Mulgrave NS is 63 km on land in China, 23,200 km marine China to Mulgrave, then varied distances by land.

3. Turbine data

Turbine technical data is shown in Att 3. Total turbine height is 221.7 m (727 ft). If the proponent moves to concrete turbines, hub height would increase by 20 m to 150 m*, and presumably total height would increase to 241.7 m (793 ft), or almost 800 ft. This would have more impact on noise, ground vibration, birds, bats and other factors.

**"If a concrete tower configuration is selected, a greater hub height may be required, up to 150 m in height, to accommodate turbine design, structural engineering, and blade-to-tower clearance requirements associated with the selected tower and turbine onfiguration. Should this option be advanced, an updated Project Description will be submitted to NSECC, including updated noise and shadow flicker modelling and demonstration of setback compliance in accordance with the revised turbine height."*

I would recommend that additional studies (in addition to those listed in the EA) be required for this 20 m option prior to any approvals, including but not limited to, factors such as structural stability, vibration, impact on bats and birds, etc. The public should be able to review and comment on any additional studies. How do these tower heights, capacities and other specifications compare to other existing and/or proposed wind projects in NS?

Att 3 (EA registration document)

Table 3.3: Turbine Technical Specifications

Turbine Component	Turbine Specifications for Goldwind GWH182-8.0
Rated capacity	8.0 MW
Rotor diameter	183.4 m
Blade length	91.7 m
Hub height	130 m
Total turbine (tip) height	221.7 m
Cut-out wind speed	24.0 metres per second (m/s)
Number of blades	Three
Swept area	26,417 square metres (m2)

4. Comparison to Similar Projects

From a Google search, **onshore 8 MW wind turbines face challenges such as higher loads on foundations and towers due to their size, increased transportation and logistics constraints for large blades and towers, and potential noise and visual impact concerns in populated areas.**

Wind projects around the world are increasingly adopting larger turbine capacities to improve efficiency and reduce costs. **Turbines with a capacity of 8 MW are particularly common in offshore wind projects***. This site lists several offshore wind projects with 8 MW turbines in the UK, commissioned from 2020 to 2023.

* wwindea.org globalenergymonitor.org

The turbine area is large (Att 1 and 2 above) and the turbines much greater in number, height and power and impacted area than existing wind farms in Nova Scotia. A quick look at projects from 2000 to the present on NSECC's EA project list shows that of ~250 projects, ~80 are wind-related. It would be useful for NSECC to have a wind project map viewer (similar to other viewers such as Parks & Protected areas, Harvest plans (forestry), Geoscience, etc) showing areal locations of turbines, and with the ability to click on a site and find turbine-specific and site data. It would also be useful to capture data from several sites in an exportable data table. A NS Power site shows some projects that they operate at <https://www.nspower.ca/cleanandgreen/clean-energy/clean-energy-sources>, but these do not represent all the sites in NS.

Given that there does not appear to be a viewer available at present, data was downloaded from the Canadian Wind Turbine Database (CWTD) <https://open.canada.ca/data/e>.

The CWTD lists a total of 347 turbines in NS (the total in all projects listed, some of which have multiple turbines). When complete, the total of Harbour Hills and Ocean Lake would be 265 turbines, or 43% of the total 612 proposed turbines. Some comparisons using the CWTD follow:

- The highest number of turbines per project reported was 34 for Dalhousie Mountain and South Canoe projects, much smaller than the 107 for Harbour Hills.
- The reported per turbine rated capacity was 0.05 to 3 MW, much smaller than the proposed 8 MW for Harbour Hills.
- Maximum hub height was 100 m, compared to 130 m for Harbour Hills (possibly 150 m if concrete used)
- Rotor diameter maximum was 118 m, compared to 183.4 m for Harbour Hills.
- Although not included in the CWTD, the Wedgeport project will reportedly have 12 Nordex 7 MW turbines (Chronicle Herald, July 25, 2026), with more similarities to Harbour Hills than other projects listed in the CWTD for NS. The Wedgeport project EA gives the following possibilities, but note that this project has only 12 turbines compared to the 107 for Harbour Hills and 158 for Ocean Lake::
 - o Output 5.9 – 7.0 MW (Harbour Hills 8 MW)
 - o Hub height 110-118 m (Harbour Hills 130 m)
 - o Blade length 79.3 – 83.3 m (Harbour Hills 91.7 m)
 - o Rotor diameter 162 – 175 m (Harbour Hills 183.4 m)

In the first half of 2025, Germany reported 958 newly commissioned wind turbines and 5,232 MW of capacity, with 2025 as the second-best year in German expansion statistics. Min/max hub height ranged from 110/167 m, rotor diameter 146/162 m, generation per turbine 4.85/5.91 MW (Quentin, J. 2026. Status of Onshore Wind Energy Development in Germany Year 2025. FA Wind und Solar (ed.). 2026. Status of Onshore Wind Energy Development in Germany in the Year 2025). Although the Harbour Hills hub height is within the given Germany range, the rotor diameter and MW output per turbine are much higher for Harbour Hills.

The proponent should be required to provide data on similar projects elsewhere and any environmental effects that were found. The data should come from onshore wind farms with similar properties, including but not limited to:

- Number of turbines same per unit area and total number about the same;
- Factors such as hub height, rotor diameter, total turbine height, individual turbine power rating at least 8 MW, blade length, swept area, construction materials, and other properties in Att 3 above;
- Noise, complaints, operation and maintenance issues;
- Environmental effects on humans (seasonal and full time residents), wildlife, animal migration and behaviour, birds and bats (numbers and species killed and/or wounded);
- Recreational usage changes, wildfire and other risks related to increased access by people;
- Project operational life before decommissioning begins;
- etc.

If comparable projects are not available, the Harbour Hills project should be considered as experimental and be put on hold until there is similar data available, e.g., from the Ocean Lake project (say 2 to 5 years of operational data?).

5. Setbacks

Turbine setbacks are not well documented on EA Table 3.2 (Att 4 below)), especially from homes and buildings. A number are to be determined. **For camps, the distance of 350 m seems low as compared to 550 m from the nearest noise receptor in Ontario:**

<https://www.ontario.ca/document/technical-guide-renewable-energy-approvals-0>

‘Setbacks for noise have been established in regulation for all land-based wind facilities generating $\geq 50\text{kW}$ and using one or more turbines with a sound power level $\geq 102\text{ dBA}$ or the greatest height of any wind turbine that forms part of the facility, excluding the length of any blades, is $\geq 70\text{ m}$ (subsection 54 (1) of O. Reg. 359/09).

...2.1. Minimum Setbacks

All wind turbines that meet the criteria of subsection 54 (1) of O. Reg. 359/09 as described above, must be located at least 550 meters (m) from the nearest noise receptor. The only exception to this is if a turbine is located near a noise receptor where the ambient noise from road traffic is consistently greater than 40 dBA...’

