

Submission to the Aquaculture Review Board Regarding NSARB-2025-001 WFN Fish Farm, Whycomomagh Bay February 9, 2026

The Bras d'or Lake and its watershed are spectacular and very special features of Cape Breton. In 2011 it was designated a UNESCO Biosphere Reserve. What distinguishes Bras d'Or Lake is its exceptional biodiversity, harboring a wealth of aquatic life, including rare species like the Atlantic salmon and the American eel. ¹



For 26 years we have been environmental stewards of our lakeshore properties in Aberdeen which make up a good portion of the shoreline opposite the proposed site #1430 in the current application. It quickly became evident to us, when we moved here, that this property and the shoreline had great biodiversity. During our time here, we have refrained from making any changes to the shoreline that would diminish the natural habitat.

Barring unusual circumstances, we are back and forth to Aberdeen from April to the end of November. When in Aberdeen, we are at the shoreline at least twice a day, spending an hour or two each time enjoying watching wildlife. We also regularly kayak and canoe along the shoreline to the cove and beyond toward Little Narrows and, in the past, toward Whycomomagh. These are the waters where we, our families and friends, paddle and swim.

A large portion of our shoreline is sand beach. Behind most of this sand beach is a wetland created by two freshwater brooks (the Argyle and a smaller unnamed brook). By their activities over time, beavers and muskrats have created a series of canals providing pathways utilized by fish, otters and waterfowl. There is a direct opening in the shoreline which allows the brook water to join the lake water. Over the years we have observed that this area behind the beach is important fish habitat. Sticklebacks and Mummichogs breed in the brook behind the barrier

¹ <https://biosperecanada.ca/biospere-dor-lake/>

Threat to Wild Salmon - Eastern Cape Breton Atlantic Salmon Stocks have been listed as endangered by federal assessment since 2010.² In the past, we have observed very large rainbow trout, presumably escapees from the experimental nets, swimming along our shoreline, behind our barrier beach and jumping from the water in front of the beach. Any wild salmon in the area will have to compete with these escaped rainbow trout for resources and space. Low flush rates (discussed below) result in larger quantities of accumulating organic matter and any medications and pesticides used. It seems likely that the proposed large aquaculture sites in Whycomomagh Bay will increase some of those risks.

Very Low Flushing Rates and Very Low Current = Pollution of Whycomomagh Bay -

Whycomomagh Bay has a very low flushing rate. In coastal bays and estuaries around the province, flushing rates are measured in days or weeks. In Whycomomagh Bay, flushing rates of surface waters are 7 months long and in deeper waters the rate is approximately 2 years. Our understanding of flushing rates is that this does not refer to a 100% exchange of water but is closer to a 60% exchange. Therefore full water exchange would take much longer.³ Half of the cages at the proposed sites will be stocked each year, which means that total flushing of water would not occur. This would mean that waste feed and feces from 560,000 fish will build up under the cages year after year. It also means that the low flushing rate would make the dispersal and dilution of organic matter and water-borne pollutants, like pesticides and medicines (if used), very slow. Common sense would say that this will have a negative impact on the water quality and on the surrounding environment.

A recent study in Whycomomagh Bay measured Sulphide levels in sediments 1) under active nets, 2) after one year laying fallow, and 3) in control areas, and found that Sulphide levels fell about 50% after a year fallow but were still much higher than in control areas. The author concluded that “placing the fish pen arrays in deeper waters appears to keep sulfide levels near the lower-boundary layer instead of rising near the oxycline”. It would also protect fish from the dangers of oxygen depletion if anoxic bottom waters were drawn into the nets during storm events. Further, “extending the fallowing period to two harvesting seasons could aid in the recovery of concentration levels to background levels, aligning with the principles of Netukulimk.”⁴

Aeration Equipment Necessary to Keep the Fish Alive - In the Applicant’s proposal, it is indicated that aeration equipment will provide oxygen to the fish. What this means for us is

² Committee on the Status of Endangered Wildlife in Canada, 2010

³ Proceedings of the Nova Scotia Institute of Science (2002) Volume 42, Part 1, pp.9-36.

⁴ Vandeplass, S. (2023) Effects of an Aquaculture Fish Farm on the Sediment Geochemistry of a Naturally Anoxic Basin, M.Sc. Thesis, Dalhousie University.

constant additional noise. While our house is uphill from the shoreline, we can, on a quiet day, currently hear the noises from the work at the experimental nets (#5010) when we are outside the house. Loud diesel engines of the 3 vessels, people on different boats shouting to one another and clanging of metal equipment as work takes place at the nets. In the past two years, the farm's largest vessel has been moored full time at the farm site, apparently providing aeration to the cages. This boat is quite loud and smelly. Those experimental nets are approximately 1 km away. The proposed new site is directly below our house and adjacent to our shoreline.

