NOVA SCOTIA
Environment and Climate Change

Comment Index

Wedgeport Wind Farm Project

Publication Date: May 4, 2023

Government

Number	Source	Date Received
1	Health Canada	March 15, 2023
2	Impact Assessment Agency of Canada	March 28, 2023
3	Nova Scotia Department of Environment and Climate Change - Inspection, Compliance and Enforcement Division	April 12, 2023
4	Nova Scotia Department of Environment and Climate Change - Sustainability and Applied Science Division (Environmental Health & Food Safety)	April 12, 2023
5	Nova Scotia Department of Fisheries & Aquaculture	April 12, 2023
6	Nova Scotia Department of Public Works	April 13, 2023
7	Nova Scotia Department of Communities, Culture, Tourism and Heritage	April 13, 2023
8	Nova Scotia Department of Municipal Affairs and Housing	April 13, 2023
9	Nova Scotia Department of Agriculture	April 13, 2023
10	Nova Scotia Department of Environment and Climate Change - Sustainability and Applied Science Division, Water Resources Management Unit (Surface Water, Groundwater and Wetlands)	April 13, 2023
11	Nova Scotia Department of Environment and Climate Change – Climate Change Division	April 14, 2023
12	Fisheries and Oceans Canada	April 14, 2023
13	Nova Scotia Office of L'nu Affairs	April 14, 2023
14	Transport Canada	April 14, 2023
15	Nova Scotia Department of Natural Resources and Renewables	April 17, 2023
16	Nova Scotia Department of Environment and Climate Change - Sustainability and Applied Science Division (Air Quality Unit)	April 17, 2023
17	Environment and Climate Change Canada	April 18, 2023
18	Nova Scotia Department of Environment and Climate Change - Sustainability and Applied Science Division (Protected Areas and Ecosystems Branch)	April 21, 2023

NOVA SCOTIA
Environment and Climate Change

Nova Scotia Mi'kmaq

Number	Source	Date Received
1	Maritime Aboriginal Aquatic Resources Secretariate (on behalf of the Native Council of Nova Scotia)	April 14, 2023
2	Kwilmu'kw Maw-Klusuaqn Negotiation Office (KMKNO)	April 18, 2023

Public

Number	Source	Date Received
1	Anonymous	March 26, 2023
2	Anonymous	March 29, 2023
3	Anonymous	April 12, 2023
4	Anonymous	April 12, 2023
5	ScotianWEB LP	April 14, 2023

Health Canada Santé Canada

Human Health Considerations in Environmental 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.)	Section 7.1.3 of *Health Canada. 2019. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* *https://publications.gc.ca/site/eng/9.870475/publication.html*

	• 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: o impacts to air quality (dust or fumes including $PM_{2.5}$, NO_x, SO_x, PAHs) o increased noise from construction or operations	*Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* http://publications.gc.ca/pub?id=9.832514&sl=0 *Health Canada. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* http://publications.gc.ca/pub?id=9.802343&sl=0
	• 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 accidents or malfunctions, such as a fuel spill; by dust and	• 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.	*Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* http://publications.gc.ca/pub?id=9.832511&sl=0
	• 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.	

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.	• 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.	*Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* http://publications.gc.ca/pub?id=9.855584&sl=0

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

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. http://publications.gc.ca/pub?id=9.832514&sl=0

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. 2016. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. http://publications.gc.ca/pub?id=9.802343&sl=0

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. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. http://publications.gc.ca/pub?id=9.832511&sl=0

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. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. http://publications.gc.ca/pub?id=9.855584&sl=0

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. 2019. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. https://publications.gc.ca/site/eng/9.870475/publication.html

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.

Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

Suite 200
1801 Hollis Street
Halifax NS B3J 3N4

Bureau 200
1801 rue Hollis
Halifax, NE B3J 3N4

Date: March 28, 2023

To: Mark McInnis, Environmental Assessment Officer, Nova Scotia Department of Environment and Climate Change

From: Trevor Ford, A/Project Manager, Impact Assessment Agency of Canada

Subject: Wedgewood Wind Farm Project

The federal environmental assessment process is set out in the *Impact Assessment Act* (IAA). The *Physical Activities Regulations* (the Regulations) under IAA set out a list of physical activities considered to be "designated projects." For designated projects listed in the Regulations, the proponent must provide the Agency with an Initial Description of a Designated Project that includes information prescribed by applicable regulations (*Information and Management of Time Limits Regulations*).

Based on the information submitted to the Province of Nova Scotia on the proposed Wedgewood Wind Farm Project, it does not appear to be described in the Regulations. Under such circumstances the proponent would not be required to submit an Initial Description of a Designated Project to the Agency. However, the proponent is advised to review the Regulations and contact the Agency if, in its view, the Regulations may apply to the proposed project.

The proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on his or her own initiative, by order, designate a physical activity that is not prescribed by regulations made under paragraph 109(b) if, in his or her opinion, either the carrying out of that physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation. Should the Agency receive a request for a project to be designated, the Agency would contact the proponent with further information.

The proposed project may be subject to sections 82-91 of IAA. Section 82 requires that, for any project occurring on federal lands, the federal authority responsible for administering those lands or for exercising any power to enable the project to proceed must make a determination regarding the significance of environmental effects of the project. The Agency is not involved in this process; it is the responsibility of the federal authority to make and document this determination.

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

Thank you,

Trevor Ford

A/Project Manager, Atlantic Regional Office
Impact Assessment Agency of Canada / Government of Canada
Trevor.Ford@iaac-aeic.gc.ca / Tel: 902-476-7635

I/Gestionnaire de projets, Bureau régional de l’Atlantique
Agence d’évaluation d’impact du Canada / Gouvernement du Canada
Trevor.Ford@iaac-aeic.gc.ca / Tél. : 902-476-7635

NOVA SCOTIA
Environment and Climate Change

Date: April 12, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Paul Jones, District Manager, Yarmouth

Subject: **Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Environment ACT : Watercourse Alteration and Wetland Alteration

Technical Comments:

Watercourse and Wetlands:

Identified concerns regarding road construction and the impact on watercourse and wetlands. Suggested that the proponent make any contractor(s) responsible for road construction be aware of watercourse and or wetland alteration requirements in the event that they unexpectedly run into a previously unidentified watercourse or wetland; and that they have access to a certified watercourse alteration specialist to assist if required.

Reclamation :

Reclamations Plans should not be permitted to use salvage values of equipment or infrastructure to fund rehabilitation work. Consider adding a condition requiring the proponent to supply a full cost reclamation plan indexed for inflation and commitments to reserve sufficient funds (bonding would be preferred). This may be something to add to the windmill proponents guide if it cannot be accomplished on this project.

6.3.8 Mobile Concrete Batch Plan:

Mobile concrete batch plants used on the project shall have an approval from NSECC.

Summary of Technical Considerations: (provide in non-technical language)

- Assessment of the road construction area should be conducted to identify all watercourse and or wetland to be potentially impacted.
- Reclamation should be reviewed. Reclamation should not be linked to salvage cost of equipment and materials. There is no way to know what the value of the equipment and or material would be, in the future, at the projects end of life.
- Concrete Plants and Concrete Batch Plants are required to have an active approval with NSECC.

NOVA SCOTIA
Environment and Climate Change

Date: April 12, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Environmental Health Consultant, Environmental Health and Food Safety;

Subject: Wedgeport Wind Fam Project, Yarmouth County, Nova Scotia

Scope of review:

The focus of this Environmental Assessment Review is potential impacts on human health. In general, the scope of this review includes the assessment of the potential for the proposed undertaking/project to adversely affect human health in all phases of the project.

Technical Comments:

Shadow Flicker

• Shadow flicker is the alternating periods of shadow and light that occur when a wind turbine is between the sun and a receptor. The sun shining through the spinning turbine blades causes this effect.
• Proponents must demonstrate through modelling that no receptor will receive 30 minutes or more per day, and/or 30 hours or more per year of shadow flicker.
o discuss the methods to be used to monitor shadow flicker throughout the life of the development.
o discuss the methods to be used to mitigate shadow flicker should modelling be inaccurate or shadow flicker be in excess of 30 minutes per day, and/or 30 hours or more per year.

Shadow flicker potential has been assessed by the proponent via theoretical and actual case modeling. Theoretical modeling is based on worst case scenario, while actual case modeling incorporates site specific wind conditions and monthly sunshine probabilities into the analysis.
It has been noted that multiple receptors would not meet the threshold for shadow flicker if assessed only via theoretical models. However, when the model incorporates site specific conditions, shadow flicker hours are significantly reduced, and levels fall below the required threshold.

Additionally the proponent has proposed the below mitigations including the possibility of changes to turbine operations if required.

“Wedgeport Wind is committed to operating the Project to be in compliance with the NSECC guidelines for shadow flicker (30 hours/year and/or 30 mins/day). A Complaints Resolution Plan and CLC will be developed for the Project. Upon notice of a landowner issue with shadow flicker, Wedgeport Wind will request as much detail as possible to assist with prompt resolution of the issue, including the dates that shadow flicker occurred and the start and end time and a short video of the shadow flicker, if possible. Wedgeport Wind will send a representative to the Project site to investigate the issue, including to determine the time of day that the issue is occurring and the turbines that are causing the shadow flicker for the landowner. Wedgeport Wind will propose and offer to implement appropriate mitigation measures to limit the amount of shadow flicker from the Project to a maximum of 30 hours per year and/or 30 minutes per day at the residence. Mitigation measures may include the installation of blinds, curtains, or other screening devices. In extreme situations where other mitigation measures do not mitigate shadow flicker concerns at a receptor location (permanent dwelling), and there is a confirmed exceedance to the NSECC guidelines, Wedgeport Wind will investigate changes to turbine operations, such as turbine curtailment to ensure compliance with NSECC guidelines.”

PO Box 2223
Halifax, Nova Scotia
B3J 3C4

NOVA SCOTIA

Fisheries and Aquaculture

Date: April 14, 2023

To: Mark McInnis, Environmental Assessment Officer, Nova Scotia Environment and Climate Change

From: Lesley O'Brien-Latham, Executive Director, Policy and Corporate Services Nova Scotia Department of Fisheries and Aquaculture

Subject: Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia – Environmental Assessment

Thank you for the opportunity to review the Wedgeport Wind Farm Project documents.

Based on the information you provided, the Department of Fisheries and Aquaculture has the following comments:

- The proposed Wedgeport Wind Farm is a land-based project. Adherence to established policies and guidelines should result in very little risk to marine activities and interests within the Nova Scotia Department of Fisheries and Aquaculture's mandate.

- This project should not have any negative impact on sportfishing.

- Within 25km of the proposed development, there are 2 marine aquaculture sites in abeyance, 17 issued marine sites, 5 rockweed leases, 3 land-based sites, and 3 proposed sites.

NOVA SCOTIA
Public Works

Johnston Building
1672 Granville Street
Halifax, Nova Scotia
Canada B3J 2N2

Date: 11 April, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Environmental Services, Nova Scotia Public Works

Subject: **Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Traffic Engineering and Road Safety Impacts for the Wedgeport Wind Farm Project

Technical Comments:

1. Table 15-1 Other Approvals Required (Pg 316) indicates under Provincial Approvals a Blasting Permit (Dept. of Labour) and a Special Moves Permit (Access Nova Scotia). Due to the accesses that are planned off Black Pond Road and Comeau's Hills Road, there would most likely also be a requirement for a Working Within Highway Right of Way Permit. This is available from the Local Area Manager.

2. Transportation issues have several different sections in the report. However, the most concise section is on page 301 which indicated a potential increase in truck traffic for the project. It is not noted how much it would increase by, however; it is indicated there may be delays in traffic upon turbine component delivery.

3. Any traffic delays will need to be assessed, and a proper route analysis must be completed. This will also include any delays due to blasting (as indicated in Point 1), as well as any potential impact to Overhead Power Line work, which is mentioned in the report. If there is a requirement for Traffic Control Plans, these must be provided by the proponent and reviewed by the local Traffic Authority. The local Area Manager is the main point of contact for this.

4. As indicated in Point 1, the new access points are referenced in the report. Any work areas created as a result must be in compliance with the appropriate section of the Nova Scotia Temporary Workplace Traffic Control Manual.

5. A route analysis (as indicated in Point 2) must be completed for the Special Moves Permit. The proponent should contact our Departmental Contact for Special Moves as soon as possible to confirm next steps (inclusion of turbine specs for example).

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

1. Contact Local Area Manager for any Working Within Highway Right of Way Permit that may be required. This would also be the first contact for any issues to do with road closures, traffic related concerns or spring weight restrictions.

2. Any traffic control plans (as required) must be prepared by the proponent, follow the appropriate guidelines of the Nova Scotia Temporary Workplace Traffic Control Manual, and be approved by the Local Traffic Authority.

3. Once a Special Moves Permits is required, please contact our Departmental Contact for Special Moves, Manuel Abreu, for any required information. His email address is **Manuel.Abreu@novascotia.ca**.

NOVA SCOTIA

Communities, Culture, Tourism and Heritage

1741 Brunswick Street
3rd Floor
P.O. Box 456
Halifax, NS
B3J 2R5

Date: April 13, 2023

To: Mark McInnis, Nova Scotia Environment & Climate Change

From: Coordinator Special Places, Culture and Heritage Development

Subject: Wedgeport Wind Farm Project - EA Registration

Staff of the Department of Communities, Culture, Tourism, and Heritage has reviewed the Wedgeport Wind Farm Project - EA Registration documents and have provided the following comments:

Archaeology

Staff reviewed the sections of the EA document pertaining to archaeology. The EA document is generally fine regarding the work done by CRM Group under A2022NS180. There is some confusion regarding the earlier ARIA done for the Wedgeport Wind project that needs clarification.

The EA Appendix O has the 2022 report front page and the letter from SPP agreeing with the findings. Super. Appendix P has the front page of Laird Niven's A2012NS120 report but no letter from SPP. There should be the report letter from SPP signing off on the work.

I also found an email trail between Anna and April MacIntyre of DM&A, noting the following about Wedgeport Wind Farm: A2011NS120, L. Niven, no work. A2012NS034, L. Niven, no work.

The correspondence from Laird was that the work was put on hold due to public outcry. The original locations of turbines are no longer valid because they will have to be moved further back from dwellings and all work on the project has ceased.

A2012NS129, S. Davis, this was for a single turbine location.

Finally, the CRM Group Report noted in the EA, A2022NS180, says that the present development plan includes only 2 of the original set Laird investigated.

I think we need to ensure we have a report letter signing off on the ARIA that includes any original 2012 turbine locations that were also covered by CRM Group Ltd. Do we need to note

the DM&A ARIA and cover letter? Is that single turbine location assessment something covered by Kyle at CRM Group? Hopefully, Kyles's report explains it all.

Updated: I just looked at Kyle's 2022 report and they investigated all the turbine sites (14). I wanted to check that they looked at everything instead of relying on the 2012. That was 10 years ago and methods have improved a lot.

So, do we need a 2012 report letter in the Appendix P of the EA document or should we ask that Appendix P be removed since the 2022 ARIA is a fresh, up to date assessment? If we don't want to add the 2012 report letter we should remove the Appendix P.

Botany

Staff have review the sections of the EA document pertaining to botany. Offsets for SAR lichens and plants are appropriate.

Some invasive plants were detected during plant surveys (e.g., Glossy buckthorn, False Helleborine, Multiflora Rose, Reed Canary Grass). Soil from around such plants should be buried or disposed of offsite rather than being retained for reclamation, to avoid spreading these damaging species.

Although highbush blueberry is not at risk, and may even be able to co-exist with the turbines in the long run, collection of a specimen (from areas where the plants are likely to be damaged) for the Provincial Museum would be worth-while as part of the permanent record for that species in the province.

In section 13, the estimated GHG emissions of the project are accounted for from construction, operation & maintenance, and decommissioning and reclamation phases, but as currently presented, there is no way to understand how the EA writers arrived at their estimated emissions values, and some of them seem questionable. Several hundred tonnes of steel, copper, and other materials will be going into these turbines, and they must be transported to the site from international markets, at significant GHG cost. The cost of this can be estimated using standard industry reports, as other consulting firms have recently done for wind power EAs in Nova Scotia. For example, in the recently reviewed Goose Harbour EA Registration Document (2023), GHGs from the production and transportation of concrete and steel for 29 turbines were estimated to be about 60,600 tonnes of CO_2e, and this was accounted for as part of the construction phase of the project. At present the EA document for the Wedgeport Wind Farm estimates about 267 tonnes of CO_2e during the construction phase, a value that seems inappropriately small.

Palaeontology

Staff have reviewed the sections of the EA document pertaining to palaeontology. The surficial and geology maps related to the project site were reviewed. There are no concerns of potential fossil material within the project area with granite bedrock geology.