The minimum setback of 550 m was developed by modeling propagation of turbine noise towards a receptor. Wind conditions, and other factors affecting sound propagation were selected to represent a worst-case scenario to give a conservative estimate of setbacks.

Further detail on the rationale and modeling methodology used to arrive at noise setbacks is provided in the 2009 Ministry of Environment and Climate Change (MOECC) publication “Development of Noise Setbacks for Wind Farms” (Publication #7263e).

Att 4 (EA registration document)

Table 3.2: Summary of Minimum Setbacks and Separation Distances

Setback Category	Distance	Relevant Regulators / Stakeholders
Old Growth Forests	100 m limited development buffer where practicable on Crown land	NSNR
Protected Areas	To be determined in consultation with NSECC, as appropriate	NSECC, NSNR
Rare Plants and Lichens	Species-specific (Section 10.1)	NSNR
Residential Dwellings (non-participating)	4.0 x Turbine Height	Nova Scotia Municipal Affairs
Camps (non-participating)	350 m	Proponent Commitment
External Property Boundaries (non-participating)	1.0 x Turbine Height	MODG
Public Roads	As per municipal requirements (minimum 1.0 x turbine height)	Proponent Commitment
Powerlines	1.0 x Turbine Height from non-Project-related powerlines	Proponent Commitment
Shadow Flicker	As necessary to meet shadow flicker guidelines based on shadow flicker modelling	NSECC
Sound/Noise	As necessary to meet noise guidance based on sound modelling	NSECC

Setback distances committed to by the Proponent should review legislation elsewhere, such as Ontario, and perhaps as or more conservative??

6. Project life span

The estimated operational life span in the EA is 35 years, however, the Goldwind GWH182-8.0 MW turbine product declaration states a **design service life of >20 years, rated 25 years:**

<https://www.epditaly.it/en/epd/goldwind-gwh170-7-2-gwh175-7-8-gwh182-8-0-wind-turbine/>

This discrepancy should be addressed by the EA, as a 10 year shorter service life would have potentially lower economic benefits and other ramifications.

Some information on wind farm performance in the United Kingdom and Denmark (Hughes, 2012, Renewable Energy Foundation) indicated that:

1. Detailed analysis of the relationship between age and performance for both the United Kingdom and Denmark with a significant decline in the average load factor of onshore wind farms adjusted for wind availability as they get older.
2. The normalised load factor for UK onshore wind farms declines from a peak of about 24% at age 1 to 15% at age 10 and 11% at age 15. The decline in the normalised load factor for Danish onshore wind farms is slower but still significant with a fall from a peak of 22% to 18% at age 15.
3. Larger wind farms have systematically worse performance than smaller wind farms. Adjusted for age and wind availability the overall performance of wind farms in the UK has deteriorated markedly since the beginning of the century.
4. These findings have important implications for policy towards wind generation in the UK. First, they suggest that the subsidy regime is extremely generous if investment in new wind farms is profitable despite the decline in performance due to age and over time. Second, meeting the UK Government's targets for wind generation will require a much higher level of wind capacity – and, thus, capital investment – than current projections imply. Third, the structure of contracts offered to wind generators under the proposed reform of the electricity market should be modified since **few wind farms will operate for more than 12–15 years.**

Statistics on wind turbines in Denmark as of January 2022 showed that the **average age of 3442 decommissioned turbines is 17.9 years**, the longest serving ~40 yrs, the shortest 24 hrs.

It is possible that the project operational life span will be much less than the 35 years given.

7. Significant environmental impact (turbine manufacturer)

The Goldwind EPD gives the following table for significant environmental impact categories (Att 5)

Att 5 (from <https://www.epditaly.it/en/epd/goldwind-gwh170-7-2-gwh175-7-8-gwh182-8-0-wind-turbine/>)

Table 4 Significant contribute processes for environmental impact categories

Impact indicator	Top 3 contributors
Global Warming potential-total	Tower manufacture, blade manufacture, foundation construction & wind turbine installation
Depletion potential of the stratospheric ozone layer (ODP)	Blade manufacture, foundation construction & wind turbine installation, electricity transmission network construction
Acidification potential, Accumulated Exceedance (AP)	Tower manufacture, Blade manufacture, foundation construction & wind turbine installation
Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater)	Electricity transmission network construction, foundation construction & wind turbine installation, electrical control components production
Formation potential of tropospheric ozone (POCP)	Tower manufacture, Blade manufacture, foundation construction & wind turbine installation
Consumption of abiotic resources - minerals and materials	Production of Electrical control system components, production of drivetrain components, substation construction
Consumption of abiotic resources - fossil resources	Blade manufacture, tower manufacture, foundation construction & wind turbine installation
Water deprivation potential, deprivation-weighted water consumption (WDP)	Blade manufacture, tower manufacture, foundation construction & wind turbine installation

The above table notes water consumption as a potential issue. This issue does not seem to be addressed in detail in the EA.

8. Water Supply

The planned Project infrastructure also includes access roads (new and existing), temporary laydown areas, medium-voltage collector lines, one or more substations, worker accommodations, a concrete batch plant, meteorological towers (MET towers), borrow pits, and an Operations and Maintenance (O&M) building.

Examples of water use may include, but are not limited to: dust suppression, construction crews, temporary foreign worker housing (water and wastewater facilities), mix water for making concrete for the turbine bases (actual concrete size not found in EA), additional water if a concrete tower configuration is selected, and potential firefighting needs (e.g., on-site issues, wildfires, etc.).

A water supply study should be provided in the EA with estimated water needs and potential water supply sources. Groundwater is one potential source in the project area. Bedrock type is predominantly Goldenville metasandstones and metasiltstones, with minor Halifax slates and granitic bedrocks also. These crystalline metamorphic and igneous bedrock types typically supply enough water from drilled wells for individual households

rather than the larger volumes typically needed for worker housing, concrete mixing, fire and dust suppression, etc. Water quality from these bedrock types may have parameters that do not meet the Guidelines for Canadian Drinking Water Quality (GCDWQ) and may require treatment, such as arsenic, iron, manganese, uranium, fluoride and pH.

Surficial geology consists mainly of glacial tills, likely shallow in nature except possibly for some silty drumlins along the west/southwestern side of the study area. Dug wells completed in glacial tills typically supply water for individual households, although in dry summers many have supply issues as the water table declines. Some water quality parameters that may not meet the GCDWQ include, but are not limited to, iron, manganese, pH, colour, and bacteria.

The EA should provide maps and details of bedrock and surficial geology, and review databases (such as well logs, pumping tests and water quality), and identify potential water quality issues and potential treatment (if applicable). Depending on the water volumes required, such as for industrial use in concrete plants, a Water Withdrawal Approval may be required from NSECC.