Nets are too close to the Shoreline - The proposed location of the aquaculture nets on the North Aberdeen side is very close to the shoreline and at an initial depth of 14 meters. There will be 560,000 fish held in #1430 (10 cages fallow, 10 cages with 56,000 fish per cage). This seems like a recipe for environmental damage. According to the DFO review of the application, potential exposure zones (PEZ) for feces, feed and any drugs used, cover our entire shoreline area and beyond.⁵ This includes the wetland area behind the beach and the eelgrass meadow which extends along the shore toward the cove (documented by Ecology Action Centre- Eelgrass mapping project). If the nets were located further from the shoreline, in deeper water, the wetland hatchery and nesting sites behind the beach would presumably lie outside the PEZ area or at least will suffer lower exposure. This may also lessen any impacts on the eelgrass meadow.

Over the past few years we've observed that the Moon Tides have increased dramatically, resulting in very low tide situations and very high tides up into the vegetation line along the beach. This may result in the potential for upwelling of anoxic deep water or in very minimal depths under the cages during low tide.

Migrating Birds have been visiting for 26 years - Each year we welcome groups of shorebirds after the breeding season elsewhere. They use the beach and the shallows along the shoreline to rest and eat well in preparation for their migrations on. These include sandpipers, greater yellowlegs, herons and plovers, who feed along the tidal sands, feasting on invertebrates, insects and small fish and frogs. Since our first summer in Aberdeen, the same male Bonaparte's Gull has arrived around August 1st to spend much of its time in shallow water just off the brook mouth. Many of these birds may be negatively impacted by the noise and pollutants generated by the feedlot.

Negative Impact on Enjoyment of the Lake and the Beach - Site 1430 is very close to our beach. Each of the 10 active cages will contain 56,000 fish for a total of 560,000 fish. In the warmer months, onshore winds develop during most days, so inshore drift of organic matter, uneaten fish food and fish feces from that number of fish will make swimming at the beach unappealing. We regularly kayak and canoe along this shore. Since the experimental cages at

⁵ Refer to Department of Fisheries and Oceans Science Response submission for this application , Figure 3, page 15

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By Nova Scotia Aquaculture Review Board at 4:17 pm, Feb 09, 2026



9 February 2026

Clerk of the Nova Scotia Aquaculture Review Board
60 Research Drive, Bible Hill, NS B6L 2R2

Via e-mail at: Aquaculture.Board@novascotia.ca

**PUBLIC INPUT TO THE HEARING REGARDING A BOUNDARY AMENDMENT TO AQ#0814x AND
NEW SITES AQ#1430 AND AQ#1431**

Reference: MEMORANDUM OF UNDERSTANDING (MOU) ON AQUACULTURE DEVELOPMENT BETWEEN HER MAJESTY THE QUEEN in Right of Canada, as represented by the Department of Fisheries and Oceans, ... AND HER MAJESTY THE QUEEN in Right of Nova Scotia, dated 18 June 2002.

The Healthy Bays Network is a community driven alliance of individuals and organizations with a shared vision for sustainable coastal economies and a transition away from open net-pen feedlots in Canada. Just like many other jurisdictions around the world, we can do so much better than simply perpetuating open net pen feedlots.

ITEM # 1: Section 17 (1) (c) of the Aquaculture Licence and Lease Regulations [the oceanographic and biophysical characteristics of the public waters surrounding the proposed aquacultural operation].

We draw your attention to the Reference, a MOU between the Federal Government and the Province of NS, which states in part:

"...The Parties, without prejudice to their respective constitutional and legislative authority, hereby agree as follows:

... 5.1 Nova Scotia will license and lease aquaculture facilities in Nova Scotia in accordance with the Nova Scotia Fisheries and Coastal Resources Act.

- ... 6.1 *Nova Scotia will be responsible for the issuance of and the administration of provincial licences and leases and the review and ongoing inspection of aquaculture facilities in accordance with the legislation referred to in 5.1.*
- 6.2 *All aquaculture licence and lease applications in Nova Scotia will be referred for comment to the Department of Fisheries and Oceans and other relevant federal and provincial departments and agencies in conformity with their respective jurisdiction relating to such aquaculture matters.*
- 7.2 *Siting of new aquaculture facilities will be granted after consideration of both federal and provincial legislative requirements, site surveys, and with due regard taken for total carrying capacity of discrete geographic zones and current information related thereto.*
- 7.3 *Canada will be responsible for ensuring that an environmental assessment is conducted pursuant to the Canadian Environmental Assessment Act when a proposed aquaculture activity or facility requires such an assessment."*

We remind you that the Federal Government retains all legal, constitutional and jurisdictional standing under this agreement and that any advice they provide you through the Department of Fisheries and Oceans (DFO), is founded on this fact.