Zoology

Staff have reviewed the sections of the EA document pertaining to palaeontology to zoology. The document highlights several cases where there are SOCI/SAR species among several taxonomic groups that are within and/or immediately outside the study area. It appears to be a reasonable assessment of the zoological setting for the site and immediate-adjacent area.

NOVA SCOTIA
Municipal Affairs and Housing
Municipal Affairs

Floor 8 North, Maritime Centre
1505 Barrington Street
PO Box 216
Halifax, NS Canada B3J 2M4
novascotia.ca

DATE: April 12, 2023

TO: NS Department of Environment and Climate Change

FROM: Department of Municipal Affairs and Housing

SUBJECT: **WEDGEPORT WIND FARM PROJECT**

As requested, the Department of Municipal Affairs and Housing (DMAH) has reviewed the Environmental Assessment Registration Documents for the proposed Wedgeport Wind Farm Project. Although we have found nothing of concern respecting the Department's areas of mandate, we would like to remind the proponent to ensure that they have undertaken adequate consultation with the Municipality in order to confirm conditions for compliance with municipal planning policies and by-law provisions.

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

NOVA SCOTIA
Municipal Affairs and Housing
Municipal Affairs

Floor 8 North, Maritime Centre
1505 Barrington Street
PO Box 216
Halifax, NS Canada B3J 2M4
novascotia.ca

DATE: April 12, 2023

TO: Mark McInnis, Environmental Assessment Officer

FROM: Department of Municipal Affairs and Housing

SUBJECT: **Wedgeport Wind Farm Project, Yarmouth County**

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

Technical Comments:

On several occasions, the proponent has engaged with senior staff, members of Council and the Chief Administrative Officer of the Municipality of the District of Argyle. The proponent is aware of and has discussed with municipal officials the role of the Municipal Planning Strategy and Land Use By-law for the area, which has provisions to permit, support and regulate wind turbines.

Statements of Provincial Interest:

- Drinking Water: No adverse impacts on public drinking water supplies
- Agricultural Land: No areas of high capability agricultural land are impacted by the proposed project.
- Flood Risk: No known (mapped) areas that are at risk from flooding.
- Infrastructure: No impact to municipal infrastructure.
- Housing: The proposed project does not affect housing.

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

There are no outstanding information and/or conditions. All components considered under the Department's areas of mandate have been adequately addressed.

NOVA SCOTIA

Agriculture

60 Research Drive
Suite A
Bible Hill, Nova Scotia
B6L 2R2

Date: April 4, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Heather Hughes, Executive Director, Policy and Corporate Services, Nova Scotia Department of Agriculture

Subject: Wedgeport Wind Farm Project
Little River Harbour, Yarmouth County, Nova Scotia

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

No agricultural impacts are anticipated given that:

- The Wedgeport Wind Farm Project is located on class 7 soil, Canada Land Inventory, which is unsuitable for agriculture.
- There are 87ha of agricultural land within 5km of the study area.
- The closest active agricultural land is 1.2km from the nearest proposed wind turbine.

NOVA SCOTIA
Environment and Climate Change

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

Date: April 13, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Water Resources Management Unit, Sign-off by Elizabeth Kennedy, Director Water Branch, Sustainability and Applied Science Division

Subject: **Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia**

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

- Surface water quantity and quality
- Groundwater quantity and quality
- Wetlands

Technical Comments:

Surface water quantity and quality

The proponent used appropriate buffers and sited project elements to avoid surface watercourses where possible to prevent direct impacts to surface water. One new watercourse crossing was proposed in the EARD, which also correctly identified the Watercourse Alteration process that the construction of this crossing will be subject to.

The EARD identified moderate erosion and sedimentation risks associated with the Project and named appropriate general mitigation measures. To ensure that this risk is adequately addressed in a manner appropriate to the site during all Project phases it is recommended that an erosion and sediment control plan be developed by a qualified professional and be submitted before clearing and grubbing occur.

The EARD commits to maintaining the existing natural drainage patterns to avoid indirect impacts to wetlands by constructing appropriate cross-drainages with the construction of 8.48 km of new road. It is recommended that a surface water management plan that includes the locations and sizing of these cross-drainage features be developed by a qualified professional engineer to ensure avoidance of any potential impacts before construction begins.

The EARD proposes a minimum setback of 30 m from any watercourse or wetland to mitigate risks from refueling equipment. This is an appropriate mitigation, and it should be expanded to include the following activities: lubrication of equipment; washing of machinery or equipment; and storage of equipment, excavated/stockpiled materials, and potential contaminants. Additionally, areas selected for these activities should be situated such that a release would not enter a surface watercourse or wetland.

Groundwater quality and quantity

The proponent has proposed mitigations to reduce the potential for impacts on groundwater quantity, including a project contingency plan for outlining prevention and response for spills.

The EARD identified groundwater wells within the study area; with wells being located greater than 1000 m from proposed turbine sites. However, there is uncertainty as to if blasting will be required as a part of the project, either for road construction or for the turbine construction. No pre-blast survey mitigations were proposed by the proponent.

Wetlands

In general, the proponent did a thorough job in predicting direct and indirect impacts to wetlands and made modifications to the final Project Layout to reduce impacts to wetlands. No Wetlands of Special Significance (WSS) are anticipated to be altered by the Project and aligns with Objective 1 of the Nova Scotia Wetland Conservation Policy.

Summary of Technical Considerations:

If the project is approved, ECC should consider the following EA Terms and Conditions:

- Submit a surface water management plan, prepared by a qualified professional engineer, for review and acceptance prior to commencement of the Project. The plan shall include, not be limited to, a discussion of local hydrology, sufficient detail identifying potential effects from road or other project element construction on local surface water drainage patterns, identification for avoidance or mitigation measures for the protection of the environment (e.g., wetlands and watercourses), and justifications for final proposed designs and operations prior to construction activities at the Site.

- Submit a detailed erosion and sediment control plan, prepared by a qualified professional, for review and acceptance prior to construction activities including clearing, grubbing, and stripping, take place.

- Establish a minimum buffer distance of 30 m from any surface watercourse or wetland for the following activities: fuel storage, refueling, and/or lubrication of equipment; washing of machinery or equipment; and storage of equipment, excavated/stockpiled materials, and potential contaminants.

- If blasting is required the proponent should submit a blasting plan, prior to blasting, for review and acceptance. The plan should include completed pre-blast surveys for structures within 800 m of the point of blast, including water quality analysis for water wells within the same area. A detailed blast monitoring plan and a blast damage response policy should also be provided.

- In order to ensure that any unexpected impacts on groundwater users are mitigated, a condition requiring the replacement of any impacted water supply should be included within the EA Approval.

- All wetlands proposed to be partially or completely altered are required to go through the Wetland Alteration Approval Application process.

- All wetlands proposed to be partially altered or anticipated to be indirectly impacted by the Project are required to be monitored for a minimum of a five-year period. Monitoring should include but not be limited to: vegetation transects/plots, hydrological assessments, and general observations. The wetland monitoring plan is to be submitted to a NS ECC Wetland Specialist for review prior to implementation.

- An Environmental Protection Plan (EPP) should be submitted to NS ECC prior to construction of the Project. All wetland mitigations highlighted in the EARD should be incorporated into the EPP.

NOVA SCOTIA
Environment and Climate Change

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

Date: **April 14, 2023**

To: **Mark McInnis, Environmental Assessment Officer**

From: **Climate Change Division**

Subject: **Wedgeport Wind Fam Project, Yarmouth County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Climate Change - Adaptation

Technical Comments:

Adaptation:

- The EA registration document includes a description of the local climate (Yarmouth Airport Climate Station) based on climate data from 2019-2022 (Section 12.1.1). The 'Guide to Considering Climate Change in Project Development in Nova Scotia' recommends at least 30 years of climate data to adequately assess climate variability.
- The VEC sections of the EA registration document do not consider climate change impacts and projections for the site as per the provincial 'Guide to Preparing an EA Registration Document for Wind Power Projects'. For example, the document does not provide climate projections for temperature or other climate variables relative to climate normals and indicate how projected climate changes may impact the various phases of the project.
- The EA registration document does not indicate how the detailed project design (e.g., water management systems) will be informed by climate projection data.
- The EA registration document does not identify potential effects of climate change on the undertaking (e.g., how is wildfire hazard, sea level rise, temperature and precipitation expected to change at the site) and mitigative measures within a risk management framework, as recommended in the 'Guide to Considering Climate Change in Project Development in Nova Scotia'.

Mitigation

- The proponent has estimated the potential emissions to be expected from the construction phase of the project to be roughly 796.4 metric tonnes of carbon dioxide.

- The proponent proposes mitigation steps that are sufficient for the sources and levels of greenhouse gas emissions expected.

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

Adaptation

- The proponent should use at least 30 years of climate data to adequately assess climate variability and characterize the local climate as per the province's 'Guide to Considering Climate Change in Project Development in Nova Scotia'.
- The VEC sections of the EA registration document should include climate change projections for the site as per the 'Guide to Preparing an EA Registration Document for Wind Power Projects' and indicate how these climatic changes relative to climate normals may affect the undertaking, which may help identify opportunities for mitigation. The latest CMIP6 climate projection data and updated IDF curves are available at climatedata.ca.
- The EA registration document should indicate how the detailed project design will consider these climate projection data (e.g., IDF curves based on climate projections will be used during the design of the project structures and erosion and sediment control measures).
- The proponent should consider adopting a risk management framework as recommended in the 'Guide to Considering Climate Change in Project Development in Nova Scotia' to determine which impacts present the highest risks to the various phases of the project and to assist in the determination of priorities for implementing adaptation measures, where required.

Mitigation

- It would be useful but not highly recommended, given the levels of expected greenhouse gas emissions, to provide background assumptions to the estimated greenhouse gas emissions for the construction phase.

Fisheries and Oceans Canada | Pêches et Océans Canada

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

Date: April 14, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Laura Watkinson, Linear Development, Regulatory Review Biologist, Fish and Fish Habitat Protection Program; Sign-off by Sarah MacLeod, A/Senior Biologist

Subject: Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia

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

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

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

Technical Comments:

Risk Assessment: Wetland Assessment	
Identify Gap/Risk	Impacts to fish and fish habitat from wetland alterations are not clearly outlined. For example, wetland 42 (WL42) is listed in Table 13-10, in section 13.4.1.1 of the Environmental Assessment Registration Document (EARD), with a proposed direct impact of 279 square meters. WL42 was noted as being associated with surface water and open water features, and all open water features were presumed to be accessible to fish (page 285 of the EARD, in section 12.4.2.1). However, the impacts to WL42 were not included in the summary of impacts to fish and fish habitat in section 13.4.2.2.
Can it be addressed in another permit/approval	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO-FFHPP regulatory review process. All works, undertakings, and/or activities, impacting fish bearing wetlands, or wetlands contiguous with fish

or with a T&C?	bearing watercourses, will require DFO review to address local and cumulative impacts to fish and fish habitat.
Define/provide detail	Ensure all impacts to fish bearing wetlands, or wetlands contiguous with fish bearing watercourses are captured in project impacts and submitted to DFO for review. Additional information will be required as part of the DFO-FFHPP regulatory review process, including, but not limited to: final number of impacted fish bearing wetlands and/or wetlands contiguous with fish bearing watercourses, site specific hydrological and fish habitat assessments, site specific impacts to fish and fish habitat including delineated footprint below the ordinary high water mark, cumulative impacts, site specific impacts to aquatic species at risk, and site specific impacts to riparian habitat.
Risk Assessment: Watercourse Crossing Designs:	
Identify Gap/Risk	Specifics related to the proposed watercourse crossing are not yet determined.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO-FFHPP regulatory review process. All new watercourse crossings will require DFO review, to address local and cumulative impacts to fish and fish habitat, including potential impacts to aquatic species at risk.
Define/provide detail	Additional information will be required as part of the DFO-FFHPP regulatory review process, including, but not limited to: final number of proposed watercourse crossings (new and upgraded), location and designs drawings for specific watercourse crossings, rationale for crossing types, site specific hydrological and fish passage assessments, site specific impacts to fish and fish habitat including delineated footprint below the ordinary high water mark, cumulative impacts, site specific impacts to aquatic species at risk, and site specific impacts to riparian and contiguous wetland habitat.

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

DFO-FFHPP recommends the proponent consider:

- Submitting detailed information on the proposed watercourse crossing and wetland alteration designs, and identifying potential impacts on fish and fish habitat (local and cumulative), including potential impacts to aquatic species at risk, and indirect hydrological impacts; and

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

This information can be provided through the NSECC watercourse and/or wetland alteration approval process(es) and/or through submission of a DFO Request for Review application to DFO, to conduct a regulatory review of the project, to identify potential impacts to fish and fish habitat and to determine if an authorization under the *Fisheries Act* and/or a *Species at Risk* permit is required.

Date: April 14, 2023

To: Mark McInnis, Environmental Assessment Officer

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

Subject: Wedgeport Wind Farm Project, Little River Harbour, Nova Scotia

Scope of review:

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

Technical Comments:

Section 7.6 Mi'kmaq Ecological Knowledge Study (MEKS)

This section states that as part of the 2012 EARD, a Mi'kmaq Ecological Knowledge Study (MEKS) was completed by Membertou Geomatics Solutions and in 2022, Indigenous Environmental Services (IES) completed a second MEKS for the Project. The 2012 MEKS documented that traditional use activities occurred within the 2012 Project site and within 5 km of the 2012 Project, including fishing, hunting, and gathering. Regarding the 2022 MEKS, community engagement was limited to discussions with Sipekne'katik First Nation regarding their internal governance protocols and no new information about the practice of traditional use activities was provided by Sipekne'katik First Nation. It is noted that no other Mi'kmaq communities responded to the engagement requests from IES. As such, the consultant was unable to provide updates to the results of the 2012 MEKS or to confirm if the conclusions presented in the 2012 MEKS remain valid.

Summary of Technical Considerations: (provide in non-technical language)

Crown consultation with the Mi'kmaq of Nova Scotia is ongoing for this Project. The Mi'kmaq of Nova Scotia may provide additional information that informs the regulator in assessing the proposed Project's potential impacts to established and/or asserted Mi'kmaw Aboriginal and Treaty rights and appropriate accommodation and mitigation measures. Currently, OLA can provide the following comments and recommendations:

7.0 Mi'kmaq Engagement

Section 7.0 and Table 7-1 provides a good summary of Mi'kmaq engagement efforts undertaken by the Proponent to-date. Given the scope, scale and location of the proposed Project, OLA encourages the Proponent to continue to engage with the Mi'kmaq of Nova Scotia throughout the duration of the Project.

7.7 Effects of the Undertaking on the Mi'kmaq of Nova Scotia

Given that portions of the Project Area consist of Crown land, OLA recommends that the proponent engages in discussions with the Mi'kmaq of Nova Scotia to address mitigation measures for potential impacts on possible traditional and current use activities on Crown land. Given the limited up-dated information regarding the practice of Aboriginal and Treaty Rights within the Project Area, OLA recommends that the Proponent adhere to mitigation measures outlined in Section 7.7, which are as follows:

- "Ongoing engagement with First Nation communities throughout the life of the Project;
- Provide the Mi'kmaq of Nova Scotia an opportunity to walk the Project Area with the Proponent to identify and document sensitive sites prior to construction;
- Allow the Mi'kmaq of Nova Scotia to harvest traditional plants prior to clearing the Project footprint;
- Provide a tour of the Project to the Mi'kmaq of Nova Scotia once in operation;
- Ensure there are various opportunities for Mi'kmaq participation in the Project (e.g., opportunities to participate in environmental monitoring); and
- Development of a Mi'kmaq Communication Plan."

OLA encourages the regulator to carefully consider the information contained in the 2012 MEKS and factor relevant information into the decision-making process. For example, information regarding current rights activities within the project area and potential impacts to those activities that may occur from this project. OLA recommends that the proponent continues to engage in discussions with the Mi'kmaq of Nova Scotia to address mitigation measures for potential impacts on traditional and current use activities within the Project area.

Date: **April 14, 2023**

To: **Mark McInnis, Environmental Assessment Officer**

From: **Melissa Ginn, Regional Environmental Advisor, Transport Canada**

Subject: **Wedgeport Wind Fam Project, Yarmouth County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: navigation, aviation

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Technical Comments:

Transport Canada, Environmental Programs and Indigenous Relations, Atlantic Region has reviewed the registration document. We have determined the since the proposed project is not located on federal lands, a review pursuant to s.82 of the *Impact Assessment Act* (IAA) is not required.