There are many small water supplies for homes, cottages, camps, seasonal dwellings in the study area, and many individuals along/near the current road network. These are mainly on drilled wells, dug wells, or springs, with some on surface water for primarily non-potable uses. The EA suggests that wells within 800 m would have a pre-blast survey. **The EA should include a detailed Water Contingency Plan for potentially affected water supplies. If there is difficulty in obtaining adequate quantity and quality from replacement wells, short-term and long-term options should be provided.**

9. Turbines and water issues (general)

There have been issues reported elsewhere, from turbines themselves, and from blasting (if applicable). Some examples from Ground Water Canada are given in Appendix A.

The following information is from: Northern Ireland Environment Agency. 2015. Wind farms and groundwater impacts - A guide to EIA and Planning considerations. Version 1.1, April 2015.

A wind energy project can impact surface water and groundwater in several different ways, including the use of water resources, changes in water quality, alteration of the natural flow system, and the alteration of interactions between the groundwater and surface water.

Examples of some issues during site construction include:

1. Use of Water Resources

A number of construction activities would use water. Because the construction phase may last more than a year, potentially large amounts of water would be needed. The water may be trucked in from off site or obtained from local groundwater wells or surface water bodies near the facility, depending upon the availability of those sources. Activities related to use of water resources would include:

- Water used for dust control during the construction of access roads, clearing of vegetation, grading, and road traffic;*
- Water used for making concrete used in the foundations of wind towers, substations, central control buildings, and various personnel support facilities; and*
- Water used by the construction crew.*

2 Water Quality

Many construction activities associated with a wind energy development project could alter the quality of surface water and, to a lesser extent, groundwater. These include:

- Activities that aggravate soil erosion, such as activities that disturb the ground surface, heavy equipment traffic, activities that alter surface runoff patterns, and extraction of geologic materials from borrow areas or quarries.*
- Weathering of freshly exposed soil or spoils from foundation excavation, quarry or borrow pit operations, or access road construction, which would release various chemicals through oxidation and leaching processes;*
- Discharges of wastewater or sanitary water; and*
- Pesticide application, unless use is limited to non-persistent, immobile pesticides and applied only in accordance with label and application permit directions and stipulations.*

3 Alteration of Water Flow Systems

Natural surface water and groundwater flow systems could be potentially impacted by construction activities. Surface water flows may be diverted on site and off site by access road systems or storm water control systems. Excavation activities or geologic material extraction may alter surface overflow and groundwater flow. The withdrawal of surface water and groundwater for water uses and the discharge of wastewater and storm water would also affect the water flows of the surface water bodies and groundwater.

4 Alteration of Surface Water/Groundwater Interaction

Construction activities could alter the interaction between surface water bodies and local groundwater in systems where the two resources are hydrologically connected. In these circumstances, extracting water from one source eventually could affect the other source as well. Similarly, altering the water quality of one source could affect the water quality of other sources at downgradient locations. Impacts also could occur if construction activities (e.g., excavation, blasting, trenching) create a conduit between a surface water body and a groundwater aquifer, or between two aquifers, by breaching the hydrologic barrier. This could result in unwanted dewatering or recharge of any of these water resources, depending on local hydrogeologic conditions. In addition, storm water control systems and any other activity that alters the ground surface could affect groundwater infiltration as well as the response time of a nearby surface water body.

Site Operation

As various construction and related activities diminish, the environment will reestablish a new equilibrium. If appropriate mitigation measures are implemented during the construction phase, potential impacts to water during site operation would be limited to the degradation of water quality as a result of improper pesticide use or vehicle traffic.

Site Decommissioning

The impacts on water resources during decommissioning would depend on the decommissioning activities involved. Such activities may involve removal of all access roads, on-site roads, transformer pads, and building foundations. Originally disturbed land areas would likely be restored to their original grade and revegetated. Water wells may be abandoned in place. The potential impacts would largely be the same as those described for the construction phase.

Recommendation: It is important to have baseline testing similar to NSECCs pre-blast survey carried out near proposed construction sites beforehand. A well survey including well system details, water quality (bacteria, complete general chemistry and metals,

suspended solids, etc, and water quantity should be evaluated. Additional parameters may need to be tested depending on local geology and laboratory packages.

10. Turbine foundations

The turbine tower foundations will be up to 30 m (~100 ft) in diameter and extend to a depth of up to approximately 7 m (23 ft) below grade. Foundations will be backfilled (underground) with the exception of the concrete pedestal which will extend up to 1 m above ground to support the wind turbine tower structure. **Each turbine foundation requires approximately 905 m³ of concrete (which equates to ~100 truckloads) and 81 tonnes of steel (rebar).** This is a large volume of material to be moved for **each** turbine. The geologic resources needed for concrete, and for road construction and transport, and fossil fuels, are high. The actual size of the concrete pedestal should be provided.

The depth of excavation is similar to many newer dug wells constructed with an excavator, but the diameter for a well is usually much less than 30 m. Excavations of this size are likely to encounter bedrock and/or the water table, and may result in changes in groundwater flow patterns locally, and blasting. These may cause changes in water quality/quantity to local wells, springs and vernal pools, and may impact baseflow to brooks in some cases. Monitoring during excavation is essential.

11. Nearby undertakings

The EA notes the potential for interactions with nearby undertakings in Table 16.4.

There should be a map showing locations and study area boundaries of these undertakings, especially for the other known wind developments within proximity to the Project (Section 3.4.3):

- Ocean Lake Wind Project 25 km east of the Study Area centre (proposed)*
- Goose Harbour Lake Wind Farm Project 41 km northeast (currently under development)
- Upper Afton Wind Project, 42 km northeast (proposed)
- Setapuktuk Wind Project, 52 km northeast (proposed)
- Mulgrave Community Wind Power Project 57 km northeast (operational)
- Auld's Cove Wind Project 60 km northeast (proposed)
- Sable Wind Project, 69 km east (operational)

*For Ocean Lake (now approved), the EA mentions:

“The project includes a 22,056 ha study area and 785 ha infrastructure footprint, with the nearest turbine located 6.6 km from the Project Study Area. A 223 km road network is planned for Ocean Lake Wind Project, including 129 km of new roads and 94 km of roads that will require upgrades (Strum Consulting, 2026). The proximity of the Project and shared pathways to environmental effects indicate that interactions with the Ocean Lake Wind Project are possible.”

There is no mention of increased traffic where various undertakings may interact, e.g., traffic in the Goldboro area from both the Harbour Hills and gold mine projects.

12. Access road construction

Approximately 53 km of the existing road network will be re-used as part of the Project. Existing roads will require upgrades (widening, ditching, capping etc.). Approximately 110 km of new road construction is required to provide direct access to the turbines and connect areas within the Project. Access roads will have a 6 m to 12 m wide road surface and including ditching and grading will be 17 m to 20 m wide. This is similar to many secondary highways/roads in NS with a 66 ft (20 m) right-of-way. An increase in road density will occur across the local assessment area, with the greatest increases in the southeastern portion of the Study Area where few existing roads are present.

