38B John Street
Yarmouth, NS B5A 3H5

September 12th 2024

Regional Assessment of Offshore Wind Development in Nova Scotia
Impact Assessment Agency of Canada
200-1801 Hollis Street
Halifax, Nova Scotia B3J 3N4
Telephone: 902-237-0913
Email: OffshoreWindNS-EolienneExtracotiereNE@iaac-aeic.gc.ca

Regional Assessment Committee Members,

Please accept this submission from the Nova Scotia Fisheries Alliance for Energy Engagement (NSFAEE). Our Alliance is comprised of the vast majority of the wild seafood harvesting and processing sector in Nova Scotia with the mission statement:

To unite the Nova Scotia fishing industry; ensuring the emerging renewable offshore energy sector is developed in a manner that respects fisheries, coastal communities, and the marine environment.

Our members participate in sustainable fisheries across many species, gear types, and geographies; process seafood in communities across Nova Scotia and Atlantic Canada; and service markets locally and around the world. Our members acknowledge the urgent crisis represented by climate change and are supportive of the orderly and sustainable development of renewable energy resources. We seek a future where both healthy fisheries and the offshore wind industry co-exist. We trust that Nova Scotia can achieve an offshore wind industry that creates additive value for the region. This will require that every effort is made to prevent negative direct and indirect impacts to the fishing industry in Nova Scotia and the ocean ecosystem that supports them. Where impacts are determined, every mitigation effort feasible must be undertaken to ensure that sustainable harvesting activities continue to thrive. Where mitigation is impossible, compensation to those impacted ocean users and the communities they support is key to the long-term viability of the province.

As the Regional Assessment (RA) Committee further considers the opportunity for offshore wind development, it is imperative to recognize the importance of the seafood sector to the economic health of the region. Not only is the seafood sector in Nova Scotia is the largest economic engine in the province in terms of export value (on the order of $ 2.5 billion in 2023 -more than the next two major exports combined (Tires and Paper and Forest Products)), but it is also a renewable resource that provides these

benefits year over year. Our industry is the lifeblood of coastal and rural Nova Scotia communities, often where few alternative economic opportunities exist.

Our submission should be considered additive to our initial submission made in February 2024 and focuses on those opportunities to address gaps made apparent by the interim report of the RA. We continue to support the recommendations presented by the interim report and laud those efforts that have been undertaken to understand the architecture of how an offshore wind centre of excellence may support future development. While the RA has sought to support the establishment of a co-existence committee, this important initiative has been challenged to achieve traction among all participants and we encourage its continued support.

We continue to strongly believe that any new project being considered in our offshore waters should undertake a detailed environmental assessment, irrespective of size or class. This is the only prudent course of action given the novelty of offshore wind development in the Northwest Atlantic.

Environmental Impacts:

Offshore wind development in the waters of the Northwest Atlantic is a new use of our marine environment. Lessons learned in other jurisdictions are not directly applicable to the expected impacts of offshore development here because of structural differences of the Scotian Shelf and all participants in the assessment process must be aware of and acknowledge this reality.

Work undertaken in the North Sea and other jurisdictions have demonstrated that the act of harvesting wind energy has profound implications for the marine life local to, and far from, developments. Closer to Nova Scotia, research undertaken to assess offshore wind impacts in the United States Eastern Seaboard have suggested that the distribution patterns of larval scallop could be significantly impacted, creating new distribution patterns towards areas unavailable to the fishery (and potentially not suitable for scallop) which will certainly impact future production. Sediment travel has been acknowledged to be impacted, meaning that banks will change in form and structure. Chemical profiles within and proximal to developments will be altered, with impacts to local marine life. Where wind-induced turbulence is reduced by wind energy harvest, filter feeding sessile benthic commercial species will certainly be impacted.

The life history of many marine species including herring, scallop and clam depend on the gyres that support important transport, distribution, circulation and rejuvenation of the oceans that surround the banks throughout the offshore area. The impact of offshore wind energy developments on the structure and function of these largely wind-driven gyres remains to be described and we caution that any impact to these important flows driven by the harvesting of the wind energy that support them stands to upset the structure of the marine ecosystem and the many commercial fisheries that rely upon it.