The proponent will need to complete an Aeronautical Assessment Form (AAF) regarding the wind turbines, to assess for marking and lighting requirements as per:

Standard 621 - *Obstruction Marking and Lighting - Canadian Aviation Regulations (CARs)* (https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/canadian-aviation-regulations-sor-96-433/standards/standard-621-obstruction-marking-lighting-canadian-aviation-regulations-cars).

The AAF is located in *Appendix C - Aeronautical Assessment Form for Obstruction Marking and Lighting* (Form 26-0427E).

Once the AAF information has been completed, please forward to: aviation.atl@tc.gc.ca.

Navigation Protection Program of Transport Canada can provide the following comments:

It is noted that the proposed project will involve project components including the installation of a culvert to support construction of an access road.

The watercourse crossing and activities appear to have potential impact on non-scheduled waterways subject to the Canadian Navigable Waters Act, and the

proponent will need to consider the following:

Under the Canadian Navigable Waters Act (CNWA), owners of works – (other than a minor work or a major work) - that are located on navigable waterways not listed in the schedule, which may interfere with navigation, have the option to:

1. **either apply to the Minister of Transport; (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 proposed crossing works on the new Common Project Search (online registry) inviting any interested party to comment.**

(advertising and 30 day registry public review)

****Note however, that any bridges with piers placed below the high water mark of a watercourse, as well as water control structures always require an approval as outlined in the Major works Order. (an application for approval is required)**

Both the approval application process and the public resolution process on the Registry 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 - Atlantic Region / Heritage Court, P.O. Box 42, 95 Foundry Street, Moncton, N.B.
E1C 8K6 |
Transports Canada - Région de l'Atlantique / Place Héritage, C.P. 42, 95 rue Foundry, Moncton, N.-B.
E1C 8K6
Tel | Tél. : 506-851-3113 / Fax | Téléc. : 506-851-7542
Email / Courriel : NPPATL-PPNATL@tc.gc.ca

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

The proponent will need to complete an Aeronautical Assessment Form (AAF) regarding the wind turbines, to assess for marking and lighting requirements.

Under the Canadian Navigable Waters Act (CNWA), owners of works – (other than a minor work or a major work) - that are located on navigable waterways not listed in the schedule, which may interfere with navigation, have the option to:

1. **either apply to the Minister of Transport; (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 proposed crossing works on the new Common Project Search (online registry) inviting any interested party to comment.**

(advertising and 30 day registry public review)

NOVA SCOTIA
Natural Resources and Renewables

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

Date: **April 14, 2023**

To: **Mark McInnis, Environmental Assessment Officer**

From: **Department of Natural Resources and Renewables**

Subject: **Wedgeport Wind Fam Project, Yarmouth County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Parks, MRA and Regulations, biodiversity, species at risk status and recovery, wildlife species and habitat management and conservation.

Technical Comments:

Parks Branch:

No provincial park or designated protected beaches program concerns.

Geoscience and Mines Branch:

GMB has determined that there are active mineral exploration licences partially or entirely within the study area of interest.

Biodiversity Branch:

This environmental assessment registration document has been reviewed by Natural Resources and Renewables biologists. The review focused on the following mandates: biodiversity, species at risk status and recovery, wildlife species and habitat management and conservation.

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

Geoscience and Mines Branch:

A review is to be completed through NovaRoc to determine which exploration licenses could be affected by this proposed project. Please contact the Registry of Mineral and Petroleum Titles if assistance is required in performing this task.

Engagement to notify the owners of the affected mineral rights is required, and to discuss potential impacts of activities.

Biodiversity Branch:

Based upon a review of the information provided in the EARD, the following recommendations for conditions of approval are provided:

It is the responsibility of the proponent to ensure compliance with federal and provincial legislation and regulations regarding resident, migratory and at-risk bird species and their habitats (e.g., *Species at Risk Act, Migratory Birds Convention Act, Fisheries Act, NS Endangered Species Act, NS Wildlife Act*, and their regulations). As such, the following is a list of recommendations:

1. Obtain all necessary permits as required under legislation related to wildlife and species at risk to undertake the project.

2. Provide digital way points and/or shapefiles for all Species at Risk and Species of Conservation Concern to NRR (those species listed and/or assessed as at risk under the *Species at Risk Act*, *Endangered Species Act*, COSEWIC, as well as all S1, S2 and S3 species). Data should adhere to the format prescribed in the NRR Template for Species Submissions for EAs and is to be provided within two (2) months of collection.

3. In conjunction with the development of wildlife management plan, field surveys, details of survey methodology, and/or results should be provided to NRR addressing information gaps for:

    - Shorebird surveys, in accordance with the Atlantic Shorebird Survey protocols.
    - Winter bird surveys.
    - Breeding bird surveys for the area of disturbance that has not been surveyed as part of the EARD (in the vicinity of turbine locations #12 and #13).

4. Develop a Wildlife Management Plan (WMP), and provide a copy to NRR and ECC which should include:

- Communication protocol with regulatory agencies.
- General wildlife concerns (e.g., human-wildlife conflict avoidance).
- Noise, dust, and lighting mitigations.
- Measures to protect and mitigate against adverse effects to migratory birds during construction and operation. This may include avoidance of certain activities (such as vegetation clearing) during the regional nesting period for most birds, buffer zones around discovered nests, limiting activities during the breeding season around active nests, and other best management practices.
- Mitigation measures to avoid and/or protect SAR/SoCC and associated habitats discovered through survey work or have the potential to be found on site. The plan should include species identified through dedicated field research in support of this EARD, the previous EARD developed by Stantec (2012) and results of the Comeau's Hill monitoring station research by Kearney (2022), including Bank swallow (Riparia riparia), Barn swallow (Hirundo rustica), Bobolink (Dolichonyx oryzivorus), Canada Warbler (Cardellina canadensis), Common Nighthawk (Chordeiles minor), Eastern Whip-poor-will (Antrostomus vociferus), Eastern Wood-pewee (Contopus virens), Monarch (Danaus plexippus), Olive-sided Flycatcher (Contopus cooperi), Red Knot rufa subspecies (Calidris canutus rufa).
- Details on monitoring and inspections to assess compliance with the WMP.

5. The components of the WMP that address impacts expected during each phase of the project should be finalized *before* that phase begins (this includes the construction phase).

6. Prior to construction, proponent should: provide final locations of turbines to NRR and ECC detailing changes and mitigation measures for potential environmental effects.

7. Conduct surveys for Mainland Moose for a minimum of two (2) years during the operation phase of the project, in a buffered zone of influence extending up to two (2) kms from the project footprint, to assess potential effects of disturbance.

8. Provide at least two (2) years of pre-construction radar and acoustic monitoring for bird and bat species. The following approach is recommended:

- A minimum of two (2) years of consecutive baseline surveys, provided that at least one of these survey years is conducted prior to the construction phase of the project.
- The radar and acoustic monitoring should follow approved recommended guidance from NRR and CWS-Atlantic and be for the full spring and fall migration periods.

9. Develop a monitoring program to assess mortality for avifauna and bats in consultation with NRR and ECCC and implement for a minimum of two (2) years

post-construction during the operation stage of the project. Guidance on monitoring requirements will be provided by NRR. Reporting of the monitoring program results shall be on an annual basis to the appropriate regulatory agencies. Pending review of results of the monitoring program, additional monitoring or mitigation measures may be required.

10. Engage with NRR and ECCC to develop an adaptive management plan to inform decision-making related to adverse effects of the project on migratory bird and bat species. Additional surveys or mitigations may be required following a review of the effectiveness of the plan.

11. Revegetate cleared areas using native vegetation or seed sources following consultation with NRR.

12. Develop a plan to prevent the spread of invasive species both on and off site. The plan should include monitoring, reporting, and adaptive management components.

13. It is strongly recommended that the proponent describe the impacts of the project on landscape-level connectivity for wildlife and habitat (e.g., habitat fragmentation, loss of intact forested habitat, increased road density). An assessment of the cumulative effects of the project on landscape-level connectivity and habitat loss, and the measures proposed to mitigate those effects, should be provided.

NOVA SCOTIA
Environment and Climate Change

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

Date: April 14, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Air Quality Unit

Subject: **Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia**

Scope of review:
This review focuses on the following mandate: Air Quality

Technical Comments:

The Wedgeport Wind Farm Project is based on an earlier submission to the Department by Anaia Global Renewable Energies. The registration document, submitted in 2012, was determined by the Minister at that time to be insufficient to make a decision. No further information was submitted to the Department and the project was subsequently purchased by Wedgeport Wind.

The current project proposes a wind development in the municipality of Argyle, county of Yarmouth, consisting of up to thirteen wind turbines. The specific turbine manufacturer and model has not yet been determined, but for the purposes of the assessment, a potential model that covers multiple options has been used. The final design could use turbines with an output of 5.9 to 7MW, with a height of 200m from ground level to blade tip. There are three turbines that are already in use on the site that were constructed through a COMFIT project.

The project also consists of new unpaved haul roads, electrical connections, a substation, and temporary laydown areas. If approved, construction is due to commence in October 2023, with the turbines becoming operational in 2025. The project has a potential life of 35 years.

The proponent has considered the Air Quality Health Index (AQHI) and the *Air Quality Regulations* to determine the impacts of the project with respect to air quality. An assessment of the meteorology for the area is also presented.

The baseline assessment reports entirely with respect to the AQHI. While this information is important from a health perspective, it does not form part of the regulatory framework. The information presented under ‘existing conditions’ is of more interest with respect to compliance. The data were obtained from the NAPS repository. The monitoring site at Greenwood was identified as the nearest air monitoring station reporting appropriate data, despite being 161km to the north-east of the proposed project. Table 12-2 contains data for SO_2, NO_x, NO_2, NO, $PM_{2.5}$ and O_3. It is not stated what the reported concentrations represent with respect to averaging times, and no ambient air quality criteria are presented for comparison. Conclusions regarding air quality are drawn from the monitoring reports published by Environment and Climate Change Canada (dated 2021), or from the original project registration document.

Impacts on air quality from this project are most likely to occur during the construction period and are most likely to contribute to increases in the concentrations of particles (largely total suspended particles) throughout the construction phase. The mixing of concrete onsite and the preparation of laydown areas may contribute to this impact, but the largest source is likely to be dust generated by trucks travelling on the unpaved roads.

To mitigate this impact, the proponent proposes to cover loads, reduce speeds, and, when needed, apply water to the road surface as dust suppression. These are appropriate methods for reducing impacts from unpaved roads. The assessment also states that a chemical suppressant may be used under certain conditions. Chemical suppressants may result in localized environmental impacts, for example, if the chemical enters surface waters. Consequently, their use should be approved by the Department. The proponent also confirms that a Complaints Resolution Plan and a Project Contingency Plan will be developed.

The operation of the turbines will have minimal impacts on air quality – vehicles using the unpaved roads for access may contribute to small increases in airborne dust from time to time. Decommissioning of the site should be addressed at the appropriate time to minimize dust impacts from site operations.

Summary of Technical Considerations: (provide in non-technical language)

The registration document is lacking in detail with respect to baseline conditions, however, the location of the proposed project suggests that pollutant concentrations would be low. The proponent should ensure that the generation of dust, particularly during the construction phase, is kept to a minimum through the use of the proposed mitigation methods and any other methods that are considered to be appropriate once construction starts. The dust mitigation methods should be outlined in a Dust Management Plan and finalized prior to the commencement of construction.

NOVA SCOTIA
Environment and Climate Change

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

Date: April 14, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Air Quality Unit

Subject: **Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia**

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

Technical Comments:

The Wedgeport Wind Farm Project is based on an earlier submission to the Department by Anaia Global Renewable Energies. The registration document, submitted in 2012, was determined by the Minister at that time to be insufficient to make a decision. No further information was submitted to the Department and the project was subsequently purchased by Wedgeport Wind.

The current project proposes a wind development in the municipality of Argyle, county of Yarmouth, consisting of up to thirteen wind turbines. The specific turbine manufacturer and model has not yet been determined, but for the purposes of the assessment, a potential model that covers multiple options has been used. The final design could use turbines with an output of 5.9 to 7MW, with a height of 200m from ground level to blade tip. There are three turbines that are already in use on the site that were constructed through a COMFIT project.

The project also consists of new unpaved haul roads, electrical connections, a substation, and temporary laydown areas. If approved, construction is due to commence in October 2023, with the turbines becoming operational in 2025. The project has a potential life of 35 years.

The proponent has used the *Guide to Preparing an EA Registration Document for Wind Power Projects* as the basis for determining potential noise impacts from this project.

The proponent has not undertaken any baseline monitoring at the site, but has instead, relied on the Health Canada assessment of community type to establish a baseline noise level. The baseline noise level was calculated as the average of the range of noise levels for this community type and was reported to be 34.5dBA. It was noted under ‘existing conditions’ that noise from the existing turbines on the site, and traffic, could be heard on the proposed project site.

Noise impacts were assessed for the construction and operation phases of the proposed project.

The proponent has presented low, high and average sound levels for a range of point sources that may be encountered during the construction phase (Table 13-4). Usually, noise levels from machinery are reported at a particular distance (e.g., 12 to 15m). In

Table 13-5, the noise level for each construction point source is reported at 0m. It is not possible to determine which approach has been used as a reference is not provided. The proponent correctly notes that attenuation of noise occurs over distance, and that an attenuation factor of 7.5dBA can be used where the local terrain is grassed with bushes and/or forestry. An attenuation factor of 7.5dBA is therefore appropriate for the proposed project location. However, the attenuation factor has been used incorrectly. Noise is attenuated by the attenuation factor per doubling of distance, not every 15m. The data in Table 13-5 are therefore incorrect as the data significantly overestimates the reduction in noise levels with distance.

The proponent has used a suitable model to determine the potential impacts from the sixteen turbines (three existing and thirteen new). The assumptions are consistent with other wind energy assessments and assumes that all receptors are downwind of the combined noise. Thirty-two receptors were identified. The output data was not supplied but was summarized in Appendix K. The baseline noise level was not added to the reported impacts, and therefore, the results in Appendix K cannot be considered to be cumulative. Two receptors were identified as having potential noise impacts from the project in excess of 36dBA. The *Guide to Preparing an EA Registration Document for Wind Power Projects* states:

> *'…a proponent must ensure that the wind farm design and turbine siting does not cause sound levels to exceed 40 dBA (A-weighted decibels) at the exterior of receptors.'*

This indicates that the impact noise level must be added to the baseline noise level to ensure that the proposed project *does not cause sound levels to exceed 40 dBA*. If the baseline noise level is 34.5dBA, a project impact of 36.2dBA (receptor F) would not cause sound levels to exceed 40dBA. However, if the baseline noise level is 37.5dBA or higher, which is possible in an exposed coastal location, the highest modelled project impact would cause sound levels to exceed 40dBA.

The proponent did not submit any information on potential tonal components or impacts from infrasound.

Summary of Technical Considerations: (provide in non-technical language)

The impact of noise from construction activities has been underestimated due to the use of an incorrect methodology to determine attenuation. The proponent should revise the estimates of impacts, using the correct methodology to determine attenuation. Estimated noise levels should be compared with the permissible sound levels reported in the *Guidelines for Environmental Noise Measurement and Assessment*, and mitigation should be applied as applicable.

Should the turbine configuration or the turbine model change from that used in the assessment, the proponent should review the modelled assessment and submit the updated assessment to the Department for review.

It is recommended that the proponent undertakes onsite monitoring of the baseline noise levels. Should complaints arise, the proponent may be required to demonstrate compliance with 40dBA. Having baseline data would support the proponent's approach to responsive monitoring.

McInnis, Mark

From: Wade,Suzanne (ECCC) <suzanne.wade@ec.gc.ca>
Sent: April 18, 2023 1:59 PM
To: McInnis, Mark
Cc: Wade, Suzanne (EC); Hingston, Michael (EC); Breau,Monique (elle, la | she, her) (ECCC); Keeping,Brent (ECCC)
Subject: Wedgeport Wind Farm Project, Yarmouth County, NS - EA Registration (EAS# 23-NS-007)
Attachments: ECCC-CWS Initial Comments RE: Wedgeport Wind Farm Project - Avian Survey Methods; Wind_CWS Atlantic Guidance Update for Wind Energy and Migratory Birds - April 2022.pdf; Wind_CWS Atlantic Guidance Update for Wind Energy and Migratory Birds - April 2022_FR.pdf

Hi Mark,

Thank you for the extension on the review of the proposed WedgePort Wind Farm Project.

Environment and Climate Change Canada (ECCC) has reviewed the WedgePort Wind Farm Project, submitted by WedgePort Wind Farm LP, to install 13 WTG with individual capacity of 5.9 to 7.0 MW (total height ~195.5 m) and associated infrastructure, including a substation, transmission lines and 8.48 new access roads, at Little River Harbour, Yarmouth County, Nova Scotia, and we offer the following comments:

Wildlife Comments

Please note that given the short time available for the review under the Nova Scotia's Department of Environment and Climate Change (NSECC)'s environmental assessment process, the multiple reviews for other provincial wind power projects and the resources available, ECCC-CWS review and comments are not exhaustive.