Many of the existing roads within the study area (other than paved numbered highways) are mainly logging roads, some of which have grown in to various extents. Previous harvests and access were in phases rather than a massive area cleared and opened up at once. Road construction will provide unparalleled access to a large area all at once. The impact to wildlife, birds, etc. may be significant from access as well as from the turbines themselves.

Even with improved roads, there will likely be increased traffic disruption issues due to the size of transport vehicles required, e.g., for the turbine blades. Long turbine blades and components being delivered to the Wedgeport Wind site in Yarmouth County by road has created some traffic disruptions (Chronicle Herald, 26 July 2026), and that is for only 12 turbines.

There is mention of increased access for OHV use on the road network to be constructed.: “Less-structured recreational activities, such as trail users, may be more affected by the Project through the limitations of trail usage within the Study Area during the construction phase. Nonetheless, some recreationalists, especially off-highway vehicle (OHV) riders, may benefit from the Project due to the increased road network allowing for greater access to trails.” The proponent plans to “Continue working with local recreation groups to ensure continued access to areas within the Study Area for recreation, including ATV/OHV use, hunting, and trapping.”

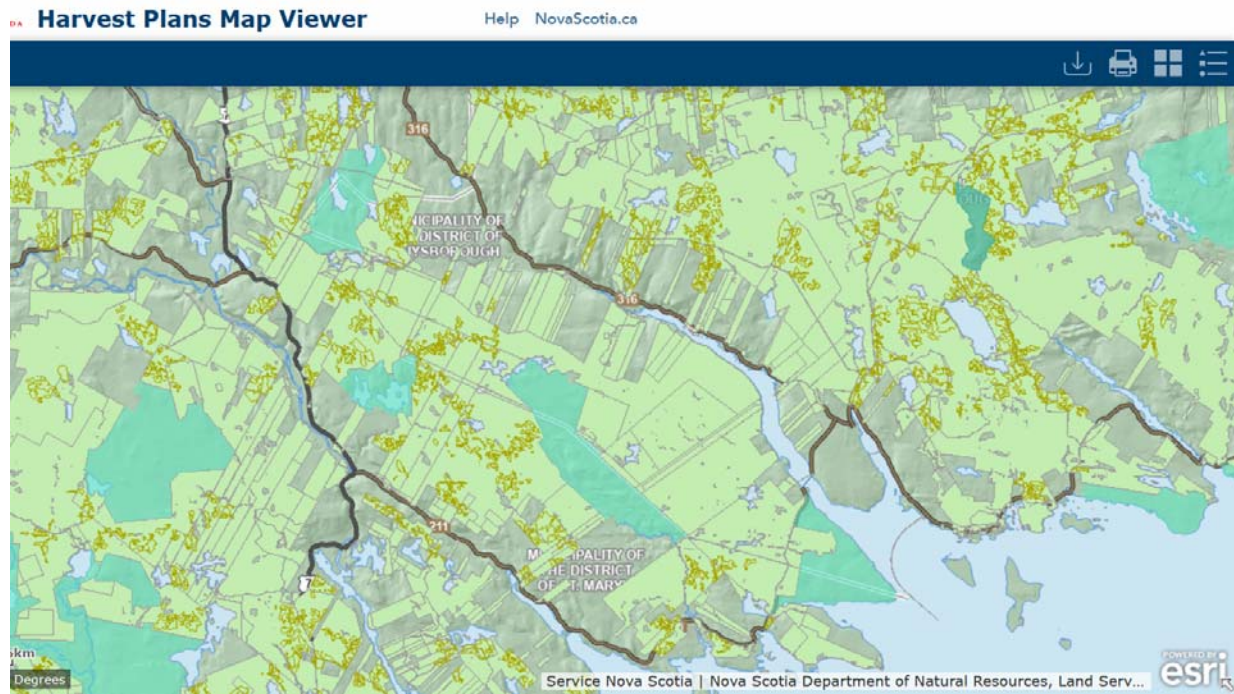
I would anticipate a large increase in OHV use (except for snowmobiling*). Since the majority of wildfires in NS are human-related, there should be increased surveillance in the area, e.g., by helicopter, drone, police presence?? Are personnel and financial resources available for this?

*Snowmobiling will essentially be eliminated as the roads will be plowed in the winter to allow year-round access for operations.

The fragmentation of habitat will likely cause some wildlife, birds etc to move from the area into adjacent less disturbed areas and/or closer to human habitation. The areas nearby may already have a population and resources that are maximized or stretched, resulting in overpopulation. Another consideration is the risk of more frequent human interactions with bears and coyotes. Coyotes have been reported in towns occasionally, such as Mulgrave. The effects should be estimated by comparison to similar developments.

This is a significant change to the area. Att 6 shows the NS harvest plan map viewer for the area. Archived harvest plans (go back to early 2016) are shown in brown. There are also many areas of Crown land (green) that have not been harvested in the last 10 years.

Att 6 (<https://nsgi.novascotia.ca/hpmv/> accessed July 2026)



Legend for <https://nsgi.novascotia.ca/hpmv/>

Outcomes Based Pilot Area (Crown Land)



Nova Scotia Environment - Protected Areas

- Nature Reserve
- Wilderness Area

Crown Land Harvest Plans

- Current Submissions
- Open for Comment
 - NEW - Open for Comment

Crown Land Harvest Plans (High Production Forestry)

- Prescription Type
- Commercial Thinning
 - Final Felling
 - Early Tending

Crown Land Harvest Plans (Ecological Matrix)

- Prescription Type
- High Retention Irregular Shelterwood
 - Medium Retention Irregular Shelterwood
 - Commercial Thinning
 - Shelterwood
 - Selection
 - Salvage with Retention
 - Partial Overstory Removal
 - Research Trial
 - Crop Tree Release
 - Variable Retention