Unfortunately, there is no panacea solution to ensure that development of offshore wind can mitigate the risks detailed above (and those not yet known). Increased spacing may minimize some impacts but generate a larger effect footprint. Condensed spacing may increase local effects and facilitate colonization of areas by novel species not locally seen. In short, mitigation of environmental impacts is challenged by a real lack of understanding of what those local and far-flung impacts may be and further challenged by site-specific differences in ecosystem structure, target fishing species and complex life histories.

For this reason, we encourage the Committee to recommend the implementation of an extensive baseline environmental data collection program in areas at varying distances from the identified PFDAs to help define measurable impacts and separate those induced by climate-linked ocean variability versus those that can be attributed to the cumulative development of offshore wind. At this juncture, there is insufficient information to actually assess with any real resolution what impacts may be, and how they may best be mitigated.

Potential Future Development Areas (PFDAs):

The Committee produced clear descriptions of areas for future development via the identification of the PFDAs. While we recognize these polygons are broad in area, they provided much needed spatial focus for evaluation of impacts to the fishery.

We must note that the Scotian Shelf is under pressure to restrict commercial fishing activities from several sources. Alongside the intent to develop offshore wind power, there is also spatial protection planning being undertaken by the government of Canada that is proposed to strike at least 30% of the existing area from full commercial use. This alone will create spatial pressures to the harvesting sector that will be compounded by the removal of other important fishing areas on the Scotian Shelf resulting from industrial development. For example, the Eastern Shore proposed Marine Protected Area (MPA) compounded with the Eastern Shore PFDA translates into very limited area left for full commercial fishing activity free of encumbrances resulting from spatial exclusions, gear modifications needed to fish in/near offshore wind developments or those configurations needed to accommodate conservation concerns typically required to harvest within established MPAs. The same spatial conservation restrictions are being considered for Sable Island Bank which will act to magnify any further constraints offered by offshore wind development.

The fishing industry applauds the Committee for their consideration of restricting development to beyond a 25 km buffer from shore. While we understand this was done for a variety of reasons, the fishing industry understands that the spatial footprint of those inshore fisheries within 25 km from shore is very poorly understood, owing to a dearth of explicit spatial information on the fishing footprint. Many vessels are simply too small to have accurate vessel monitoring systems and logbooks are too coarse to provide reasonable spatial information on fishing activity.

Until such time that an accurate description of the fisheries in these areas is identified, we suggest that the 25 km buffer be carried forward into the final report.

The focus of the NSFAEE members in their review of the PFDAs has been restricted to the existing boundaries and within, as we did not have sufficient understanding of areas ‘beyond’ those boundaries to provide comment on. If boundary modifications of the PFDAs are being considered to include areas outside of the existing boundaries, we would like to highlight that discussion with the NSFAEE and its members should happen to ensure that fishing operations are recognized and accommodated.

We also recognize that individual members of the NSFAEE will be providing their insights on individual PFDAs, their boundaries and appropriateness. We encourage the Committee to strongly consider the recommendations being made in these submissions and the rationale with which they are being made.

Through discussions with members, some generalities of existing and future potential activities within the identified PFDAs have been identified. We must indicate that this list below should not be considered fulsome as these areas are used by many fisheries to varying degrees.