Attachments for inclusion with the outgoing response:

- Environment and Climate Change Canada's Canadian Wildlife Service (Atlantic Region) "*Wind Energy & Birds Environmental Assessment Guidance Update"* (ECCC-CWS-ATL, 2022) (also available in French) (not available online – regionally specific advice).
- ECCC-CWS comments sent to S. Zwicker, ECCC on June 3, 2022.

Specific Comments

1. Registration Section 13.3.4 Avifauna (Page 266), ECCC-CWS notes that the Proponent received comments identifying the Project Area as significant for migratory birds as breeding migratory stop-overs and overwintering (June 3, 2022, pers. comm. With MEL, Stephen Zwicker, Environmental Assessment Coordinator, CWS).

2. ECCC-CWS notes that the proposed Project will likely affect migratory birds. The project borders known important bird habitats, including the Tusket Island Wilderness Area and habitats surrounding the proposed Project Area. The study area is important for migratory birds during the breeding season, during migration periods for resting and refueling, as well as overwintering.

   Nearby Cook's Beach, Melbourne Game Sanctuary, and Pinkney's Point are locally important shorebird staging sites - particularly Cook's Beach and Melbourne which are both candidate Western Hemisphere Shorebird Network (WHSRN)

sites due to regionally important concentrations of Short-billed Dowitcher and Semipalmated Plover (sites that host <1% of the biogeographic population).

The waters surrounding the study area are also within the foraging range of the Roseate Tern, listed as Endangered on schedule 1 of SARA.

ECCC-CWS recommends a minimum of two years consecutive baseline radar and acoustic data be collected in order to understand variance in flight height (i.e., bird movements) in relation to weather and environmental conditions (ECCC-CWS-ATL Update, 2022).

3. Several types of migratory bird habitat are in decline in Nova Scotia, including mature coniferous forest, mature deciduous forest and mature mixed forest. This is of concern because certain bird species prefer mature forest habitat. Furthermore, some bird species, generally known as interior species, only prosper when the tracts of mature forest are relatively large and un-fragmented (i.e. interior forest). It is desirable for projects to avoid causing further loss and fragmentation of these habitat types, and to avoid further fragmentation of the landscape. We recommend that the proponent sites project infrastructure, including the transmission line and access roads, in a manner that would avoid/minimize loss of mature and interior forest habitat.

4. ECCC-CWS notes that in the NS "Draft Generic EA Mitigations Wind" attachment provided for review, the Wildlife Section includes directions to "*Contact NRR to discuss required actions should nesting birds or their young, or any species-at-risk, be encountered on site during construction"*.

   ECCC-CWS is responsible for the management and conservation of migratory birds, and have a shared responsibility with the Province of Nova Scotia for the protection of species at risk and their habitats.

   ECCC-CWS recommends updating the "Draft Generic EA Mitigations Wind – Wildlife" to clarify that ECCC-CWS should be contacted for advice related to migratory birds and migratory bird species at risk, and compliance with the *Migratory Birds Convention Act* (MBCA) and the *Species at Risk Act* (SARA).

5. When considering potential approval conditions related to migratory birds and/or migratory bird species at risk, ECCC recommends clarifying what elements are expected to be included, and that the consultation process is clear for all parties. The preference for ECCC is that any documents and requests for advice from the proponent be submitted and coordinated through Nova Scotia Department of Environment and Climate Change (NSECC) as part of the environmental assessment (EA) process.

6. It should be understood that ECCC does not have any permits (or authorizations) or approvals in relation to the proposed project. Any advice that is provided by ECCC is intended to support the NSECC's EA process to determine if potential residual effects are likely, and identify measures to minimize/lessen and monitor those effects to ensure compliance with the MBCA and SARA.

7. If additional surveys are planned as part of a EPP or monitoring plan, and there is an expectation that additional mitigation measures or adaptive management will be required as a result, ECCC-CWS recommends that this should be indicated in the condition(s) (e.g. Condition 6.5 of the Canso Spaceport Project Conditions.pdf (novascotia.ca).

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

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

ECCC-CWS notes that Great Blue Heron are likely breeding in the area, if found, Great Blue Heron nests are protected year-round.

9. If the project is permitted to proceed, the proponent should be advised that provincial conditions of approval do not supersede their responsibility to ensure that activities comply with the MBCA and associated regulations. For all activities and during all Project phases, the Proponent must take measures to avoid the disturbance or harm of migratory birds, nests, and eggs.

10. Registration Section 10.2.1.2 (and Figure 3, Appendix A) "Study Area", ECCC-CWS notes that the proposed Project Study Area is located within the Project Area (i.e. the Project footprint and associated infrastructure).

    Given the importance of the area for migratory birds and bats, ECCC recommends clarifying the limited Study Area which will influence the assessment of potential effects.

11. ECCC-CWS notes that transmission lines are currently not being assessed as part of this Project. In addition to turbine placement, access roads, and lighting, it is important for the assessment of potential impact on migratory birds include a consideration of the siting of proposed transmission lines in planning and design. This infrastructure should be sited in manner that considers how they may intersect areas used as flight paths of migratory birds, especially in areas of known migration bird movements and increased risk of avian collisions and electrocution.

    ECCC-CWS recommends that NSPI (or the proponent) demonstrate a clear commitment to measures to avoid bird collision and electrocution with transmission lines, including line placement and orientation, marking of lines (e.g. bird flight diverters), and design of structures.

12. Registration Section 13.3.4.4 Avifauna – Mitigation, it is stated that: "*The Project Infrastructure footprint will be cleared of vegetation and timber outside of the breeding season between April 15 – August 30. If during construction additional areas need to be cleared, a nest sweep will be completed*".

    ECCC-CWS does not recommend nest searches (or "nest sweep") in vegetation or complex habitats during the migratory bird breeding season (see comments in the "General "standard" Advice and Recommendations" section below).

Avifauna

13. ECCC-CWS notes that the avian surveys that have been undertaken to date seem to demonstrate the importance of the area for migratory birds, including passerine, seabirds, shorebirds and waterfowl.

14. There are implications at this site for migrating landbirds which we know funnel along coastlines and migration pathways for passerines is particularly strong in this area.

15. Shorebirds move overland from foraging to roosting sites, and during pre-migration recruitment flights at altitudes which may place them at risk of collision with the proposed turbines, especially a concern at dusk and dawn.

16. Seabirds such as gulls move overland from colonies to foraging areas which may place them at risk of collision with the proposed turbines.

17. Seaducks are nocturnal migrants and fly at lower altitudes, which may place them at risk of collision with the proposed turbines, especially during periods of inclement weather.

18. ECCC-CWS cannot assess the potential impacts of the project on shorebirds and seabirds based on the information as presented. Based on the information provided in Appendix C1 Avian Baseline Report, ECCC-CWS has concerns with the data and its interpretation, and therefore the EA conclusions. ECCC-CWS notes the following:

    - There is confusion over species groups, for example, in section 2.3 Field Program Methods, it is indicated: Group 2. Shorebirds are "Waders, from the Order Charadriiformes"; and has seabirds/marine birds in "Other waterbirds". This grouping will impact the Proponent's summary (page 88) because the most abundant bird group observed was shorebirds, 61% being comprised of Herring Gull. In section 3.2.3.2 Diurnal Watch Count (DWC) Results (page 61), the authors state that: ***"Shorebirds comprised 87.3% (mostly herring gull)*** *of the species observed due to the two coastal DWCs and the flocks and fly-overs observed, followed by passerines (7.7%), waterfowl (3.5%), diurnal raptors (0.8%), other waterbirds (0.4%), and other landbirds (0.2%)*".

      ECCC-CWS notes that Herring Gulls are seabirds and not shorebirds. This leads to errors throughout the report.

    - ECCC-CWS notes that many shorebird species were observed (e.g., Willet, Short-billed Dowitcher, Sanderling, etc.); however, there was not a single observation of the most common peeps reported (e.g., Semipalmated Sandpiper, Semipalmated Plover, Least Sandpiper, Dunlin) which are often observed together.

    ECCC-CWS recommends that the authors of this report correct all totals and percentages, including sections and figures to correctly represent shorebird statistics throughout the report.

    ECCC-CWS recommends clarifying whether other species of shorebirds expected to be present were observed (e.g. Semipalmated Sandpiper, Semipalmated Plover, Least Sandpiper, Dunlin).

    ECCC-CWS request the opportunity to review the raw survey data for species group associations, observation dates and habitat associations related to shorebirds as there are many species of conservation concern found in this area.

19. Further details should be provided in order to better assess potential risk of migratory bird collision with the proposed Project's infrastructure.

    ECCC-CWS recommends that the report include maps depicting flight paths, widths of flight corridors, flight heights of birds in relation to rotor swept areas (RSA), frequency of bird movements of migratory birds observed with details on species and density. An analysis of risk of bird collisions should be conducted based on this information, also considering that fog is very common in the area, and the proposed mitigation measures (e.g., relocation of turbines) (if deemed necessary).

20. ECCC-CWS recommends including information on the daily movement of shorebirds associated with high and low tides, including clarifying whether shorebird surveys were conducted at dusk and dawn which is when shorebirds would typically fly over land at low altitudes.

21. Section 3.2.2 Breeding Bird Surveys (bulleted list on page 55), it is stated that: "*Two willet pairs and multiple agitated individuals were observed, all close to the coast (in barren/heathland area with shrub cover)*".

    ECCC-CWS notes that Willets are typically associated with saltmarshes and other wetlands, not barrens.

    ECCC-CWS recommends clarifying the identification of willets and habitat association. If correct, ECCC-CWS recommends further investigation as willets are regional breeders and their presence in barrens would suggest that they are nesting there. ECCC-CWS would be concerned for this shorebird species as their territorial flight during the breeding season may place them within the RSA and increased risk of collision.

22. Registration, Executive Summary (page 4), ECCC-CWS notes that it is stated that "*no colonies of birds were observed within or adjacent to the Project Area*".

    There are several records of common/arctic tern, great black back gull, herring gull occurring at nearby islands suggesting that the area is important to terns and gulls.

    ECCC-CWS recommends that the Proponent clarify what methodologies were used to describe the study area and what is meant by "adjacent".

23. ECCC-CWS notes large flocks of gulls flying over the project area were observed throughout the seasons surveyed.

    ECCC-CWS notes that gulls are also a migratory bird protected by the MBCA. Some species of gulls (e.g. Greater Black Back Gulls) are in decline.

24. ECCC-CWS notes that there are recently occupied Roseate Tern nesting islands within 5-10 km of the proposed Project site (Gull Island, Peases Island, Pinch Gut Island – confirmed breeding in the last 5 years) Roseate Tern - Species Map - eBird. The migration route taken by Roseate Tern to reach nesting islands is unknown and they may be vulnerable during migration.

    ECCC-CWS notes that Roseate Tern are listed as Endangered on Schedule 1 of SARA, and that 75% of Roseate Tern breeding in Canada at North Brother Island (15 km away).

    ECCC-CWS flagged the potential for Roseate Tern to be found in the Project Area in comments provided to the proponent June 3, 2022; however, no species specific surveys were undertaken. It is possible for Roseate Tern to move overland across the project area between Little River Harbour and Goose Bay if these sites are used for foraging.

25. ECCC-CWS request notification prior to any blasting plans between May and August (if required). High disturbance activities (e.g. drilling, blasting, vegetation clearing) should be restricted within 1000 meters of the edge of a colony during the courtship, nesting, and chick-rearing seasons (spring & summer);

26. ECCC-CWS notes that Common Loon would be considered to have confirmed breeding status based on observations.

    ECCC-CWS recommends avoiding high disturbance activities (e.g. drilling, blasting, vegetation clearing) within 1000m of active Common Loon nests during the regional nesting season.

27. EA Registration, Section 13.3.4.1 Direct Mortality (page 267) it is stated: "*Populations of several groups vulnerable to collisions are increasing across Canada (e.g., waterfowl, raptors). This suggests collision mortality at current levels does not limit population growth*."

    ECCC-CWS recommends providing a reference. ECCC-notes that several species of shorebirds identified in vicinity of the proposed Project area are species of conservation concern in Atlantic Canada.

28. EA Registration, Section 18 - Conclusion – Avifauna (Page. 323), ECCC-CWS notes that the estimated mortality for avifauna using prescribed methods from Scotland is anticipated to be between 1.7 to 2.8 birds/turbine/year.

    It is stated that "*After standard industry mitigation measures have been implemented, the predicted residual environmental effects are assessed to be not significant*".

    ECCC-CWS recommends describing the standard industry mitigation measures to be implemented to support environmental assessment conclusions.

29. Registration Section 13.3.4.5. Monitoring, it is stated that "Post-construction mortality monitoring will be completed in conjunction with bat mortality surveys described in the Post-Construction Survey Protocols for Wind and Solar Energy Projects (Alberta Environment and Parks, 2020).

    ECCC-CWS recommends that the proponent consider the attached ECCC-CWS (Atlantic Region) *Wind Energy & Birds Environmental Assessment Guidance Update* (April, 2022) in the development of any draft post-construction monitoring and adaptive management plan (attached).

Wetlands

30. ECCC-CWS notes that "*thirteen wetlands are located within 30 m of Project infrastructure and were assessed to have potential for indirect impacts and that direct impacts are anticipated at five wetlands, resulting in 0.314 ha in disturbance (1.9% of the total area of all wetlands identified).*"

    Section 18 – Conclusion – Wetlands, ECCC-CWS notes that it is stated that: "*Wetland alteration approvals will be obtained for wetlands proposed for alteration, wetlands altered will be appropriated compensated for, and a wetland monitoring program will be implemented for wetlands partially altered or with potential to be indirectly by the Project*".

    ECCC-CWS notes that many species of migratory birds and species at risk are dependent on wetland habitats for part of the life cycle.

    ECCC-CWS recommends avoidance of wetland habitats used by bird species at risk and bird species of conservation concern as part of their lifecycle (e.g. Barn Swallow, Canada Warbler, Greater yellowlegs, Lesser yellowlegs, Willet, etc.). Where effects to wetland habitat are deemed unavoidable, ECCC-CWS recommends including a discussion of why avoidance is not possible, proposed mitigation measures, as well as, a wetland compensation plan which considers the use of conservation allowances (i.e. biodiversity offsets).

31. ECCC-CWS recommends that the proponent consider the potential project impacts to carbon stores in wetlands (more specifically swamp soils and trees) that will be directly and indirectly affected, and how these impacts would contribute to the greenhouse gas emissions for the overall project. Most wetlands being impacted are underlain by histosols (i.e., at least 80 cm of organic soils) making the case for consideration of soil carbon stocks.

    Where hydrological alteration may occur in wetlands due to the Project, ECCC-CWS recommends a consideration how this could affect organic carbon stores (e.g., draining of wetland would likely cause degradation/decomposition of organic carbon stores thereby resulting in carbon dioxide emissions to the atmosphere) and the need to identify mitigation measures.

    ECCC-CWS recommends grubbing take place in winter months to minimize disturbance to soils and to avoid interference with bird breeding season.

    ECCC-CWS notes that there is mention of soil destabilization. ECCC-CWS recommends clarifying if this could cause degradation of soil carbon stores and increase greenhouse gas emissions.

    ECCC-CWS recommend measuring peat depths in wetland assessments to identify areas with deep carbon stores which could then be avoided as a mitigative measure.

    ECCC-CWS recommend labelling wetland areas by ID# (i.e., for the 44 wetlands) on Figure 14.

    ECCC-CWS can be made available to review proposed draft wetland reclamation plans (i.e., for decommissioning phase) upon request.

32. ECCC-CWS notes that the Project has applied for federal funding under **Natural Resource Canada's Smart Renewables and Electrification Pathways Program (SREP)** under the Established Renewables stream.

ECCC-CWS notes that the *Federal Policy on Wetland Conservation* (FPWC) applies to this project. The FPWC was introduced "*to promote the conservation of Canada's wetlands to sustain their ecological and socio-economic functions, now and in the future*". The policy recognizes the importance of wetlands to the environment, the economy and human health, and promotes a goal **of No Net Loss of Wetland Function as a result of the Government of Canada exercising a duty, function, or power in areas of Canada where wetland loss has reached critical levels (e.g. NB, NS, PEI) and regionally important wetlands**.

In support of this goal, the FPWC identify the importance of planning, siting and designing a project in a manner that accommodates a consideration of mitigation options in a hierarchical sequence – avoidance, minimization, and as a last resort, conservation allowances (i.e. biodiversity offsets, compensation). A copy of the FPWC can be found at: http://publications.gc.ca/pub?id=9.686114&sl=0.