Archived

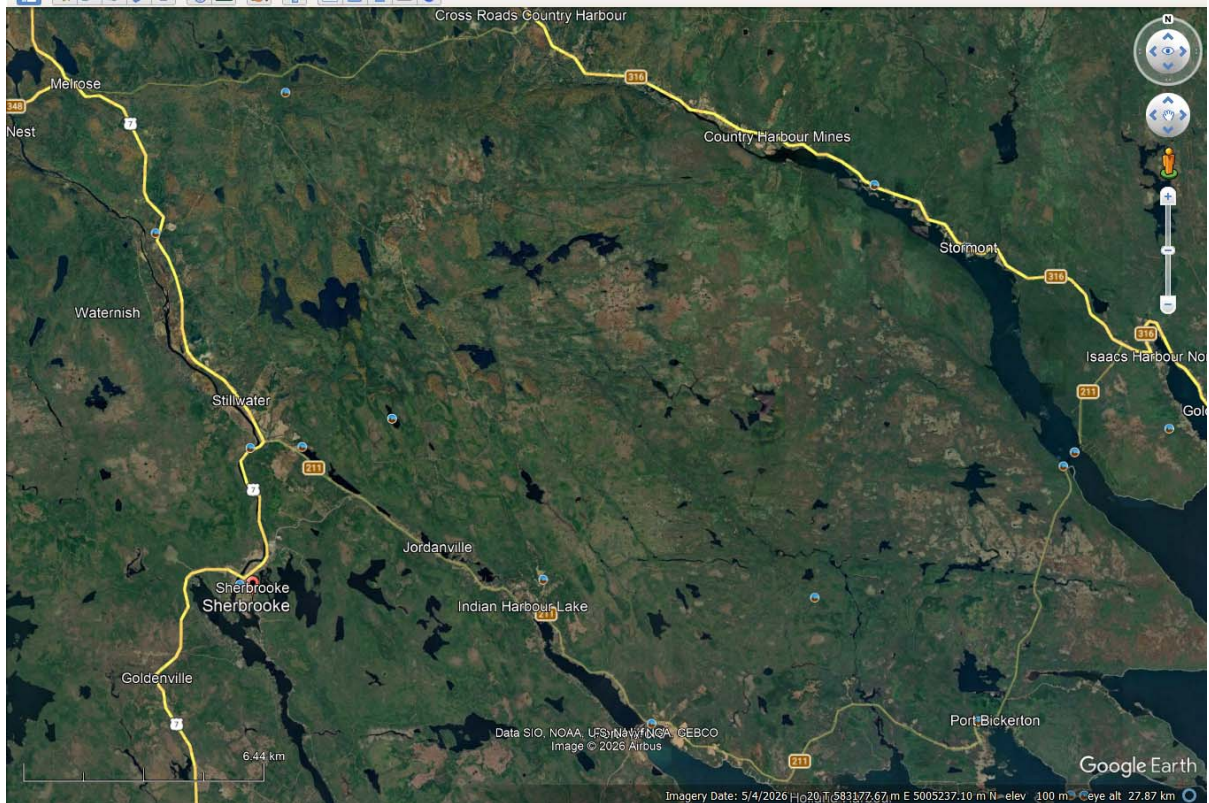
- Crown Land Harvest Plans (Comment Period Expired)
- Archived Crown Land Harvest Plans

Department of Natural Resources

- Crown Lands & Provincial Parks
- Crown Land
 - Provincial Park

Google Earth (Att 7), shows a fairly well vegetated area, with regrowth on many of the archived harvest areas on Att 6. There are some areas where bedrock is at or near surface. Road construction could be more extensive than suggested in the EA.

Att 7 Google Earth Pro, accessed July 2026)



13. Water quality/quantity monitoring

During road installation and turbine transport/installation, there are many watercourses (possibly up to 120 interactions) within the study area which may need bridges, culverts, etc., either upgrades to an existing crossing or construction of a new crossing. As noted in the EA, these will require approvals from NSECC. These activities may potentially have water quality impacts on parameters such as (but not limited to): turbidity, suspended solids, pH, nutrients, metals, etc.

The EA outlines some plans to address these issues (Att 8).

Att 8 (EA registration document)

“Changes in Surface Water Quantity and Quality

- *Develop and implement a Surface Water Management Plan.*
 - *Integrate water management systems including diversion and collection ditches, roadside drainage channels, vegetated swales, and stormwater retention ponds, as directed by the Surface Water Management Plan.*
- *Design any necessary alterations in a way that maintains the natural grade of the watercourse, to ensure the hydroperiod remains as it was pre-alteration.*
- *Fit any watercourse crossings with appropriately sized infrastructure, as prescribed by a certified Watercourse Alteration Installer/Sizer.*
- *Develop a site-specific Erosion and Sediment Control Plan during the detailed design phase.*

- *The plan will target the disturbance to banks (as required) and adjacent land, and will address the type of control structures, proper installation techniques, grading, maintenance and inspection, timing of installation, and vegetation.*
- *Maintain 30 m vegetated buffers around watercourses, to the extent practicable.*
- *Integrate outlet protection features to dissipate flow velocities and decrease erosion at the outflow.*
- *Require that if concrete is to be used, it is pre-cast and cured for at least one week prior to use at a crossing site (NSECC, 2015b).*
- *Use untreated, rot-resistant timber (e.g., hemlock, tamarack, juniper, or cedar) below the ordinary highwater mark to avoid the leaching of toxic preservatives into waterways (NSECC, 2015b).*
- *Use rock material that is clean, coarse granular, non-ore-bearing, non-watercourse derived, and non-toxic to aquatic life (NSECC, 2015b).*
- *Plan any construction activities that may impact stream banks and substrate to align with low-flow periods.*

Monitoring

For crossings subject to provincial notification requirements, visual monitoring will be completed during the installation process to ensure the work is conducted in accordance with the Nova Scotia Watercourse Alteration Activity Standards (NSECC, 2015c). If the crossing requires an approval, monitoring will be determined as part of the permitting process.

A watercourse monitoring plan, if required as part of the permitting phase, may include hydrological, sediment, and stability assessments upstream, downstream, and at the crossing of the watercourse.”

A watercourse monitoring plan based on CCME freshwater aquatic and wildlife standards (rather than monitoring “if required”) should be established. I would recommend that such a program/plan be a mandatory part of the watercourse monitoring plan permitting under site construction and decommissioning activities. Activities before, during and after construction should be monitored as per CCME guidelines, and the data be available to the public.

A monitoring plan is needed - not just for crossings, but for sediment runoff into watercourses, especially during rainfall and/or snowmelt events of high intensity and/or long duration.

From personal experience, many forestry operations and their associated road construction and harvesting, have no CCME or other water-related monitoring requirements, yet have produced silty runoff impacting nearby watercourses. Very few roads are rehabilitated later to reduce erosion.

14. Sound and vibration

A few notes about sound follow (Northern Ireland Environment Agency. 2015. Wind farms and groundwater impacts – A guide to EIA and Planning considerations. Version 1.1, April 2015.)

- *Wind turbines produce two categories of noise: mechanical and aerodynamic. These categories are associated with four types of noise (tonal, broadband, impulsive, and low-frequency).*
- *Due to recent improvements in the mechanical design of large wind turbines, aerodynamic noise is the dominant source from modern wind turbines*
- *Aerodynamic noise from wind turbines originates mainly from the flow of air over and past the blades; therefore, the noise generally increases with tip speed. It is directly linked to the production of power and therefore inevitable. This noise is often described as a “swishing” or “whooshing” sound, and is typically the dominant part of wind turbine noise today. The noise caused by this process is unavoidable.*
- *On a clear night, temperature usually increases with height due to radiant cooling of the surface. Under this condition (called a temperature inversion), sound refracts or bends downward, which is a favorable condition for propagation (i.e., sound will travel farther). However, this condition would occur only at low wind speeds... thus, increased noise propagation associated with temperature inversion would be minimal in most operations. The exception would be in sheltered valleys with relatively low ambient noise levels. In general, the effects of wind speed on noise propagation would generally dominate over those of temperature gradient.*

Medium and large turbines generate harmonic vibrations. Depending on interaction, such effect may be magnified or reduced. There are some concerns related to vibration:

<https://www.seismosoc.org/news/study-takes-the-seismic-and-acoustic-pulse-of-wind-turbines/> Study Takes the Seismic and Acoustic Pulse of Wind Turbines

Published on 2 May 2024 Annual Meeting, News. Wind turbine on Wolfe Island, Ontario.