- Sable Island Bank:
    - There are strong sea cucumber fisheries in this area and this footprint is changing. The implementation of a new commercial whelk fishery is also leading to a developing fishing footprint. Because of this, precision cannot be provided as to 'how' boundaries should be modified to ensure the current and future fishery is not impacted.
    - Sessile benthic species such as Surf Clam and Scallop are found throughout this area and there is an extensive historic fishing footprint for those species across the last several decades. Impacts of offshore wind development are uncertain although experience in other jurisdictions has suggested incompatibility between harvesting activity and offshore wind sites. It is clear that resource access will be lost with development and extensive work is required to determine current and future resource distribution and how it may be impacted by offshore wind development.
    - This region is heavily transited by vessels to and from other fishing grounds. This must be considered, and we suggest that this assessment should help refine this area to avoid important transit routes.
- Sydney Bight:
    - As described in direct discussions with the Committee, there are extensive halibut and snow crab fisheries in this area and we recommend that the boundary be pulled back towards that identified by the low-conflict area in the region provided by industry. The polygon as provided in early 2024 is heavily impactful to the harvesting sector.
    - This region is heavily transited by vessels to and from other fishing grounds. This must be considered, and we suggest that refinements of this area to avoid important transit routes.
- Canso and Middle Bank:
    - There is a significant and well understood historic scallop fishery on the Southern and Western portions of Middle Bank. The resource is actively surveyed which shows that recruitment in the resource remains strong. Spatial distribution should be assessed prior to progressing with seabed tenure/project development.
    - Rod and reel tuna fisheries have been expanding in this region on a year over year basis, and it is becoming increasingly important to the viability of this fishery. We continue to suggest that impacts to this sector have not and cannot be appropriately identified by the methods currently employed for assessment.
    - Proximal to these sites are heavy snow crab and halibut fisheries. The granularity of the spatial information prevents a precise determination of exactly 'where' these fisheries are occurring meaning the use of a buffer to protect those activities from impacts of development should be considered.
    - These regions are heavily transited by vessels to and from other fishing grounds. This must be considered, and we suggest that this assessment should help refine this area to avoid important transit routes.
- Eastern Shore:
    - This region is heavily used by multiple fisheries, including those small vessel harvesters using vessels whose operations lack explicit spatial information. Continued engagement is needed with the fishing sector to define important fishing areas.

- The footprint of the inshore lobster fishery as it relates to this region is very poorly understood. Direct discussions with local harvesters have indicated extensive use throughout the area which means the impact of establishing industrial developments cannot be fully assessed. This uncertainty alone should give pause to any pursuit of this area for development in the future.
- There is extensive recorded halibut effort within the identified area (and in the surrounding waters). Any final recommended shape from this area should ensure that these activities are spatially excluded. If the coarse information provided by the Spatial Planning Atlas is used to define any unused areas, only two small areas would remain open for development which may render the entire PFDA unusable for future construction.
- Users of this region have identified concerns of the potential impacts of harvesting of wind energy on the coastal Atlantic Herring stock in the region which rely on very specific oceanographic conditions for successful completion of their lifecycle. Give the paucity of information on the impacts of largescale development on this important keystone species lifecycle, caution should be exercised when considering offshore wind development in this region.
- This region is heavily transited by vessels to and from other fishing grounds. This must be considered, and we suggest that this assessment should help refine this area to avoid important transit routes.

Finally, we note that the implementation of any area for offshore development will stand to impact offshore research vessel surveys conducted by the Department of Fisheries and Oceans. Disruption of the long-standing survey stands to imperil a multi-decadal time series and undermine the understanding and management of commercial and non-commercial species. We are concerned that such disruptions will endanger sustainable management of fish stocks and could impact the sustainability certifications held by many fisheries. The real risk and impacts must be considered during project assessment and integrated into the final design such that risks to these important surveys are minimized.

Mitigation:

Mitigation must begin early in the planning phase and extend through construction, into operations, maintenance and decommissioning.

It is clear that any approaches to mitigation must be site-, project- and fishery-specific, however the members of the NSFAEE would first like to highlight that avoidance of actively fished areas should be the priority as it relates to placement of offshore wind projects within the identified PFDAs. For instance, extensive halibut activity on the northern edge of the Sydney Bight may be accommodated by spacing of fixed-based turbines, but this approach may not be successful if floating deployments with extended anchor lines are employed. In a similar fashion, sea cucumber harvesting may be possible with appropriate fixed-base spacing and buried connection cables in the Sable Bank region, provided other liability and search and rescue concerns are addressed.