The FPWC applies to all wetlands, irrespective of size, ownership, or identification in an inventory or on a map. As such, all wetlands potentially impacted by project activities for which a federal authorization is issued, regardless of their size, and whether they appear on any mapping, are covered by the FPWC.

ECCC recommends the development of a Wetland Compensation Plan that fully describes the mitigation hierarchy, including:

- Identification of wetlands potentially affected by the project,
- A detailed description of potential effects, and the reasons why avoidance and minimization of impacts were determined to be not possible, and,
- Identification and justification of proposed offset ratios.

As the federal department responsible for promoting the FPWC, ECCC-CWS is available to work with the province and the proponent in the development and review of a wetland compensation plan that meets the goals of both the provincial and federal wetland policies.

Habitat, Flora, and Lichens

33. ECCC-CWS would like to flag that there is identified critical habitat near the project site for the Eastern Baccharis, a shrub listed as Endangered on Schedule 1 of SARA and the *NS Endangered Species Act* (Eastern Baccharis (Baccharis halimifolia) - Species search - Species at risk registry (canada.ca)).

ECCC-CWS recommends clarifying whether vegetation surveys included surveys for the Eastern Baccharis listed as Endangered on Schedule 1 of SARA and NSESA.

ECCC-CWS recommends that the proponent contact NSNRR for technical expertise and advice on SAR plants and lichen under their jurisdiction and responsibility.

Fauna

34. ECCC-CWS notes that there was an incidental Monarch observation in the southeast portion of the Project Area, in a predominantly barren habitat.

In addition to ACCDC reports, ECCC-CWS notes that Monarch were confirmed roosting at Chebogue Pt. in 2021 Monarch (Danaus plexippus) from Yarmouth, NS, Canada on September 13, 2021 at 06:14 PM by juliemcknight. "The Willows" 15-20 Monarch observed foraging in surrounding fields 14:00-17:50. 30 Monarchs o... · iNaturalist Canada .

ECCC-CWS notes that Lower Wedgeport, Comeau's Hill, Pikneys Point have not been surveyed for staging/roosting habitat or staging/roosting behaviour, and that this species was observed incidentally during the biophysical surveys. Impacts to Monarch from the Project are unclear.

ECCC-CWS recommends that the proponent contact the NSNRR for technical expertise and advice related to insect SAR under their jurisdiction and responsibility.

Bats

35. Registration Section 12.3.2.4, ECCC-CWS notes that acoustic surveys were undertaken, and all three bat species at risk, and bat species of conservation concern were recorded at this site. Potential roosting habitat (i.e., snags and mature stands) for bats was observed in select sites within the Study Area, predominantly in wetlands (e.g, WL1, WL4, WL28, WL44).

36. Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) are small, insectivorous bats species at risk (SAR) that are listed as Endangered (SARA Schedule 1). The Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tricolored Bat (*Perimyotis subflavus*) in Canada (2018) should be consulted: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/recovery-strategies/little-brown-myotis-2018.html.

    The Government of Canada published factsheets providing information on the Emergency Listing Order, the disease threatening bats, the requirements of SARA, and ways to protect and preserve bat populations. The factsheet "Factsheet on the Emergency Listing Order for the Little Brown Myotis, the Northern Myotis and the Tri-Colored Bat" is available on the SARA registry at: Factsheet on the Emergency Listing Order for the Little Brown Myotis, the Northern Myotis and the Tri-colored Bat - Document search - Species at risk registry (canada.ca). The factsheet "*WIND ENERGY and the Emergency Listing Order for the Little Brown Myotis (Myotis lucifugus), the Northern Myotis (Myotis septentrionalis) and the Tri-colored Bat (Perimyotis subflavus)*" (2014), including best management practices, is available on the SARA Registry at: https://species-registry.canada.ca/index-en.html#/documents/1371

37. ECCC is of the view that any additive mortality of the SARA listed bat species in White-nose Syndrome (WNS) affected areas, including mortality at wind turbines, has the potential to be biologically-important. The mortality of even a small number of remaining individuals, particularly breeding adults, or disturbance to maternity roosts, has the potential to negatively impact the survival of local populations, their recovery, and potentially, the development of resistance to the fungus that causes WNS.

    ECCC-CWS has been conducting research in collaboration with the University of Waterloo in Nova Scotia that is showing low numbers of Northern Myotis and Tri-colored Bat on this landscape, therefore the loss of individuals, maternity roosts, and/or hibernacula may jeopardize the recovery of these species in NS.

38. ECCC-CWS notes that the Proponent has adequately designed their acoustic sampling to assess potential migratory bat movement in the study area and the monitoring period covered the full active season; it's good that monitors were able to elevate at least one of the detectors by deploying on a meteorological tower. However, ECCC-CWS recommends a second year of sampling since the area is clearly being used during migration by the "migratory" bat species.

    Although there are no thresholds for passes per detector night for "migratory" bats developed for Nova Scotia, ECCC-CWS recommends referencing thresholds closer to Atlantic Canada such as northeastern United States.

    Appendix N – Bat Acoustic Monitoring Baseline Report – Section 1.2 (Page 6), ECCC-CWS notes that the objectives for their acoustic monitoring was completed within the Project Area to confirm species presence and abundance. ECCC-CWS notes that abundance can't be determined with stationary acoustic monitoring since it records bat activity/passes (i.e., there is no way of knowing if it was one bat passing a hundred times or a hundred bats passing once); however, they used the 60s interval to define bat call events, and are assuming calls within 60s of each other are the same bat.

ECCC-CWS also notes that it doesn't have the technical expertise to confirm whether this approach is appropriate, and recommend consulting with provincial technical experts, but the approach would allow for abundance estimates if the assumptions are valid. However, this approach will also reduce the passes per detector night values, and hence influence EA conclusions about risk using the thresholds they used.

ECCC-CWS recommends reporting both numbers (i.e. the original data (number of passes) and the adjusted values to get a full picture to better determine risk. We recommend adding another row to Table 3 to discern between total and "adjusted" total.

39. ECCC-CWS is concerned with the lack of habitat assessments for maternity colony habitat (i.e., bat maternity roost) (both natural and anthropogenic), and any subsequent surveys (acoustic or emergence) at potential roosting trees (or buildings, if present) especially in areas where vegetation removal of forested vegetation is planned to facilitate the proposed Project construction. It is acknowledged that the Project area is not fully surveyed since bat detectors have limited range (up to ~40m) and only six were used resulting in a large part of the area being un-surveyed. However, ECCC-CWS notes there was very little bat activity in June/July that would be indicative of breeding, at least for the locations surveyed in the one year of data collection (hence the recommendation for a second year of surveys).

40. ECCC-CWS primary concern with three SARA-listed "resident" bats is siting a wind turbine near/on a maternity roost, hibernaculum or swarming site, regardless of whether natural or anthropogenic. Site selection can be a key component of a successful mitigation strategy for wind power developments. ECCC-CWS recommends siting turbines far from important bat features.

41. ECCC-CWS notes it is stated that "*no previously known hibernacula are within the Project Area nor were any potential bat hibernaculum identified during biophysical surveys*". However, ECCC-CWS also notes that surveys to identify potential /unidentified hibernaculum identified during biophysical surveys were incidental.

    ECCC-CWS recommends that the proponent complete a bat-specific habitat assessment to investigate potential / unknown hibernacula and bat maternity roosts in *natural* and human-made structures for potential overwintering and maternity roosting activity in the Study Area (see Appendix 1 below for Draft Residence (maternity roost) Description).

    Given the size of the Study Area, ECCC-CWS recommends that the proponent follow the steps identified in the Ontario Ministry of Natural Resources and Forestry "*Survey Protocol for Species at Risk Bats in Treed Habitats Little Brown Myotis, Northern Myotis and Tri-Colored Bat*" (OMNRF, 2017) to identify forested habitats in the project area and identify potential maternity roosting habitat within those areas. Note: ECCC-CWS recommends the OMNRF 2017 because the phases are defined more precisely, include investigating coniferous forests in addition to deciduous and mixed for projects within Tri-colored Bat range, and recommend acoustic recording for 10 nights vs. a single exit survey at candidate roost trees. Exit surveys are good supplemental information, however roost-switching behaviour exhibited by bats limits the use of exit surveys to confirm maternity roosting in one visit; multiple days (10 nights) of acoustic recordings is preferable.

    ECCC-CWS recommends that the proponent contact the NSNRR for technical expertise and advice related to bat SAR under their jurisdiction and responsibility.

Other Undertaking in the Area (Cumulative Effects)

42. Registration Section 13.6.7.1 *Cumulative Impacts*, ECCC-CWS notes that there are "*Three COMFIT turbines exist in proximity to the Project, the Little River Harbour Community Wind Project, Black Pond Community Wind Project, and WedgePort Wind Power Project. The potential for cumulative impact between the projects is high…This Project is predicted to cause bird and bat mortalities during operations and the cumulative impact on birds and bats is elevated due to three existing turbines being present in proximity to the Project*."

Additional Comments

1. The proponent should retain raw data (e.g., information on individual tracks) until appropriate data standards have been developed. Proponents are encouraged to share and store data with:
   - The Atlantic Canada Conservation Data Center (http://accdc.com/en/contribute.html); and,
   - The Wind Energy Bird and Bat Monitoring Database (NatureCounts - Wind Energy Bird & Bat Monitoring Database) (Birds Canada 2022).

General "Standard" ECCC Advice and Recommendations:

Migratory Birds

Migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act* (MBCA). Migratory birds protected by the MBCA generally include all seabirds (except for cormorants and pelicans), all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles). The list of species protected by the MBCA can be found at https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/convention-act.html. Bird species not listed may be protected under other legislation.

Under Section 5(1) of the *Migratory Bird Regulations, 2022* (MBR), it is forbidden to capture, kill, take, injure or harass a migratory bird; or damage, destroy or take a nest or egg of a migratory bird, excluding under the exceptions listed in 5(2) of the MBRs, or under the authority of a permit. It is important to note that under the MBR, no permits can be issued for the harm of migratory birds caused by development projects or other economic activities.

Furthermore, 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*."

It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations.

Vegetation Clearing

Clearing vegetation may cause disturbance to migratory birds, and may inadvertently cause the destruction of their nests and eggs. Most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, but 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. In developing mitigation measures, it is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA. The following should be considered during project planning:

- Avoid scheduling high disturbance activities, such as vegetation clearing, during the regional nesting period for migratory birds. Information regarding regional nesting periods can be found at: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html. Some species protected under the MBCA may nest *outside* these timeframes.

- The risk of impacting active nests or birds caring for pre-fledged chicks discovered during project activities *outside* of the regional nesting period can be minimized by 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.

- In developing and implementing a wildlife management plan, preventative measures to minimize the risk of impacts on migratory birds should be considered (see "Avoiding harm to migratory birds: guidelines to reduce the risk to migratory birds" at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html).

Nest Searches

ECCC-CWS generally does not recommend nest searches or sweeps in vegetation prior to clearing during the breeding season. Nests in complex habitat 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, harm to migratory birds is still likely to occur even when active nest searches are conducted prior to development activities, except when the nests searched are known to be easy to locate without disturbance (e.g. previously cleared area, simple habitats, low vegetation).

Some ground nesting species of migratory birds, including the threatened Common Nighthawk, may be attracted to previously cleared areas for nesting in the spring and summer if there is a delay between clearing activities (e.g. clearing conducted in the fall/winter and construction scheduled in the spring and summer).

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

- An urban park consisting mostly of lawns with a few isolated trees;
- A vacant lot with few possible nest sites;
- A previously cleared area where there is a lag between clearing and construction activities and where ground nesters may have been attracted to nest in cleared areas or in stockpiles of soil; or,
- A structure such as a bridge, a beacon, a tower or a building (often chosen as a nesting spot by robins, swallows, phoebes, Common Nighthawk, gulls and others).

Nest searches can also be considered when looking for:

- Conspicuous nest structures (such as nests of Great Blue Herons, Bank Swallows, Chimney Swifts);
- Cavity nesters in snags (such as woodpeckers, goldeneyes, nuthatches); or,
- Colonial-breeding species that can be located from a distance (such as a colony of terns or gulls).

Should any nests or unfledged chicks be discovered, protection with an appropriate-sized buffer is expected. Note: Nests should not be marked using flagging tape or other similar material as this increases the risk of nest predation. ECCC CWS can be contacted for further advice on bird monitoring and/or mitigation if a nest is found.

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

The following information should be included in any Oil Spill Prevention and Response Plan:

- Mitigation measures to deter migratory birds from coming into contact with the oil.
- Mitigation measures to be undertaken if migratory birds and/or sensitive habitat becomes contaminated with the oil.
- The type and extent of monitoring that would be conducted in relation to various spill events.

Revegetation

A variety of species of plants native to the general project area should be used in revegetation efforts. Should seed mixes for herbaceous native species for the area not be available, it should be ensured that plants used in revegetation efforts are not known to be invasive.

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 prior to transport from elsewhere to ensure that no vegetative matter is attached to the machinery (e.g., use of pressure water hose to clean vehicles prior to transport).
- Regularly inspecting equipment prior to, during and immediately following construction in areas found to support Purple Loosestrife 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-CWS recommends the following best management practices:

- The proponent should 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.
- The proponent should, where possible, 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 completed outside the migratory bird breeding season.
- The proponent should keep all construction equipment and vehicles in good working order and loud machinery should be muffled if possible.

Lighting Attraction and Migratory Birds

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

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

- Use the minimum amount of pilot, warning and obstruction lighting needed on tall structures. Warning lights should flash and completely turn off between flashes.
- Use the fewest number of site-illuminating lights possible in the project area. Only use strobe lights at night, at the lowest intensity and the smallest number of flashes per minute allowable by Transport Canada.
- Reduce lighting levels during severe weather events that may force migratory birds to land to prevent birds from landing in areas that would cause injury, harm, or death.
- Avoid or restrict the time of operation of exterior decorative lights such as spotlights and floodlights whose function is to highlight features of buildings or to illuminate an entire building. These lights, especially on humid, foggy or rainy nights, can draw birds from far away. Turn off these lights during the migratory season when the risk to birds is highest and during periods when birds are dispersing from their nests or colonies.
- Shield safety lighting so that the illumination shines down. Only install safety lighting where it is needed, without compromising safety.
- Shield street and parking lot lighting so that little escapes into the sky, and it falls where it is required. Consider using LED lighting fixtures as they are generally less prone to light trespass.
- The proponent should make all reasonable attempts to limit construction activities to the day and avoid illuminating the habitat adjacent to the worksite.

Transmission lines

Transmission lines have the potential to harm, injure, or kill migratory birds through increasing risks of collision and electrocution. The proposed placement of above-ground transmission lines should consider areas used as flight paths by migratory birds (e.g., during migration; travelling from nesting to foraging areas, along streams used by waterfowl). ECCC-CWS recommends the following beneficial management practices to avoid potential harm to migratory birds associated with transmission lines:

- Avoid building transmission 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.
- 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; and
    - Use line-marking devices to increase the visibility of the lines.

Infrastructure, Buildings and Bridges

Certain species of migratory birds may nest on the sides of buildings, bridges or other pieces of infrastructure. Additionally, some species may nest on equipment, if they are left unattended/idle for long periods of time.

ECCC-CWS recommends the following beneficial management practices:

- The proponent should ensure that project staff are aware of the potential of migratory bird bests on infrastructure, buildings, and bridges, if applicable.
- If a nest is discovered, the proponent should conduct no activities around the nest that cause the nest to be abandoned or destroyed. Activities should be suspended until the chicks have fledged and left the area.
- If the proponent anticipates that birds may nest on infrastructure, the proponent should install anti-perching and nesting exclusion devices (e.g. mesh netting, chicken wire fencing, etc.) before any nest attempts are made.

Species at Risk

The *Species at Risk Act* (SARA) "General prohibitions" SARA s.32 and 33 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 species at risk (SAR);
- 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.

For migratory bird species at risk, this prohibition immediately applies on all lands or waters (federal, provincial, territorial and private) in which the species occurs.

Under a federal Project Review (SARA ss. 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 is likely to affect a listed wildlife species or its critical habitat", and, SARA ss.79(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 take in a way that is consistent with any applicable recovery strategy and actions plans*". For provincial/territorial environmental assessment processes, ECCC-CWS recommends a similar approach be undertaken.

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.