Richard Kohar/ Wikimedia Commons

“As wind power becomes a widespread and cost-effective renewable energy source at sites throughout the world, researchers are focusing on the propagation of seismic and acoustic waves that wind-harnessing turbines produce.

At the Seismological Society of America (SSA)’s 2024 Annual Meeting, researchers presented simulations of turbine-driven wave propagation across several frequencies and ground conditions. John Fitzgerald of Queen’s University and colleagues then compared these simulation results with observations from Wolfe Island, Ontario, the site of one of Canada’s first major wind farms.

The seismic signals from wind farms are very small and not likely to be felt by people, but people “can definitely hear and to some extent feel the acoustic signals” from these installations, Fitzgerald said.

“But there isn’t a ton of work that has been done to characterize both the ground motion and acoustic noise of these types of installations,” he explained. “We’re showing that you can do these very large simulations of an entire wind farm, and this could provide important information for planning future wind farm developments.”

Vibrations from wind turbines are likely caused by back-and-forth oscillations of the turbine shaking back and forth during operation, while acoustic waves are likely produced

directly in front of the turbine blades. Acoustic waves also can couple with the ground and create complex signals.”

As wind farms become increasingly common, it will be important to separate out the background ambient signal of turbines from the signals produced by other sources, like those used for active seismic experiments, Fitzgerald noted.

Fitzgerald and colleagues used the open-source geoscientific software package SPECFEM3D to model ground vibration and acoustic wave propagation ranging in frequency from 1 to 10 hertz across different bedrock and topsoil conditions. The team is mostly looking at low frequency signals, “on the assumption that high-frequency signals would attenuate in the broader environment,” said Fitzgerald.

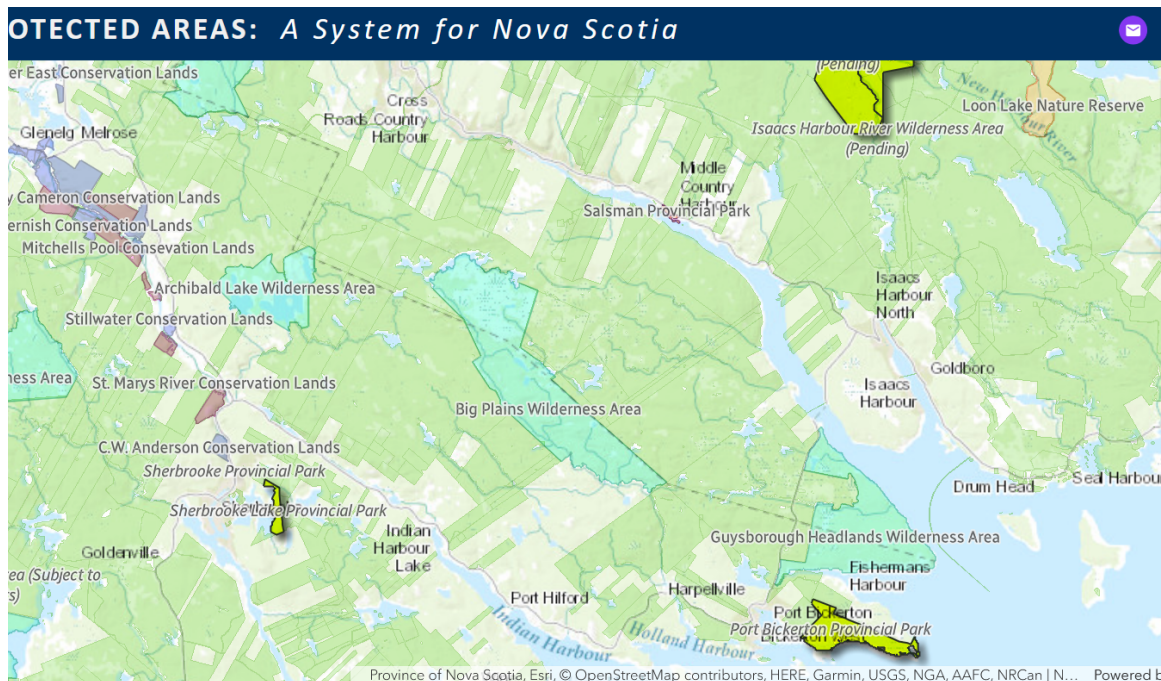
One of the next steps for the researchers will be to include realistic topography and velocity models in their simulations, since the shape of the landscape would also impact the propagation of ground vibrations and to a lesser extent acoustic waves, Fitzgerald said.

The EA notes that turbine placement should be avoided within topographic funnels, such as within lake or river valleys, to reduce the likelihood of interactions with concentrated bird movements. Such funnels may also impact sound effects as noted above, so should be avoided for valleys where there are permanent or seasonal dwellings or camps.

Landowners generally have a deeded right to quiet enjoyment of their land. To ensure that this right is maintained, sound monitoring should be carried out in various locations during construction and operations, and until decommissioning is complete. Has any consideration been given as to the worst case scenario when all turbines are operating at maximum speed, and the possible sound and vibration interactions? The potential for minor seismic activity should be assessed.

15. Wilderness Areas

The EA notes that Archibald Lake Wilderness Area, Big Plains Wilderness Area, and Guysborough Headlands Wilderness Area are directly adjacent to the Study Area and near the Assessment area. The nearest project turbines (OT57, T79, and T95) are located approximately 78 m, 301 m, and 394 m from these protected areas, respectively. The nearest nature reserve to the Study Area is Loon Lake Nature Reserve, approximately 12 km east of the Study Area. The nearest turbine is approximately 12 km southwest of this nature reserve. Port Bickerton Provincial Park is 2 km southeast of the Study Area, with the nearest turbine 3 km away. Cape Breton Highlands National Park, the nearest national park to the Project, is 168 km to the north.



The following information is taken from links to various parks and protected areas from the above map.

Guysborough Headlands Wilderness Area

Guysborough Headlands Wilderness Area (3,012 hectares) features over 40 km of remote and undeveloped ocean frontage on the Atlantic coast. The wilderness area stretches from Gage Harbour to Tor Bay, including coastal headlands at Cape Beggan, Cape St. Marys, Country Harbour Head, and New Harbour. Coastal habitats include barrier beaches and ponds, low cliffs, rock and cobble shoreline, and tidal flats. The interior portion of the wilderness area consists primarily of coastal barrens, bogs, and stunted spruce/fir forest. These habitats contribute to representation of the Guysborough Headlands Natural Landscape in Nova Scotia's protected areas network. Parts of the wilderness area can be accessed by informal footpaths, but there are currently no managed trails.