We encourage the Committee to consider the operational impacts to fisheries resulting from mitigative efforts. For instance, should a development proceed on Sable Bank, it stands to render an expanded area (beyond the project footprint) to be unfishable by pelagic longline gear because of risks of drift. This area would be reduced were the fleet to transition to buoy-based gear, however the fishing power of this gear is far lower (1% of the hooks actively fishing at any time), meaning the cost of harvest is much higher. If

local fishers are forced to move to this gear to continue fishing in areas proximal to harvest areas, supports should be provided by offshore wind operators to offset the added costs of operation and will lead to increased competition for a limited resource with other fishers previously using these areas.

There are a litany of approaches used globally for mitigation of fishery impacts during design and construction, but we caution the Committee to consider a made-in-Nova Scotia approach that gainfully considers the gear configurations used in the existing fisheries, as this differs substantially within and between fisheries locally and globally. For this reason, we cannot provide clear direction on the 'what', as it strongly depends on the fishery being considered, the local bathymetry, oceanic conditions and vessel-sizes undertaking the harvest.

Mitigation of disturbance during construction is a developing field, with a focus on limiting acoustic disturbance via bubble curtains and safe zones, avoiding critical time periods for local values and other noise/disturbance reduction strategies. Given that the values required for protection will differ depending on what sites are being considered, we suggest that clear guidance applicable to the entire study area will be difficult to develop.

To truly achieve mitigation during design and operation, we suggest that the Committee would be best served by producing a clear description of fishing gears currently utilized within and around the proposed PFDAs and provide this as a basis for future determination of mitigative approaches with close consultation with fishery stakeholders.

Compensation:

To be clear, compensation should be considered a last resort. The interest of the fishing industry is to continue their traditional activities unencumbered. We realize that the very act of standing turbines up in actively fished areas will render this impossible to do and offshore developments will result in some undetermined impacts to marine resources from both individual projects and cumulatively from all developments.

The nature of these undetermined impacts requires the consideration of establishing a royalty-funded reserve fund to act as a back-stop to any unforeseen impacts of offshore development, both on an individual and cumulative basis. Harvesters in many fisheries cannot simply 'adjust' their activities (as has been suggested in other jurisdictions) if the very resources they rely on are both spatially unavailable or detrimentally impacted by project development.

Compensation must not be considered a short-term challenge. The impacts of offshore wind development will be felt each year that the turbines are in place and impacted harvesters, communities and the industries they support should be annually provided compensation until such time that those turbines are removed and impacts reversed.

Until such time that project-specific details are available both related to spatial deployment and site configuration, we are unable to provide a clear roadmap to a compensation approach, but suggest that requirements should be made to consider the following:

Direct Effects on Existing and Future Use:

Direct effects relate to displacement of harvesters and must be extended beyond any project footprint. Harvesters will be required to relocate from project areas because of challenges related to gear conflict,

liability risk and search and rescue availability, and this will extend to regions far afield from the project site. Compensation must be determined on a fishery-by-fishery basis that considers current local and future uses while also recognizing that any forced re-adjustment of fishing activity will be to the detriment of existing users in neighbouring areas which will directly undermine the economics of fishery operations for all harvesters.

For instance, if lobster, halibut, rod and reel tuna, and snow crab fishers can no longer access areas around any of the identified PFDAs because of gear conflicts/safety concerns, this will result in higher competition for nearby areas within similar operational reach by the local fishing communities. These impacts are likely to be magnified in areas with more intense fishing effort (i.e. Eastern Shore, Middle Bank, Canso Bank, Sydney Bight) as there are more users in the area and heavier conflict in adjustment areas can be expected. A mechanism to account for these losses must be developed.

Evidence requirements must also be considered. Areas not suitable for harvesting a particular species today may in fact be ideal in the coming years as ocean changes occur. There must be a mechanism that allows for compensation should a resource shift from outside a development (where they are available to be harvested) to inside (where they can no longer be accessed).

