



Windy Ridge Wind Power Project Environmental Assessment  
Registration Document (EARD) –  
Comments from Ecology Action Centre

July 2024

The Ecology Action Centre is an environmental charity based in Mi'kma'ki/Nova Scotia. We have a leadership role in working on critical environmental issues from biodiversity protection to climate change to environmental justice. Grounded in over five decades of deep environmental change work and fueled by love and grief, EAC takes a 50-year perspective on what is needed to build towards a time of thriving and flourishing. We work to equip human and ecological communities for resilience and build a world where ecosystems and communities are restored not just sustained.

Overall Comments

**Public comment period**

Ecology Action Centre staff have only been able to comment on some aspects of this EARD. This is in part due to the limitations of our expertise – we only hold knowledge in certain subject areas and have commented on those. However, this is also because the 30 day comment period is too short to comment completely on any EARD, including this one. Public comment periods for EARD should be 60 days, minimum. Additional time would have allowed us to hone our comments further and make additional, relevant comments.

**Crown Land Use Planning**

EAC has repeatedly recommended to government that a holistic approach to Crown land use planning, taking into consideration all the competing demands for Crown land (most of which are listed in the updated purpose of the *Crown Lands Act*). We reiterate this advice again here. The potential to overwhelm our limited Crown land base with one-off projects that are considered in isolation from one another and from other responsibilities including wildlife habitat protection and connectivity is very real and very concerning. We believe the lack of Crown Land use planning affects this project, meaning the proponent is now ensnared in this provincial problem. The idea of a moose corridor

working group can be seen as a symptom of decades of not planning for the recovery of Mainland Moose on Crown land and beyond.

## **Need for the Green Ammonia**

The EARD indicates that the power harnesses at the Windy Ridge power project will be produce “green hydrogen and ammonia in the region, supporting the clean renewable energy initiative. EAC’s understanding of the current state of the project is that only or primarily “green” ammonia will be produced, and will only be for export, at first. The main market for the proponent’s “green” ammonia current is for the creation of ammonia-based fertilizer in Europe. This does not contribute to decarbonizing Nova Scotia’s energy grid, and in fact could contribute to the over-nitrification of ecosystems through fertilizer runoff, which exacerbates climate change. See <https://www.unep.org/news-and-stories/story/four-reasons-why-world-needs-limit-nitrogen-pollution>

Fertilizers themselves contribute a substantial amount to global CO<sub>2</sub> and N<sub>2</sub>O emissions, and run-off from fertilizers contributes to nitrogen pollution, leading to its own impacts (e.g., eutrophication and algal blooms threaten aquatic biodiversity. See <https://www.pnas.org/doi/pdf/10.1073/pnas.2121998119>

Nitrogen pollution as a result of ammonia-based fertilizers also pose a serious threat to local food systems as polluted topsoil cannot be easily, or quickly remedied. These impacts can compromise local/regional efforts towards food security and food sovereignty as they degrade the environment for future generations.

When the Windy Ridge wind power project is used to create hydrogen, which is converted to ammonia, and sold for nitrogen fertilizer, it actually risk exacerbating climate change and biodiversity loss.

## Specific Comments

### **Purpose of the Project**

The proponent should be consistently clear that the purpose of the project is to have the Point Tupper plant “powered” by electricity generated at Windy Ridge is to produce ammonia, not hydrogen. Also, that ammonia will only have a relative reduction of emissions on a global scale if its’ production *and transport* are less than conventionally produced ammonia for fertilizer and fuels. Currently the proponent plans to transport the ammonia by ship to Europe. The climate impacts of this export should factor into the equation of its overall greenhouse gas emissions.



## Wetlands

There is concern regarding the extent to which the proponent has proposed alterations of wetlands for this project.