Big Plains Wilderness Area

Big Plains Wilderness Area (2,112 hectares) protects woodlands along about 12 km of Indian River and a large wetland complex south of Head Lake, known as "Big Plains". The "Big Plains" area consists of open and treed bogs and shrub-fens and is one of the defining features of this site. This wetland complex forms part of the headwaters of Indian River corridor. The woodlands along the river are comprised primarily of red maple, balsam fir, and black spruce. This wilderness area provides habitat for the endangered mainland moose and contributes to representation of the Eastern Shore Quartzite Plain Natural Landscape in the provincial protected areas network.

A powerline corridor through the wilderness area is managed and maintained under a licence between NSECC and Nova Scotia Power Inc.

Archibald Lake Wilderness Area

Archibald Lake Wilderness Area protects 687 hectares (ha) of woodlands, lakes and several small wetlands in the watershed of Archibald Brook, a tributary of the St. Mary's River. At its centre is a cluster of three lakes: Archibald Lake, McDonald Lake and Rocky Lake. The wilderness area provides habitat for brook trout and other aquatic species and helps maintain water quality and flow in the lower St. Mary's River, a noted Atlantic salmon river. Over half of the surrounding forest is classified as old forest under the Province's Old-Growth Forest Policy for Nova Scotia. Most of this forest consists of hardwood species and occurs primarily on the area's elongated hills, known as drumlins. The remaining woodlands are primarily mature or older hardwood forest on hills and mature softwood forest on flatter terrain.

Nearly the entire site consists of ecosystem elements that are poorly represented in Nova Scotia's protected areas network, including the well drained hardwood drumlins. The forest provides habitat for species that depend on or prefer old forest and supports wildlife movement or migration across the landscape (ecological connectivity value). The area is known for endangered mainland moose and numerous other species at risk.

With the lakes and surrounding hardwood hills, this is a very scenic area. It is used and enjoyed for a variety of outdoor activities, including sport fishing, hunting, camping and camp use. Three campsite leases exist on Archibald Lake. These leases will be honoured under the Wilderness Areas Protection Act. The wilderness area boundary avoids forest access roads and trails wherever practical. Vehicle access will be maintained to each of the three lakes. The road to the north end of Archibald Lake is not included in the wilderness area and remains open for use. To support closing of several old logging tracks and minimize environmental impact, the Province intends to establish alternative access points to MacDonald Lake and Rocky Lakes.

I did not see a watershed boundary map for the Project area. This would be useful, especially for the Archibald Lake area, since construction of turbines upgradient in the watershed that could cause disturbance and/or change in flow into the 3 lakes should be avoided or considered for relocation. The 3 lake cluster involving Archibald Lake should also be protected from water supply withdrawals. In the assessment of negative environmental effects that will or are likely to occur and preparation of construction, design and operations and mitigation plans, it is recommended that consideration be given to the distinct natural features of the wilderness areas in the vicinity. **Collecting baseline information and developing mitigation and monitoring measures, and full designation protection, should be given high priority.**

16. Decommissioning after the predicted 35 years of operation. Att 10 shows the EA proposals for decommissioning, though details are limited at present.

Att 10 (EA registration document)

“3.6.3 Decommissioning

Prior to decommissioning, NSECC, MODG, and MODSM will be provided with decommissioning plans for review and compliance with the Project's EA conditions. Opportunities for repowering with modern turbine components will be considered prior to entering the decommissioning phase.

Generally, the decommissioning phase will follow the same steps as the construction phase:

- *Dismantling and removal of the turbines.*
- *Decommissioning the turbine foundations as per the conditions of the land lease agreement (to approximately 1 m below surface grade).*
- *Removal, recycling (where practicable), and disposal of power collection system, conductor, and poles.*
- *Removal of all other equipment and reinstatement and stabilization of land.*
- *Access roads will either be removed or remain in place as per lease and easement agreements with the Crown and/or landowners.*

According to the Canadian Renewable Energy Association (CanREA, n.d.), up to 90% of wind turbine blades can be recycled. Additional components, such as steel from the towers, copper cables, and electrical equipment, can also be recycled or reused. Materials that cannot be recycled can sometimes be reused in other applications, such as filler in construction materials. Recent innovations in fibreglass recycling have used various chemical and mechanical means to prepare the material for reuse in other applications (Power Technology, 2024). At the time of decommissioning, it is anticipated that newer technologies will allow for a greater amount of recycling or reuse of the end-of-life turbine materials. Any material that cannot be recycled or reused will be sent for final disposal at an approval disposal facility.

Decommissioning is anticipated to take 18 to 36 months to complete.

Procedures for Dismantling

If the Project is to be decommissioned and the turbines are to be removed at the end of their service life or during construction, the procedures will be similar to the construction phase, but in reverse sequence....”

Another information source has some additional comments:

windeurope.org norwegianscitechnews.com

Types of Waste from Wind Farm Decommissioning

Decommissioning wind farms generates significant waste, primarily from the following components:

Wind Turbine Blades

- *Wind turbine blades are the most challenging waste to manage.*
- *They are made from durable composite materials that are difficult to recycle.*
- *Many blades currently end up in landfills or are incinerated due to a lack of effective recycling solutions.*

Other Components

- *Turbine Towers: Made of steel, these can often be recycled.*
- *Electrical Components: Includes wiring and transformers, which can also be recycled.*
- *Concrete Foundations: These may be crushed and reused in construction.*

Waste Management Challenges

The decommissioning process faces several challenges:

- *Landfill Ban: The European wind industry has implemented a landfill ban for wind turbine blades, effective from January 2026, which necessitates finding alternative disposal methods.*
- *Recycling Limitations: Currently, about 90% of a wind turbine's mass is recyclable, but the blades remain a significant hurdle.*
- *Increasing Volume: As more turbines reach the end of their operational life, the volume of decommissioned blades is expected to rise, potentially reaching 55,000 tonnes annually by 2030.*

Future Directions

To address these challenges, the wind industry is focusing on:

- *Circular Economy Initiatives: Developing new methods for reusing and recycling turbine blades.*
- *Investment in Facilities: Companies are investing in facilities that can handle the recycling of composite materials.*
- *Regulatory Support: Calls for new waste codes to better manage wind turbine waste and promote sustainable practices.*

These efforts aim to minimize environmental impact and enhance the sustainability of wind energy as a renewable resource.

17. Plans to be developed

The EA refers to various types of plans to be developed later. Some of these could have been part of the EA. If submitted later, will they be available for review and comment by the public?