Compensation must be scaled to the state of the fishery in question and reflect stock fluctuations. For instance, where a resource has recovered from historic lows, compensation must scale to the current state based on stock status. If herring stocks substantively increase in the next decade leading to a highly viable fishery on Middle Bank that cannot be conducted because of interactions between seiners and fixed-based offshore wind development, there is a clear responsibility on the part of the offshore wind sector to compensate for that future lost access as it becomes identified. At the same time, if the coastal Atlantic Herring fishery on the Eastern Shore collapses and its decline can be linked to the harvesting of offshore wind energy, those harvesters should be compensated at the pre-construction level that the fishery was operating at.

Loss of access to harvestable biomass must also be integrated into any future compensation plan. For example, if a development were to proceed on Sable Bank which would render a substantive percentage of the surf clam resource unavailable for harvest, this may translate into prolonged period of lowered total allowable catch estimates for the harvesting sector because the biomass cannot be accessed. Operators that have lost access to this biomass must be compensated adjusted to expected market value, especially when one considers that harvesting platforms and shore-based operations invest on a decadal cycle that does not foresee lost resource access due to industrial development in offshore areas.

Fishing Power:

In many cases, harvesters are ‘asked’ to alter their configurations to accommodate activities within offshore wind developments. It should be noted that new configurations are often associated with lowered fishing power, translating into higher operational costs for the harvesting sector and reduced economic income. Any compensation plan must account for the gap incurred by this change, as without it, harvesting activities may be rendered unviable. Again, this is sector-specific and requires a keen understanding of the project in question, spatial location and possible accommodation.

Ecosystem/Resource Effects:

We note that the long-term impacts to marine life associated with the harvesting of wind energy remain poorly understood. For this reason, any compensation scheme must consider the long-term impacts on the very resources relied upon by the harvesting sector. These long-term impacts are expected to be magnified as additional programs come on-stream.

The Committee should consider that these large effects will not be realized for years (perhaps decades) as the cascade of impacts resulting from the harvest of wind energy are realized on thermal, dispersal and nutrient production within the marine environment. This uncertainty must translate into the establishment of a compensation reserve fund that allows for losses associated with resource effects to be recovered in the event that unforeseen impacts do materialize.

Transiting Impacts:

Depending on deployment location, there stands to be increased cost due to vessels needing to avoid offshore wind developments for a variety of reason (i.e. liability). This will undoubtedly lead to increase fuel costs for operators, meaning economic loss to operations. While these impacts will vary on a fishery by fishery basis, there should be acknowledgement that these costs must be attributed and recovered at some point.

The fishery has operated for centuries alongside a myriad of ocean uses including industrial activities and conservation initiatives that have, in concert, acted to reduce the available marine space for harvest. While we seek to continue a strong and collaborative relationship with all ocean users, we do ask that given the sustainable nature of our fisheries, the RA employ a strong risk averse lens when considering fisheries and ensure that these activities can continue in the future unabated alongside a robust offshore wind industry. Under this model, the fishery and the offshore wind industry are poised to provide additive economic value to the region as opposed to replacement.

In closing, we would like to thank the RA Committee for their diligent work and professional approach to achieving the objectives of the RA. We appreciate that RA Committee members and Secretariat staff have been available, forthcoming and willing to engage the harvesting sector in an open and understanding fashion.

Sincerely,

Kris Vascotto, Manager

On behalf of:

Area 19 Snow Crab Association	Scotia Fundy Inshore Fishermen's Assoc.	Eastern Shore Fisherman's Protective Assoc.	Nova Scotia Seafood Alliance	Brazil Rock 33/34 Lobster	Southwest Nova Tuna Association	Richmond Co. Inshore Fishermen's Assoc.	Full Bay Scallop Association
ASPANS	Seafood Producers Association of Nova Scotia	Gulf Nova Scotia Tuna Fishermen's Assoc.	NS Swordfishermen's Association	Cape Breton Fish Harvesters Association	SHQ Swordfish Harpoon Quota Group	Maritime Fishermen's Union – Local 4, 6 & 9	
Atlantic Groundfish Council	Shelburne County Quota Group	Guys. Co. Inshore Fishermen's Assoc.	Tuna Charter Nova Scotia Association	Clearwater Seafoods Limited Partnership	Coldwater Lobster	Bay of Fundy Inshore Fishermen's Association	