Globally, over 64% of wetlands have been lost due to human activity since 1900, and as we lose wetlands, we also lose their incredible benefits and services that they provide to both humans and the natural environment. A GPI Atlantic study (2000), on Nova Scotia's water resource values wetlands provide an estimated \$7.9 billion worth of benefits in ecosystem services to Nova Scotians annually. Given the value over the long term, we have concerns about the direct and indirect impacts of this project and how it will contribute to the continued loss and destruction of natural wetlands. The loss or destruction of wetlands can result in: degradation, fragmentation and loss of wetland habitat and local biodiversity, deterioration of water quality from lack of natural water purification, increased sedimentation and soil erosion, changes in natural hydraulic systems and disruption to the local watershed, reduction in water supply and water storage, higher threat of flooding, and reduction in groundwater recharge and higher vulnerability to droughts.

The proponent discusses plans to alter portions of 14 Wetlands of Special Significance (WSS). This is highly concerning. The Nova Scotia Wetland Conservation Policy has an important goal of no loss in Wetlands of Special Significance. It is everyone's responsibility to contribute to achieving this goal. **The proponent should avoid all alterations of WSSs.** There is also concern that the discussions by the proponent do not fully consider the important value of treed wetlands. For example, according to Table 9.7, the estimated percent wetland area (of LAA) to be lost is 11%, 8% and 50% for treed swamps, treed fens and treed bogs respectively, totaling 16 ha of the 29 ha (i.e., 55%) of the estimated area of all the wetland to be lost in PDA (ha).

These wetlands are exceptionally good carbon sinks (see Kendall et al. 2021 for research in Nova Scotia on this subject). The results from a local study "strongly suggest that forested wetlands are avian diversity hotspots and, as such, key habitats for bird conservation in Nova Scotia. Forested wetlands in general had more bird species, more individuals, and higher abundance of several species and guilds of conservation concern than mature and regenerating upland sites" (Brazner & MacKinnon, 2020). In another study on bird communities in forested wetlands in Nova Scotia, it was found that "of the 208 documented breeding bird species in Nova Scotia, [the researchers] found evidence (mainly singing males) that 95 (46%) were breeding in the 229 FWs [they] surveyed. Given that [their] surveys were restricted to a single visit at only two points within each wetland, this is no doubt a conservative estimate of the diversity of breeding birds that are using these habitats.....These results and other studies suggest that a large number of bird species depend on or at least utilize [forested wetlands] in Nova Scotia during the

breeding season and that they may play important roles in the conservation of several at-risk species” (Brazner & Achenbach, 2019). However, despite their high value, these types of wetlands “are being converted to other uses at a higher rate in Nova Scotia than other wetland types” (Brazner & Achenbach, 2019). These studies demonstrate that treed wetlands need to stay intact not just to help mitigate climate change, but also to support wetland functions, including to maintain biodiversity.

## **Turbines**

The lights on the turbines to alert aircraft should be the type that are only on when activated by signals from aircraft. This will reduce light pollution for animals traveling at night, and for people. This conforms with a European standard and may be acceptable under Transport Canada’s requirements for wind turbines.

## **Moose**

We appreciate that the proponent has “throughout the iterative design process of the Project, areas of particularly high-quality habitat were avoided (e.g., old growth, wetlands, and concentrations of moose observations, see Figure 2.2).” This commitment to avoiding damage to high-quality habitat wherever possible is important. **EAC believes that no high-quality moose habitat should be altered or destroyed in this project, and that medium-quality habitat should be conserved or restored whenever possible, as well as being connected to moose habitat within the project and beyond its borders.**

Also, avoiding the use of certain parts of the Crown land in the project area could create opportunities for land conservation in those areas, which would also benefit moose.

The moose corridor working group concept holds some promise if it builds on existing work already done on moose in Nova Scotia. The proponent would be stepping into an issue that has a long history in Nova Scotia with some long-standing road blocks.

We are supportive of the decommissioning of some access and existing roads. This would reduce multiple threats to moose.

## **Wood Turtle**

Wood Turtle surveys were conducted at the correct time of year in the field surveys. The EARD recognizes that these surveys cannot conclusively determine that Wood Turtles are not found in the project area or are using habitat that could be impacted by the project. **We recommend that the proponent continue to search for Wood Turtles as per the DNRR protocol and consider the potential for Wood Turtle over-winter sites on some brooks.**