As part of an environmental assessment, ECCC-CWS recommends that the proponent present mitigation measures consistent with best available information including any Recovery Strategy, Action Plan or Management Plan (final or proposed version). In instances where habitat for species at risk cannot be avoided, the proponent should provide an explanation why avoidance is not possible, as well as, a discussion of conservation allowances (biodiversity offsets) (if appropriate) (see ECCC's *Operational Framework for Use of Conservation Allowances* (2012) available at: https://www.canada.ca/en/environment-climate-change/services/sustainable-development/publications/operational-framework-use-conservation-allowances.html). Note: Where the impacted species at risk habitat is wetland, compensation recommended in the *Federal Policy on Wetland Conservation in Canada* and/or as required under provincial wetland policy may be appropriate.

Appendix 1
Excerpt from the Draft ECCC-CWS Residence Description (January 2022)

Little Brown Myotis and Northern Myotis

Any place used as a maternity roost by Little Brown Myotis is considered a residence. A maternity roost site may be a natural site, such as a cavity in a tree, a rock crevice, a cave or the underside of loose bark, or an anthropogenic site such as the underside of a bridge, an attic in a building or other structures (Fenton and Barclay 1980; Coleman and Barclay 2011). Little Brown Myotis is one of the few bat species that uses buildings and other anthropogenic structures to roost. Females are thought to select a quality maternity roost at the expense of travelling longer distances to forage possibly indicative of a limited number of suitable maternity roosting sites in foraging areas (Broders et al. 2006, Randall et al. 2014).

Maternity roosts in trees are often associated with natural holes, holes made by cavity excavators (*e.g.,* woodpeckers) or holes resulting from broken limbs or under loose bark. Typically, maternity roost sites are located in tall, large-diameter trees (DBH >30 cm), within forests (Kalcounis-Ruepell et al. 2005; Olson 2011; Olson and Barclay 2013) and older forest stands are preferred over younger forest stands (Barclay and Brigham 1996; Crampton and Barclay 1996; Jung et al. 1999). A larger tree size will usually house a larger number of bats (Olson 2011). Broders and Forbes (2004) found a preference for deciduous trees (Sugar Maple, Yellow Birch, and American Beech) and attributed this preference to deciduous trees' susceptibility to limb breakage and decay (creating available habitat for roosting), long-lived characteristics (permitting repeated use by bats), and their upland habitats with increased solar radiation (reducing energy costs to maintain the bat's body temperature).

Maternity roosts located in buildings tend to be located in warm but uninhabited areas of the building or in abandoned ones. Attics in older buildings are commonly used.

Tri-colored Bat

Little is known about maternity roosts of Tri-colored Bat. However, the species is known to roost in clumps of dead tree foliage and lichens and broken branches in coniferous and deciduous tree species (Veilleux et al. 2003, Perry and Thill 2007, Poissant et al. 2010). Tri-colored Bats also use barns and other anthropogenic structures for maternity roosts, and they may also use tree cavities, broken branches on trees, caves and rock crevices (Fujita and Kunz 1984). In Nova Scotia, a local population of Tri-colored Bat roosted solely in clumps of *Usnea* lichen and mostly within spruce trees (Poissant et al. 2010).

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Water Quality

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: https://www.canada.ca/en/environment-climate-change/services/managing-pollution/effluent-regulations-fisheries-act/frequently-asked-questions.html

Accidents and Malfunctions

Hazardous materials (e.g. fuels, lubricants, hydraulic oil) and wastes (e.g. waste oil) should be managed so as to minimize the risk of chronic and/or accidental releases. For example, the proponent should encourage contractors and staff to undertake refueling and maintenance activities on level terrain, at a suitable distance from environmentally sensitive areas including watercourses, and on a prepared impermeable surface with a collection system.

The proponent is encouraged to prepare contingency plans that reflect a consideration of potential accidents and malfunctions and that take into account site-specific conditions and sensitivities. The Canadian Standards Association publication, *Emergency Preparedness and Response,* CAN/CSA-Z731-03, reaffirmed 2014), is a useful reference.

All spills or leaks, such as those from machinery or storage tanks, should be promptly contained and cleaned up (sorbents and booms should be available for quick containment and recovery), and reported to the 24-hour environmental emergencies reporting system (Maritime Provinces 1-800-565-1633)

If you have any questions, please direct any further correspondence to ECCC's environmental assessment window for coordination at: FCR_Tracker@ec.gc.ca.

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McInnis, Mark

From: Breau,Monique (elle, la | she, her) (ECCC) <Monique.Breau@ec.gc.ca>
Sent: June 3, 2022 10:35 AM
To: Zwicker,Stephen (ECCC)
Cc: Fazeli,Maryam (ECCC); Knaga,Paul (il, le, lui | he, him, his) (ECCC); Hingston,Michael (il, lui | he, him) (ECCC)
Subject: ECCC-CWS Initial Comments RE: Wedgeport Wind Farm Project - Avian Survey Methods
Attachments: CWS Atlantic Guidance Update for Wind Energy and Migratory Birds - April 2022.pdf; NightjarSurvey_Summary_Protocol_2022.pdf; Owl_Survey-Protocol_WAFLS_SEOW_2020.pdf; Shorebirds_PRISM_ACSS_MigrationSurvey_Guidelines_May 5 2014.pdf

Dear Steve,
Environment and Climate Change Canada's Canadian Wildlife Service (ECCC-CWS) has reviewed the baseline avian survey methods received on May 13, 2022 for the proposed WedgePort Wind Energy, WedgePort, Yarmouth County, Nova Scotia. In the future, we recommend that requests to review draft monitoring protocols be submitted early and in advance of the field season. The following available guidance and initial comments are provided for consideration:

Attachments:

- ECCC-CWS-ATL Wind Energy & Birds EA Guidance Update (April 2022)
- Canadian Nightjar Survey Protocol (2022)
- Atlantic Canada Shorebird Surveys (ACSS) Protocol (2014)
- Western Asio flammeus Landscape Survey (WAfLS) Protocols for Short-eared Owl (WAfLS, 2020)

General Guidance

ECCC-CWS environmental assessment (EA) guidance outlining considerations related to wind project-planning, baseline monitoring and assessing potential impacts to migratory birds and species at risk is available:

- "ECCC-CWS-ATL Wind Energy & Birds EA Guidance Update" (April 2022)
- "Wind Turbines and Birds - A Guidance Document for Environmental Assessment" (CWS(a), 2007) (http://publications.gc.ca/site/eng/9.698741/publication.html),
- "Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds" (CWS(b), 2007) (http://publications.gc.ca/site/eng/9.698742/publication.html)
- "Avoiding harm to migratory birds: reducing risk to migratory birds" (ECCC, 2017) www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html

This guidance outlines the nature of information recommended by ECCC-CWS-ATL to identify, assess, monitor and mitigate potential adverse effects of wind energy projects on migratory birds protected under the *Migratory Birds Convention Act* (MBCA) and species at risk protected under the *Species at Risk Act* (SARA).

In addition to turbine placement, access roads, and lighting, the proponent should consider where proposed transmission lines right-of-way intersect areas used as flight paths by birds (e.g. migration, travel routes from nesting to foraging areas, watercourses and streams used by waterfowl) and demonstrate how the proposed configuration is optimal for avoiding avian collisions and electrocution. Existing infrastructure, agriculture, forestry operations, other wind or solar energy farms, as well as, any new infrastructure should be considered as part of the cumulative effects assessment. If available, consider post-construction monitoring results from adjacent nearby wind energy operations (e.g. Black Pond Road, Pubnico Wind Farm Inc.).

Additional sources of data (e.g. Atlantic Canada Data Centre, Migratory Bird Breeding Atlas, eBird, Christmas Bird Count, NS Nature Trust, local naturalist groups, provincial biologists, etc.) should be consulted for information on usage of the area

by migratory birds and species at risk during all seasons, and be supplemented by field surveys by professional biologists (with expertise in conducting the types of surveys required) at the appropriate time of year. Note: The fact that a species has not been confirmed in an area does not necessarily mean that it does not occur there, especially if habitat appropriate for the species is available.

ECCC-CWS recommends considering the inventory of existing LiDAR now available for Nova Scotia (https://nsgi.novascotia.ca/datalocator/elevation/) to investigate the relationship between topography, forests, and possibly the depth to water-table and potential impacts to the local bird community.

Many species of migratory birds and species at risk are dependent on wetland habitats for part of the life cycle. ECCC-CWS recommends avoiding wetland habitats used by bird species at risk and bird species of conservation concern. Where effects to wetland habitat are deemed unavoidable, ECCC-CWS recommends including a discussion of why avoidance is not possible, proposed mitigation measures, as well as, a wetland compensation plan which considers the use of conservation allowances for loss of wetland habitat used by bird species at risk.

ECCC-CWS recommends that the proponent contact the Nova Scotia Department of Natural Resources & Renewable for technical expertise on species at risk under their responsibility (e.g. birds that are not protected by the MBCA such as raptors, bats, reptiles, amphibians, land-mammals, insects, plants and lichen) (contact: Donna.Hurlburt@novascotia.ca).

ECCC-CWS recommends the proponent contact the Nova Scotia Department of Environment & Climate Change for provincial regulatory requirements under the NS Environmental Impact Assessment (EIA) Regulations: https://www.novascotia.ca/nse/ea/ and https://www.novascotia.ca/nse/ea/pubs.asp

Bats

ECCC-CWS recommends bat species at risk monitoring equivalent in detail and effort to the bird monitoring (e.g., covering all seasons of activity from spring emergence to pre-hibernation/swarming – April to October – for two years pre-construction. Hibernating bats are known to travel several hundreds of kilometres between overwintering and breeding locations (see bat comments in General Guidance above). The assessment should consider bat migration routes and an inventory of important/high value habitat and geographic features, including landforms that might influence movement/congregation, mature trees with cavities for roosting, buildings that might be housing Little Brown *Myotis* maternity colonies, old mines/caves that may be used as hibernacula, etc. in vicinity of the proposed project. The assessment should include mitigation measures to protect bat residences should they be suspected or confirmed during surveys. Buildings can be surveyed for signs of bats (e.g. guano) followed by emergence surveys during the breeding season to confirm presence. An excerpt from the draft bat residence description for Little Brown Myotis and Tri-colored Bat is available for consideration in identifying bat maternity roosting habitat (Appendix 1 below).

The Government of Canada published factsheets providing information on the Emergency Listing Order, the disease threatening bats, the requirements of SARA, and ways to protect and preserve bat populations. The factsheet "*WIND ENERGY and the Emergency Listing Order for the Little Brown Myotis (Myotis lucifugus), the Northern Myotis (Myotis septentrionalis) and the Tri-colored Bat (Perimyotis subflavus)*" (2014), including best management practices, is available on the SARA Registry at: https://species-registry.canada.ca/index-en.html#/documents/1371

Site-Specific Considerations for Avian Surveys

The study area is important for waterfowl, seaduck, and shorebirds during the breeding, resting and refueling during migration, as well as the overwintering periods. Nearby Cook's Beach, Melbourne Game Sanctuary, and Pinkney's Point are locally important shorebird staging sites - particularly Cook's Beach and Melbourne which are both candidate Western Hemisphere Shorebird Network (WHSRN) sites due to regionally important concentrations of Short-billed Dowitcher and Semipalmated Plover (sites that host <1% of the biogeographic population).
The waters surrounding the study area is also within the foraging range of the Roseate Tern, listed as Endangered on schedule 1 of SARA.

The study area appears to possess habitat characteristics which may be used by Short-eared Owl, listed as Special Concern on Schedule 1 of SARA. Their habitat includes the use of open habitats, grasslands, peat bogs, marshes, sand-sage and old pastures. ECCC-CWS recommends the "Western Asio flammeus Landscape Survey (WAfLS) Protocols for Short-eared Owl" (WAfLS, 2020)", noting that the spring migration monitoring window may have been missed. For further information on this species (e.g. regional monitoring windows, protocols, records, etc.), ECCC-CWS recommends the proponent contact the Nova Scotia Department of Natural Resources & Renewable for technical expertise on this species at risk under their responsibility (contact: Donna.Hurlburt@novascotia.ca).

Spring Survey:

- The proposed spring migration-monitoring window may have missed early waterfowl and seaduck movements in the area. ECCC-CWS recommends that the spring-migration monitoring window commence in March 15 - June 7.

Breeding Survey:

- It is indicated that Common Nighthawk surveys are planned in June using the Saskatchewan Ministry of Environment (2015) protocols, which involve the use of playbacks. ECCC-CWS does not recommend the use of playback recordings when monitoring species at risk. ECCC-CWS recommends using the Canadian Nightjar Survey Protocols (2022). Nightjar surveys should also consider Eastern whip-poor-will (listed as Threatened on Schedule 1 of SARA); there are records (eBird) of this species south of the study area in Lower West Pubnico. While Common Nighthawk are crepuscular, Eastern whip-poor-will are nocturnal and only beginning to vocalize 30 minutes after sunset. Survey timing also varies based on changing lunar cycle.

  ECCC-CWS recommends nightjar survey start within 7 days on either side of a full moon, and completed 1 hr before sunset to 2hrs after sunset.

- Willets are likely breeding in saltmarshes in the area. ECCC-CWS recommends that the breeding birds survey also include monitoring for shorebird potentially breeding in salt marsh and bog habitats adjacent and within the site.

Fall Survey:

- ECCC-CWS recommends the fall migration-monitoring window be extended from July 15 – November 30. This extended monitoring windows allows the proponent to assess landbirds, waterfowl/sea duck and shorebird migration movements, especially important in coastal areas and along known migration routes (ECCC-CWS-ATL, 2022). Shorebirds have been observed moving over land from foraging to roosting sites during pre-migration recruitment flights.

- Fall surveys should assess the use of bogs by shorebirds such as Whimbrel, American Golden Plover, which may use the barrens in the fall to forage for berries. Fall shorebird migrants will also use saltmarshes at high tide (e.g. Least Sandpiper, yellowlegs and Short-billed Dowitcher).

  ECCC-CWS recommends the Atlantic Canada Shorebird Surveys (ACSS) Protocol (2014)(attached) in shorebird migration surveys, including surveys along the coastlines adjacent to the site, as well as, in saltmarsh and the barrens & bogs habitats found in the study area.

- ECCC-CWS recommends extending the proposed monitoring window into November to consider late waterfowl and seaduck migration movements. Note: Sea ducks are low altitude nocturnal migrants and it will be important to understand their movements over the proposed site.

Winter Survey:

- ECCC-CWS recommends that areas that contain habitats that may be important for migratory birds as stopover sites or wintering areas should be surveyed to determine whether they support large numbers of birds in these seasons (CWS, 2007b). Due to the importance of the area for overwintering waterfowl, seaduck, as well as overwintering shorebirds species of conservation concern, such as Purple Sandpiper, Dunlin, Sanderling, ECCC-CWS recommends including winter bird surveys as part of the baseline analysis of the area.

We trust these initial comments and available guidance will be useful in baseline monitoring plans. Further comments may be forthcoming.

Sincerely,
Monique

Appendix 1

Excerpt from the Draft ECCC-CWS Residence Description Little Brown Myotis and Tri-colored Bat

Any place used as a maternity roost by Little Brown Myotis is considered a residence. A maternity roost site may be a natural site, such as a cavity in a tree, a rock crevice, a cave or the underside of loose bark, or an anthropogenic site such as the underside of a bridge, an attic in a building or other structures (Fenton and Barclay 1980; Coleman and Barclay 2011). Little Brown Myotis is one of the few bat species that uses buildings and other anthropogenic structures to roost. Females are thought to select a quality maternity roost at the expense of travelling longer distances to forage possibly indicative of a limited number of suitable maternity roosting sites in foraging areas (Broders et al. 2006, Randall et al. 2014).

Maternity roosts in trees are often associated with natural holes, holes made by cavity excavators (*e.g.,* woodpeckers) or holes resulting from broken limbs or under loose bark. Typically, maternity roost sites are located in tall, large-diameter trees (DBH >30 cm), within forests (Kalcounis-Ruepell et al. 2005; Olson 2011; Olson and Barclay 2013) and older forest stands are preferred over younger forest stands (Barclay and Brigham 1996; Crampton and Barclay 1996; Jung et al. 1999). A larger tree size will usually house a larger number of bats (Olson 2011). Broders and Forbes (2004) found a preference for deciduous trees (Sugar Maple, Yellow Birch, and American Beech) and attributed this preference to deciduous trees' susceptibility to limb breakage and decay (creating available habitat for roosting), long-lived characteristics (permitting repeated use by bats), and their upland habitats with increased solar radiation (reducing energy costs to maintain the bat's body temperature).

Maternity roosts located in buildings tend to be located in warm but uninhabited areas of the building or in abandoned ones. Attics in older buildings are commonly used.