- Should blasting be required, a **Blasting Management Plan** will be developed to ensure that appropriate setback distances are maintained, or mitigations are implemented to protect fish and fish habitat from the potential impacts of blasting. Since blasting will likely be required on part of the site, this plan should be required.
- **Watercourse monitoring plan**, if required as part of the permitting phase, may include hydrological, sediment, and stability assessments upstream, downstream, and at the crossing of the watercourse”. This should be required.
- **Changes in surface water quality** can arise from alterations to the surrounding environment and can include an increase in water temperature from decreased shade, an increase in pollutants from machinery and infrastructure, and the mobilization of sediments. Given the dynamic nature of channeling water, effects on water quality can quickly spread throughout different reaches of the respective watershed. Water quantity should also be taken into account.

- **Water supply contingency plan** for water supplies impacted by the Project (quantity, quality).
- **Sensory Disturbance** Various mitigation measures are suggested. Monitoring stations should be set up to monitor noise, vibration, light and flicker, especially where there are nearby homes, cottages, camps, etc.
- **Surface Water Management Plan** to support appropriate drainage around turbines and limit standing water, which will limit insect breeding near turbines and thus reduce potential for the attraction of bats to areas surrounding turbines.
- **Develop and implement a Terrestrial Habitat and Wildlife Management Plan.** Could this be included in the EA rather than be developed later?
- A detailed **Post-Construction Bat Monitoring Plan** will be developed and submitted to NSECC and NSNR for review. Monitoring activities may include:
 - Post-construction bat mortality monitoring.
 - Adaptive management if post-construction monitoring identifies significant bat mortality, developed in consultation with NSNR”
 - The Proponent is committed to completing a second year of the baseline bat monitoring program, prior to operations, as per requirements under the NSECC Environmental Assessment Supplemental Checklist: Wind Energy Projects.” Will this be available for public review and comment?
- Develop a **spill response plan** (within the Contingency Plan), equip site machinery with spill kits, and instruct site personnel on their use.

18. Property Value

The EA notes that “Potential effects on property value are often a concern of neighbouring residents due largely to anecdotal reports of drastic declines in property values following the nearby installation of a wind energy facility (Gulden, 2011). Despite these concerns, many rigorous and statistically defensible studies have concluded that wind energy developments have had no significant effect on surrounding property values.”

The EA should be required to report findings from a similar development as the magnitude of the Ocean Lake and Harbour Hills projects, since these are much larger in number and height and power than anything else in NS to date. Personally, I would not purchase property near a proposed or existing wind turbine farm.

19. Tourism

I believe that tourism will be negatively affected, as the aesthetics of multiple turbines over a very large area take away from the natural beauty of the area.

20. Safety

The EA notes plans to develop and implement a Project-specific Contingency Plan that includes a fire safety plan, and interact with local fire departments for input and awareness. The plan to engage with first responders on site access and availability of water resources for fire suppression. “Fires in wind farms are most often caused by lightning strikes, mechanical and hydraulic faults, and electrical installation failure”.

As noted earlier, recent wildfires in NS have been mainly human-caused. With anticipated increase in OHV use, there should be increased surveillance in the area, e.g., by helicopter, drone, police presence?? Are personnel and financial resources available for this?

21. Summary

In summary, a number of concerns/comments have been brought forward for consideration. One of the biggest concerns is the lack of data from a comparable onshore site. This project, in combination with nearby Ocean Lake, has the highest turbine density, height and power of any other onshore wind farms in NS. Some areas with lower KW hour turbines have much fewer turbines. If comparable projects are not available, the Harbour Hills project should be considered as experimental and be put on hold until there is similar data available, e.g., from the Ocean Lake project (say 2 to 5 years of operational data?).

There are additional plans to be completed later. It would be more effective if they were completed in the EA for review and comment. Some examples include Blasting Management Plan, Watercourse monitoring plan, Changes in surface water quality and quantity, Terrestrial Habitat and Wildlife Management Plan, sound and vibration monitoring, Surface Water Management Plan, Water supply contingency plan, safety and spill response plan.

Mega-projects such as this should be assessed in provincial context for effects on environment, aesthetic, tourism, etc. within the total additive effects of wind turbine development. There should be some kind of limit established for the province, and establishment of turbine-free zones to reduce impact on people, wildlife and the environment; and to preserve the natural unspoiled beauty of the province and its aesthetic appeal to tourists.

Although steps are being taken to simplify decommissioning, there is a large volume of waste which currently has no real use.

There should be consideration of environmental fees/bonding for possible future unknown effects of the project.

Appendix A

Examples of turbine effects on water wells

1. Cross, C. 2019. Editorial - Problem Solvers. Ground Water Canada, Summer edition.
Cross, C. 2019. Turbidity and turbines. Ground Water Canada, Summer edition.

Chatham-Kent (Ontario) homeowners saw issues such as:

- brown & black sediment cloud their water & clog their home filtration systems
- expelled gases
- very fine particulates
- saw & smelled slimy biofilm in their water
- worried about possible negative effects of drinking the water and bathing in it.

Despite strong evidence of well interference by industrial turbines, the Ontario government and the wind industry have not acknowledged a link between turbines and well problems. One thought was vibration patterns during operation causing seismic coupling. The current status is unknown.

2. Clarke, B. 2018. Bad vibrations, Ontario wind turbine project linked to well impairment. Groundwater Canada Spring edition.

Within months of operation, many wells in the Dover area were pumping groundwater that was highly turbid, expressing itself as everything from cloudy water to totally plugging up the pressure tanks; often including dark particulates.

The number of affected wells is unknown since the agreements to place towers on private land also included gag orders that prevented the residents from reporting any detrimental affects on the quality of the well water. The current status is unknown.

3. Camilleri, C. 2023. Turbines and water. Groundwater Canada Fall edition.

Turbine construction involved pile driving (100-foot H beams, 25 per turbine, for five turbines). A lot of people lost their water. Others found particulates so fine that they could not be filtered out. People had to bring home five-gallon jugs of drinking and cooking water.

Some health issues were reported - fatigue, tinnitus, heart palpitations, and nausea, plus the many toxic materials used to construct and run the turbines as health issues.

In Chatham Kent, the problem worsened to the point that well water was unsuitable for bathing, let alone drinking. Farmers were worried about using it on crops for fear it would poison the food.

The heart of the issue for water well owners is the vibration from constructing and operating the wind turbines. Benn says the turbidity of the water is constant for some people, and for others, it tends to wax and wane depending on wind direction and intensity. "These wind turbines are built on top of pilings that are driven right through the aquifer and into the bedrock. When those wind turbines are operating, they're necessarily going to send maybe long wavelength vibrations, something like micro-seismic vibrations, into the aquifer," he says. "And I think those vibrations may well be causing liquefaction of the aquifers, such that the solid part of the aquifer, the gravel, silt, and clay that normally would behave as a solid and just let the water flow through, become liquefied, such that those particles then flow with the water and come up the water wells. For some people, like Christine Burke, this seems to happen all the time, every day."

In 2019, the Ministry of Health put out an RFP for an independent third-party vendor to collect and test water and sediment samples from private water wells. Sediment was not collected. The current status is unknown.