Tri-colored Bat

Little is known about maternity roosts of Tri-colored Bat. However, the species is known to roost in clumps of dead tree foliage and lichens and broken branches in coniferous and deciduous tree species (Veilleux et al. 2003, Perry and Thill 2007, Poissant et al. 2010). Tri-colored Bats also use barns and other anthropogenic structures for maternity roosts, and they may also use tree cavities, broken branches on trees, caves and rock crevices (Fujita and Kunz 1984). In Nova Scotia, a local population of Tri-colored Bat roosted solely in clumps of *Usnea* lichen and mostly within spruce trees (Poissant et al. 2010).

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From: Zwicker,Stephen (ECCC) <stephen.zwicker@ec.gc.ca>
Sent: May 13, 2022 7:47 AM
To: Breau,Monique (ECCC) <Monique.Breau@ec.gc.ca>
Cc: Fazeli,Maryam (ECCC) <Maryam.Fazeli@ec.gc.ca>
Subject: FW: Wedgeport Wind Farm Project - Avian Survey Methods

Hi Monique,
Not sure if we have heard of this proposed site before. No deadline requested and it would appear they would have already done spring migration surveys. Could you provide any comments by the 27th?. Thanks.
Steve

From: Jeff Bonazza <jeffb@mccallumenvironmental.com>
Sent: May 12, 2022 4:12 PM
To: Zwicker,Stephen (ECCC) <stephen.zwicker@ec.gc.ca>
Cc: ec.enviroinfo.ec@canada.ca
Subject: Wedgeport Wind Farm Project - Avian Survey Methods

> You don't often get email from jeffb@mccallumenvironmental.com. Learn why this is important

Hi Stephen,

On behalf of Wedgeport Wind Farm LP, please find attached the avian survey methds to support the provincial Environmental Assessment of the Wedgeport Wind Farm Project, located in Wedgport, Yarmouth County, NS.

Please let me know if you would like to discuss these methods in additional detail or if you have any questions or concerns.

Thanks,

JEFF BONAZZA, M.Env.Sci
PROJECT MANAGER

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

Background

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

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

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

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

Determining Site Sensitivity

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

Minimum Standard

Pre-Construction Monitoring

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

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

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

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

Study Design

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

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

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

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

Data Analysis

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

The report should include, at minimum, the following:

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

Post-Construction Monitoring

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

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

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

Data and Report Submission

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

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

Best Approach

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

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

Bats

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

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

Contexte

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

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

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

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

Détermination de la sensibilité du lieu

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

Norme minimale

Surveillance avant la construction

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

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

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

Plan expérimental

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

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

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

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

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

Analyse des données

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

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

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

Surveillance post-construction

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

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

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

Présentation des données et des rapports

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

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

Meilleure approche

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

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

Chauves-souris

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

Références

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NOVA SCOTIA
Environment and Climate Change

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

Date: April 14, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Neil Morehouse, Manager

Subject: **Wedgeport Wind Farm Project, Yarmouth County, Nova Scotia**

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

Technical Comments:

Terrestrial impact to Tusket Islands Wilderness Area

Edge effects from habitat disturbance on natural areas are numerous and well documented. Research by the Protected Areas and Ecosystems Branch and others has found microclimatic changes and habitat avoidance can penetrate up to 500m into adjacent forests. There are also a multitude of potential "use impacts" to adjacent protected areas from vehicle use close to their boundaries, including nearby roads becoming vectors for illegal OHV use into the wilderness area, even when roads are gated.

With respect to terrestrial impacts, the three planned turbines (#2, #7, and #10) and associated roads proposed for construction very close to (within 20m to 100m of) the wilderness area are of particular concern. Expected negative impacts from these turbines and roads can best be mitigated by avoiding construction in the proposed locations, so close to the wilderness area boundary.

Avian impact to Tusket Islands Wilderness Area

Coastal headlands in western Nova Scotia, especially those that are still in a relatively intact nature condition such as lands in the Tusket Islands Wilderness Area have disproportionately high biodiversity value due to their importance for birds. Tusket Islands Wilderness Area supports a rich assemblage of breeding waterfowl and shorebirds.

However, our primary concern is related to mortality of migrating songbirds. Acoustic monitoring research supported by the Protected Areas and Ecosystems Branch in 2021/22 confirmed that the wilderness area directly adjacent to the project site is part of a headland that is a critical resting and feeding area for migratory songbirds, both in the fall when birds are preparing to fly south, and when they return to the western edge of Nova Scotia in the spring after flying for long distances over the ocean. It is expected

that a project that essentially runs a line of wind turbines along about half the perimeter of the wilderness area will have a negative effect on this function of the wilderness area.

Turbines #12 and #13, and associated planned access roads, at the southern end of the proposed project area overlap with a Crown-owned coastal headland with high biodiversity conservation value. This area is utilized by migrating songbirds, including for feeding on fruiting shrubs before migration. The Crown lands here also support breeding pairs of willet and boreal chickadee, two species of conservation concern.

Summary of Technical Considerations: (provide in non-technical language)

- To address avian impacts to Tusket River Wilderness Area to address avian impacts to Tusket River Wilderness Area a bird mortality study of the proposed project could be considered."

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
- ☐ IKANAWTIKET SARA
- ☑ MAPC Administration

MAPC Regional
Administrative Office
80 Walker Street, Suite 3
Truro, Nova Scotia
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Tel: 902-895-2982
Fax: 902-895-3844
Toll Free: 1-855-858-7240
Email: frontdesk@mapcorg.ca

Governmental
APRO Councils

Native Council of
Nova Scotia
P.O. Box 1320
Truro, Nova Scotia
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Tel: 902-895-1523
Fax: 902-895-0024
Email: chieflaugustine@ncns.ca

New Brunswick Aboriginal
Peoples Council
320 St. Mary's Street
Fredericton, New Brunswick
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Tel: 506-458-8422
Fax: 506-451-6130
Email: chief@nbapc.org

Native Council of
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Charlottetown
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Fax: 902-368-7464
Email: chief@ncpei.com

April 14th, 2023

Environmental Assessment Branch
P.O. Box 442
Halifax, Nova Scotia
B3J 2P8

RE: Wedgeport Wind Farm

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 Application for the Wedgeport Wind Farm.

MAARS and NCNS recognize the importance of continued renewable energy developments in Nova Scotia, particularly wind energy developments, to continue to work toward the goal of 80% renewably sourced energy. At this time, MAARS and NCNS do not have any commentary to provide related to this proposed undertaking, however we would like be kept apprised to any developments or changes to the project.

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 Indian, and Lands reserved for the Indians" and that the "word Indians' in s.91(24) includes Métis and non-Status Indians"[1]. Since 2004, in multiple decisions passed by the

[1] Daniels v. Canada (Indian Affairs and Northern Development), 2016 SCC 12, [2016] 1 S.C.R. 99

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.

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 Kwilmu'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 to consult with all Indians extends beyond that only with Indian Act Bands, or as through the truncated Terms of Reference for a Mi'kmaq Nova Scotia Canada Consultation Process.

For contextual purposes, 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 (2016 Census - 25% sample) enumerate 21,915 off-Reserve Aboriginal Persons in New Brunswick, 42,145 in Nova Scotia, and 2,210 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,

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[2] Haida Nation v. British Columbia (Minister of Forests), (2004), 2 S.C.R. 511

[3] Taku River Tlingit First Nation v. British Columbia (Project Assessment Director), (2004), 3 S.C.R. 550

[4] Mikisew Cree First Nations v. Canada (Minister of Canadian Heritage), (2005), 3 S.C.R. 388

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 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 the Mi'kma'ki now known as Nova Scotia.

We would appreciate an opportunity to engage on the Wedgeport Wind Project directly with the proponent, the Wedgeport Wind Farm Limited Partnership. 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. To continue to represent the interests and needs of the off-Reserve Aboriginal Community in Nova Scotia, we would like to request the opportunity to participate in early engagement in future Environmental Assessment Reviews.

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

Kwilmu'kw Maw-klusuaqn Negotiation Office
Mi'kmaq Rights Initiative

Our Rights. Our Future.

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Email info@mikmaqrights.com
www.mikmaqrights.com

April 18th, 2023

Mark McInnis
Environmental Assessment Officer
Environmental Assessment Branch
Nova Scotia Environment and Climate Change
Email: mark.mcinnis@novascotia.ca

RE: Consultation with the Mi'kmaq of Nova Scotia on the Wedgeport Wind Farm Project, Yarmouth County, N.S.

Mr. McInnis,

I write in response to your letter dated March 10, 2023, requesting consultation under the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process* (TOR) as ratified on August 31, 2010, on the above noted project. We wish to proceed with consultation.

The Kwilmu'kw Maw-Klusuaqn Negotiation Office (KMKNO) are pleased to see Sipekne'katik First Nation as a partner with Elemental Energy and Stevens Wind Ltd. on this proposed wind project. We recognize more needs to be done in the transition away from fossil fuels and are encouraged that the Mi'kmaq are at the forefront in various renewable energy projects.

This project may impact various communities' rights recognized under section 35 of the Constitution Act, 1982. This project may impede the ability in the surrounding area to hunt, fish, and gather in the project area. As referenced in the Environmental Assessment Registration Document (EARD) and (Mi'kmaq Ecological Knowledge Study) Moose, Salmon, Lobster, Trout, Deer and Partridge, but not limited to, are all species that are important to the Mi'kmaq and are all found in the project area. It is our expectation that Nova Scotia Environment and Climate Change (NS-ECC) will ensure this endangered species will not be impacted by this proposed project.

As stated in the MEKS, the Mersey River has long since been a travel route for The Mi'kmaq of Nova Scotia since time in memorial and holds significant cultural importance to The Mi'kmaq. We must emphasize that this is an extensive project that exhibits many potential impacts within a landscape that is widely known as a historically significant Mi'kmaw place. Impacts include upgrades to existing road infrastructure, the creation of new access roads, laydown areas, the development of turbine pad construction, project substation, transmission line right of way

(ROW) and collector lines. We must also emphasize that the project is situated in a highly regarded, sensitive and significant Mi'kmaw landscape, not only because of its association with the Mersey River as a well-documented route of travel and place where resources are abundant. Any physical impacts to land, regardless of what might be considered minimal, have the potential to damage or disturb buried cultural remains, and thus, impact Mi'kmaw rights and title.

The MEKS has identified the project area as a high-use area for past and present lobster fishing. KMKNO wishes to advise that several Food-Social-Ceremonial (FSC) licenses, and commercial licenses may be affected by the development of this project. Therefore, it is recommended that additional work should be completed by the proponent with respect to potential impacts to fish, fish habitat, and Mi'kmaq fishing activity and/or Mi'kmaq fishing licenses in and surrounding the project area as this project may have potential environmental and socio-economic impacts on the Mi'kmaq of Nova Scotia.

The EARD identified several wetlands and watercourses located in the project area may be altered, disrupted, or destroyed due to the construction and development of this proposed project. The restoration and/or creation of wetland areas is supported and encouraged, however, it is our understanding that wetlands are complicated systems that cannot be easily replicated from a biological perspective. It is our expectation that Consultation will continue on future permits and approvals for this project such as a Fisheries Act Authorization or alternative permitting from Department of Fisheries and Oceans that will allow the proponent to alter or disturb these bodies of water.

The MEKS makes mentions of sweet grass and various berries located within the project area. Every effort should be made to preserve the already established ecosystem from future developments. Further, whereby vegetation resources will be removed for new builds, we expect that suitable immature to mature craft would be made accessible for harvest to the local Mi'kmaw Communities should they have interest.

The EARD also mentions several avian species that are classified as "Species at Risk" or "Special Concern" that are found in the project area. Our office remains concerned of these species and how the Wind Turbine Generators will affect their habitats and migratory routes. Our office recommends the proponent reach out to The Mi'kmaq Conservation Group for any studies and surveys that may result of the conditions of this project should it be approved.

It is our expectation that the application of the use of Crown Lands that has been submitted to the Nova Scotia Department of Natural Resources and Renewables (NRR) will be sent to our office for review and comment.

The Mi'kmaq Nation in Nova Scotia has a general interest in all lands and resources in Nova Scotia as the Mi'kmaq Nation has never surrendered, ceded, or sold the Aboriginal title to any of its lands in Nova Scotia. The Mi'kmaq have a title claim to all of Nova Scotia and as co-owners of the land and its resources it is expected that any potential impacts to rights and title shall be addressed.

KMKNO's Archaeology Team is currently reviewing Section 13.6.6 of the EARD and Archaeology Permits A2012NS129 & A2022NS180 provided by the Office of L'nu Affairs. Additional time is needed on this review and our office will forward these comments to NS-ECC upon completion.

KMKNO does not represent the communities of Millbrook, Sipekne'katik, or Membertou First Nations.

Please contact Patrick Butler, Senior Mi'kmaw Energy and Mines Advisor at KMKNO for any further questions.

Yours in Recognition of Mi'kmaw Rights and Title,

Director of Consultation
Kwilmu'kw Maw-Klusuaqn Negotiation Office

c.c.:
Kwilmu'kw Maw-klusuaqn Negotiation Office
[redacted], Nova Scotia Office of L'nu Affairs
Kevin Turner, Nova Scotia Environment and Climate Change, ICE Division
Melanie Cameron, Nova Scotia Department of Natural Resources & Renewables

McInnis, Mark

From: @mikmaqrights.com>
Sent: April 26, 2023 5:02 PM
To: McInnis, Mark
Cc:

Subject: FW: Consultation with the Mi'kmaq of Nova Scotia on the Wedgeport Wind Farm Project, Yarmouth County, N.S.
Attachments: 2023-04-18 KMKNO to NS-ECC re Wedgeport Wind Farm Project.pdf

Good Afternoon Mark,

Further to our attached letter dated April 18th, 2023, please see below our Archaeology comments below. Please reach out if you have any questions.

The KMKNO Archaeological and Research Department (ARD) has reviewed the Wedgeport Wind Farm Project Environmental Assessment (EA) Registration Document, particularly Section 11.6.5 (pgs. 147-149) and Appendix O that summarizes an ARIA for the project area. The Archaeological Resource Impact Assessment (ARIA)(HRP A2022NS180), which has been conducted by CRM Group has also been reviewed. This ARIA consisted of a background study and field reconnaissance. There was no subsurface testing. We would like to recognize Sipekne'katik First Nation as a partner on the project.

The Archaeology Research Division (ARD) can support, at this time, the recommendation that "any adjustment of the proposed Wedgeport Wind Farm Project be addressed by an Archaeological Resource Impact Assessment" (ARIA) (HRP #: A2022NS180, 2022: 38). We cannot support the recommendation that the "Study Area . . .described and depicted in the [ARIA} be cleared of further requirement for archaeological investigation" (HRP #: A2022NS180, 2022: 38).

Although we are encouraged to see a Mi'kmaw partner on this proposed project, the ARD is concerned that previous archaeological assessments have not considered that Mi'kmaw belongings contextually associated with traditional use may exist within the study area because landscape conditions were assessed under the rubric that land was not favourable for settlement. Previous MEKS identified the area as a location used historically for hunting, fishing, plant harvesting, and continues to occur today. The most recent ARIA conducted by CRM Group, A2022NS180, reported "One hunting blind was located within the bounds of the Study Area" reinforcing the information offered in the MEKS as an area used for hunting. The ARIA described the area as being "comprised of exposed bedrock, dense black spruce and aspen forests, shallow and wet soils, and sloped, undulating terrain" and interpreted these factors as a "deterrent to both animals and humans in the area" (HRP #: A2022NS180, 2022: 38). As a result, "the entire Study Area, as depicted in this report, is ascribed low archaeological resource potential" (HRP #: A2022NS180, 2022: 38). We would like to emphasize that whenever a landscape has been used for hunting historically, there is a chance that cultural heritage may also be present. Further, the character of the landscape today is the result of millennia of change that Mi'kmaq have witnessed and existed in accordance with Netukulimk. One cannot conclusively eliminate potential for Mi'kmaw archaeological heritage without subsurface testing, regardless of current landscape conditions.

The proposed Wind Farm is located west of the inlet of the Tusket River, in proximity to a heavily used travel corridor towards the Mersey River, near the Tusket Islands, and peripheral to a historic "Mi'kmaw encampment and trading

post [that] once existed at the mouth of the Chebogue River, approximately 8.5 kilometres west of the Study Area" (HRP #: A2022NS180, 2022: 38). Although the area has been ascribed as holding "low archaeological resource potential" and cleared for further archaeological investigation, we consistently recommend in areas that will undergo impact, that subsurface testing be undertaken to confirm the presence of archaeological heritage. We wish to clarify that negative tests and negative evidence are considered relevant and important data, regardless of suspected disturbances or classifications of low potential to exhibit archaeological resources.

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.

Wela'lin

Senior Mi'kmaq Energy and Mines Advisor

Kwilmu'kw Maw-klusuaqn
Mi'kmaq Rights Initiative

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From: @mikmaqrights.com>
Sent: Tuesday, April 18, 2023 4:39 PM
To: McInnis, Mark <Mark.McInnis@novascotia.ca>
Cc:

Subject: Consultation with the Mi'kmaq of Nova Scotia on the Wedgeport Wind Farm Project, Yarmouth County, N.S.

Kwe' Mark,

On behalf of , the Director of Consultation at Kwilmu'kw Maw-Klusuaqn Negotiation Office, please find the attached correspondence with respect to "Consultation with the Mi'kmaq of Nova Scotia on the Wedgeport Wind Farm Project, Yarmouth County, N.S.".

Wela'lin,

Assistant to the Director of Consultation,

Kwilmu'kw Maw-klusuaqn
Mi'kmaq Rights Initiative

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McInnis, Mark

From: @hotmail.com
Sent: March 26, 2023 8:17 PM
To: Environment Assessment Web Account
Subject: Proposed Project Comments

Project: wedgeport-wind-farm-project Comments: The fact that you are saying property values are not affected is a completely misleading statement. The studies you reference shown only homes sold. NOT the ones that sit on the market for years and never sell because most people do NOT want to live anywhere near these things. Those that do sell are often purchased by the stakeholders in the wind turbine companies to build more turbines. People call and ask are there any proposed or current turbine developments in the area and then will NOT even look at the homes near them. Less people looking means less value for the property. Nova Scotia has become easy pickings for greedy turbine companies looking to take advantage of us and they use studies like those referenced to deceive us. Name: Email: @hotmail.com Address: Municipality: Shelburne email_message: Privacy-Statement: agree x: 48 y: 23

McInnis, Mark

From: @gmail.com
Sent: March 29, 2023 1:01 PM
To: Environment Assessment Web Account
Subject: Proposed Project Comments

You don't often get email from t c@gmail.com. Learn why this is important

** 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

Project: wedgeport-wind-farm-project Comments: Pertaining to the Wedgeport Wind Farm Project, I am concerned that the 1km setback is too close to houses especially the 195.5 meter one on the north side of Black Pond Road. On certain days we can see the shadow effects and hear the swish of an existing smaller turbine than the 13 proposed. At present many jurisdictions around the world, particularly those with a long history of using wind turbines, are adopting greater setbacks from habitable dwellings. Anywhere from 2kms to 10 times the height of the turbines due to health and safety reasons. I am also very concerned about noise pollution, shadow effect, safety issues, permanent environment and landscape changes. In turn that will affect our wildlife population, for example deer, and the flight pattern of our migratory black ducks and geese that historically fly in Goose Bay. So 35 years is a long time not to get the right. Name: Email: @gmail.com Address: Municipality: Arcadia email_message: Privacy-Statement: agree x: 52 y: 16

McInnis, Mark

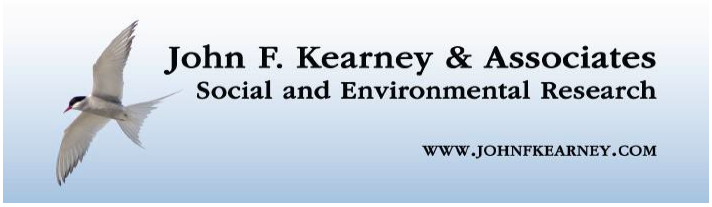
From: @gmail.com
Sent: April 12, 2023 11:06 AM
To: Environment Assessment Web Account
Subject: Comments on Wedgeport Wind Farm
Attachments: Wedgeport Wind Farm Comments.pdf

I am attaching my comments on the Wedgeport Wind Farm.

John F. Kearney & Associates

My email is @gmail.com
I consent to the posting of my comments on the department's website.

Sincerely,



When Clean Energy Gets Soiled – The Case of the Wedgeport Wind Farm

is an environmental anthropologist. From 2008-2018, he worked for the Nova Scotia wind industry as an independent consultant assessing the impact of wind energy facilities on birds. For the last four years, he has been the lead partner in Listening Together, a government-funded project engaging naturalists, environmental organizations, and Mi'kmaw communities in biodiversity conservation through bioacoustics.

This essay concerns two of the most critical challenges for Nova Scotia in its response to climate change. One is the requirement to expand our clean energy production; the other is the urgent need for biodiversity protection to reverse the declining populations of numerous plants and animal species. Here I discuss a case where these objectives conflict and could lead to an ecological disaster that would tarnish the reputation of the wind industry.

One of the magnificent natural wonders of Nova Scotia is autumn bird migration in the southwest corner of Kespukwitk, the Mi'kmaw district now known as Southwest Nova Scotia. Like in the rest of the province, migrating birds fly in a broad front, mainly at night, toward their winter homes in the southern United States, Mexico, and Central and South America. But when they reach the "end of flow," the literal translation of Kespukwitk, something special happens along the peninsulas, headlands, and islands of Digby, Yarmouth, and Shelburne counties. Here, thousands of birds from the boreal forest, from as far away as Alaska, along with others from eastern Canada and New England, drifted by wind over the Bay of Fundy and the Gulf of Maine, join the birds coming through Nova Scotia.

Ornithologists first noticed this in radar studies during the 1970s. They called the birds coming across the ocean to Nova Scotia, flying in a "seasonally inappropriate direction," reverse migrants. It wasn't until the 21st Century that researchers at Acadia University conducting radar and radio tagging studies demonstrated the extraordinary complexity of songbird movements in Kespukwitk. Some birds, having drifted far offshore, instinctively know if they fly northwest, they will eventually reach land, that land being Nova Scotia. Following diverse migration strategies, other species move around the terrestrial habitats bordering the Bay of Fundy and the Gulf of Maine in search of food resources. Others engage in flights within the region for reasons

that are still unknown. Thus, on any autumn day, birds depart the province at night, crossing the ocean to New England, the Caribbean, and South America, while others arrive in the morning from the sea to our islands, headlands, and peninsulas, greatly needing rest, food, and cover from predators.

Governments and land trusts have come to recognize these vital habitats for migrating birds by establishing various protection measures. Protected lands currently exist in places such as Brier Island, the Tusket estuary and islands, Bon Portage Island, Seal Island, and Port LaTour. In the corresponding areas across the Gulf of Maine, conservationists have established the northeastern coastal region of Maine as a Globally Important Bird Area, with areas designated as being of high or critical importance.

With the initial growth of the wind industry in Nova Scotia during the past 20 years, there were proposals to construct along the coast where wind resources are plentiful. Learning of the disastrous interactions between migrating birds and wind turbines, such as in the Altamont Pass in California, the Canadian Wildlife Service, and the Nova Scotia Department of Natural Resources and Renewables, working with consultants such as myself, required developers to move wind development inland. Nonetheless, the Nova Scotia Department of Environment and Climate Change did approve a few wind energy facilities in coastal bird migration areas. I conducted the mortality study for one of those sites; bird mortality was near twice the Canadian average and 11 times the Atlantic Canada average. We learned much during those years, and I agree with the following statement from the American Bird Conservancy, which has done much research on the effects of wind turbines on birds.

> Climate change is a critical threat to birds. Recognizing this fact, ABC [American Bird Conservancy] supports renewable energy, including wind energy, and the transition away from fossil fuels. However, not every wind project is proposed in a suitable location. Some projects — sited in major bird migration routes or stopover sites — threaten huge numbers of birds.

Based on industry experience and scientific research, I thought we had reached the point where birds would be safe during the current expansion of wind energy development in Nova Scotia,…until I saw the registration document for the Wedgeport Wind Farm.

The proposed Wedgeport Wind Farm is centred near the village of Little River, Yarmouth County, and extends southward to Comeau's Hill. These two villages are on a

peninsula that leads to a headland close to a cluster of islands. These are the exact conditions I have described as the migration corridors that birds use in the autumn migration to depart the province or to seek refuge. The proposal is to sandwich the wind farm between two different portions of the Tusket Islands Wilderness Area, a protected area established to conserve the high numbers of migratory and breeding birds on the peninsula and Tusket Islands.

To further highlight the importance of this peninsula for birds, I will summarize the results of my migrations studies in 2021 and 2022. Supported by the Protected Areas and Ecosystems Branch of the Nova Scotia Department of Environment and Climate Change, I deployed acoustic monitors at ten coastal locations in Kespukwitk. We did not choose these locations randomly but based on their reputation in scientific studies or by reference to the eBird database on bird hotspots. Comeau's Hill was one of those locations. The study showed that nocturnal songbird migration traffic concentrates between Yarmouth and Cape St. Mary. The difference between these sites and those north and south of them, like Comeau's Hill, was statistically significant at the 95% confidence level. However, when it came to morning flight, that is, those birds arriving from the sea at dawn, there was no statistically significant difference between all ten sites at the 95% confidence level. At Comeau's Hill, the calling rate of migrating birds in the first hour after sunrise was 538 calls per hour. At Northern Point on Brier Island, the calling rate was 591 calls per hour. At both sites, calling rates can be as high as 1,500 to 2,000 calls per hour on mornings of intense migration.

Scientists, naturalists, and tourists recognize Brier Island as one of the premier bird migration habitats on the east coast of North America. Based on this data, proposing a wind energy facility on the Comeau's Hill peninsula is the equivalent of proposing one for Brier Island.

Many factors can negatively impact birds in an inappropriately sited wind factory. When songbirds from the sea alight on an island or headland, they do not remain there for long. As my studies and the scientific literature indicates, the birds move north for two to three hours, gleaning insects from trees and snatching berries from shrubs as they travel. There can be considerable competition for food as their densities can be two to three times greater than during the breeding season. They continue up the peninsula, making short flights, until they reach inland areas with less competition for food resources. According to the environmental assessment for

the Wedgeport Wind Farm, construction will remove seven percent of the forest and shrublands. However, my experience has shown that the landowners, taking advantage of the new roads constructed on their property, often bring in forestry contractors who take a much greater tree harvest.

As they travel up the peninsula, the songbirds will have to navigate through a line of 13 new 200-meter-tall wind turbines. We see higher mortality from collisions in coastal flyways not only because there are higher numbers of birds, but conditions like fog, high winds, stress, and difficulty hearing the calls of other birds lead to catastrophic mortality incidents. The consultants who wrote the environmental assessment applied the Scottish Natural Heritage Collision Risk Model to predict that bird mortality would be very low at the Wedgeport Wind Farm. In 2005, the British Trust for Ornithology recommended that this model not be used for wind facility assessments due to a lack of knowledge on the ability of birds to avoid the turbine blades. However, the real issue is why it is necessary to use a theoretical model when there are already three community turbines in Little River for which no one has ever conducted a mortality study. Such a mortality study would provide factual evidence.

Migratory birds spend much, if not most, of their lives in the air. Air is their habitat, and putting a turbine array in the middle of their aerial habitat can put them at significant risk. Even if they can avoid the turbines, it stands in defiance of current scientific thinking that habitat fragmentation and loss of habitat connectivity are major factors contributing to the decline of migratory bird populations. Two scientific publications published this year highlight this problem. The first paper describes how 93% of shorebird species are in decline; in 64% of them, this decline has accelerated during the last three bird generations. Many species now fall within international criteria for threatened status. Shorebird staging areas in Nova Scotia are among those cited as having the most severe declines. The other paper discusses how lesser-known shorebird staging areas in the Maritimes are more critical than previously thought and threatened by coastal development. The proposed Wedgeport Wind Farm blocks access between two such staging areas, the Tusket River and Chebogue River estuaries.

In the results of the environmental assessment of the Wedgeport Wind Farm, the consultants report observing 16,020 individual birds and 100 species. Their nocturnal acoustic study detected 28,853 night flight calls, and the radar study detected 165,862 bird tracks. Yet the

report tells us little about these numbers' meaning and how they relate to a scientific understanding of bird migration. They have no statistical analysis supporting their conclusions. They reference my migration studies but do not acknowledge the one finding that undermines the credibility of their assessment; the arrival at dawn of a myriad of exhausted songbirds seeking food and shelter on the Comeau's Hill peninsula. Their final statement on bird impacts is:

> *After standard industry mitigation measures have been implemented, the predicted residual environmental effects are assessed to be not significant.*

This statement epitomizes the hubris driving the industrial projects that contribute significantly to the precipitous decline of bird populations. The Nova Scotia Minister of Environment and Climate Change must reject this proposal.

McInnis, Mark

From: @gmail.com
Sent: April 12, 2023 9:09 PM
To: Environment Assessment Web Account
Subject: Proposed Project Comments

** 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

Project: wedgeport-wind-farm-project Comments: The Proposed Wedgeport Wind Farm The Nova Scotia Bird Society strongly opposes the construction of a wind farm in Little River and Comeauâ?Ts Hill, Yarmouth County. Our members have decades of experience observing the great numbers of birds passing through the area during the migration seasons, especially in the autumn. We have seen the concentrations of birds passing overhead, feeding on berries in the barrens and capturing insects in the trees. We understand firsthand the interconnections between terrestrial and marine habitats, which result in a high species richness. We know that the thirteen turbines and the deforestation of prime migration habitats seriously threaten these birds. We are incredulous that the environmental report concludes that the wind project is not a significant threat to birds after listing the thousands of birds seen and heard during their study. They acknowledge the limitations of their research and state that because they did not see a migration corridor doesnâ?Tt mean there isnâ?Tt one. We can indeed assure them that there is one. As birders, we have studied the book, All the Birds of Nova Scotia by the late Ian McLaren, a professor at Dalhousie University. Based on a lifetime of bird study, he describes the importance of coastal peninsulas, headlands, and islands where migratory birds concentrate. While the Nova Scotia Bird Society supports wind energy as an alternative to fossil fuels, ornithological research has demonstrated that we must not build wind farms in bird migration corridors. Sincerely yours, , President Name: Nova Scotia Bird Society Email: @gmail.com Address: NSBS c/o the NS Museum of Natural History 1747 Summer St, Halifax, NS B3H 3A6 Municipality: Halifax email_message: Privacy-Statement: agree x: 1365 y: 919

ScotianWEB Limited Partnership
6080 Young Street
Suite 403
B3K 5L2, Halifax

Environmental Assessment Branch
Department of Environment and Climate Change
PO Box 442
Halifax, NS, B3J 2P8

Dear sir or madam,

This is in relation to environmental assessment for the Wedgeport Wind Farm Project (the "Wedgeport Project").

Scotian WEB Limited Partnership operates two wind turbine generators in immediate vicinity to the planned Wedgeport Project – namely the Black Pond Wind Project and the Little River Wind Project.

The Black Pond Wind Project and the Little River Wind Project were developed and built as part of the Community feed in tariff program.

Through the EA-Process, it has come to our attention that the Wedgeport Project plans to erect its turbines in the immediate vicinity of our operating turbines.

Of the planned turbines, the turbine that is labelled WTG3 in the EA documents, is planned to be located as close as 490m from the Black Pond Wind Project. See page 4 and 8 of Appendix A of the EA Materials for the Wedgeport Project.

We have calculated that the Wedgeport Project would have a negative impact on the production of both, the Black Pond Wind Project and the Little River Wind Project because of increased wake loss effects. That means that the production of clean, renewable electricity by the existing wind turbine generators would decrease due to the newly planned generators of the Wedgeport Project.

Wake losses would increase due to the Wedgeport Project by 2.1 percentage points (Little River) and 3.9 percentage points (Black Pond).

The Wedgeport Project was awarded as 1 of 5 successful projects under the government of Nova Scotia's Rate Base Procurement. ScotianWEB as owner of the Black Pond and Little River projects is very supportive of more renewable energy in the Province and thus of the Wedgeport Project. Wind energy projects like the Wedgeport Project, the Black Pond and the Little River projects are providing clean, renewable electricity to the Province, thus decreasing the necessity of coal fired production and having a positive effect on the environment.

However, due to the proximity of the new development, the production of clean, renewable electricity by the existing wind turbine generators would decrease, thus having an indirect negative effect on the existing efforts of the Province to reach its environmental targets.

ScotianWEB LP would therefore recommend and ask the Minister to request a setback from the existing Black Pond and Little River generators to the extent that this would not unduly negatively impact the undertaking, thus minimizing unnecessary wake loss effects and maximizing the environmental benefits to the Province.

ScotianWEB LP suggests a setback of 5-6 times the rotor diameter of the newly planned generators. Based on the information in the EA documents that suggests a 170m rotor diameter, that would mean a setback of 850m to 1020m. The suggestion for the setback is derived from different studies that are publicly available.

We hope that the Proponents of the Wedgeport Projects are able to understand and accommodate such request.

We wish the Proponents of the Wedgeport Project all the best for the future development of their undertaking.

Best regards,

On behalf of ScotianWEB LP, by its general partner ScotianWEB Inc.

Chief Financial Officer

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