In the past, DFO was asked questions that allowed blunt answers like *"During the period of maximum feeding (when fish biomass is highest), this feed rate would support a stocking rate of 4,400 fish per cage (compared to proposed stocking of 15,150 fish per cage)."*¹ Their observation contributed to the denial of the proposed aquaculture facility at Shoal Bay, NS.

Since then, questions posed by NSDFA to DFO when seeking advice on new sites and expansions have become more general. This is in keeping with the industry capture of our elected politicians and our public servants that is so prevalent and obvious today. When the DFO suggests that something is not a good idea, maybe their advice supersedes that of either the provincial department or the proponent.

We take at face value, the independence of your Board and trust that you will consider these following points with open minds:

- a. please take into consideration that, if approved, site AQ#0814 will be licenced for Atlantic Salmon. While the WFN application has provided a wealth of detail in plain, understandable language, it is solely focused on Rainbow Trout. If they choose to switch to Atlantic Salmon, their assertions regarding stocking levels, noise, use of lights, interactions with wild salmon and aeration/oxygenation will change. According to the Provinces own standards that were developed in direct consultation with industry, currents at these sites are well below the minimum

¹ [Canadian Science Advisory Secretariat Maritimes Region Science Response 2013/003, Page 5](#)

speeds necessary for successful Atlantic Salmon culture². We have seen nothing in the application to accommodate a profitable Atlantic Salmon operation.

- b. The Bras D’or Lake is unique. Finfish aquaculture here demands different approaches and considerations when compared to coastal open net pen operations. The DFO advice³ does a good job in highlighting some of those differences. This is a very dirty site as evidenced by multiple exceedances of EMP requirements acknowledged in the Performance Review⁴ and in reported and withheld EMP data for the site⁵. Forty two exceedances over a period of seven years. Fourteen of them anoxic or “grossly polluted” according to Hargrave (2010)⁶. This is hardly a success story in terms of compliance history using the same approach WFN intends for the expanded sites, moving forward.
- c. The 2010 Stantec Roadmap for Aquaculture Investment in Nova Scotia, Section 4.5.2 states that for the Bras D’or Lake: *“Winter ice conditions and cold temperatures generally limit the potential for finfish culture in this region. Given that large portions of the waters in this region freeze over during winter months, the use of net-pens is largely unfeasible. Rainbow trout have been cultured successfully in this region in the past, although with limited success, so there is moderate potential for developing seasonal rainbow trout sites. The potential for Atlantic salmon, Atlantic halibut and Atlantic cod is very low in this region.”*⁷ Compare this to the recently completed Coastal Classification System that was recently introduced by NSDFA which indicates good potential for both trout and Atlantic Salmon. How did climate change and development manage to improve conditions for open net pens in this area?
- d. Finally, please pay particular attention to the answer to Question # 6 in the DFO advice:

“Question 6. The existing sites have been known to experience benthic and pelagic oxygen issues in the past. Given the proposed approach to managing this site and the increased numbers of fish to be cultivated in this area, does science have a sense of the oxygen demand for the area and what this means for the balance of oxygen in the area (i.e., will the demand for oxygen exceed the supply of oxygen)?

² <https://novascotia.ca/fish/documents/roadmapforaquaculture-rpt2010.pdf> pdf page 90/110.

³ <https://arb.novascotia.ca/sites/default/files/documents/2025-11/NSARB-2025-001-APP-005%20Report%20on%20Outcomes%20of%20Consultation%20VOLUME%201%20-Exb%20005a%20Redacted.pdf> Page 205.

⁴ https://arb.novascotia.ca/sites/default/files/documents/2025-11/NSARB-2025-001%20AQ0814-Report%20on%20Performance%20Review-Exb%20006a_Redacted.pdf page 5.

⁵ [Publicly Available EMP Data](#)

⁶ <https://arb.novascotia.ca/sites/default/files/documents/2025-11/NSARB-2025-001-APP-005%20Report%20on%20Outcomes%20of%20Consultation%20VOLUME%201%20-Exb%20005a%20Redacted.pdf> Page 246.

⁷ <https://novascotia.ca/fish/documents/roadmapforaquaculture-rpt2010.pdf> pdf page 50 of 110.

- *Dissolved oxygen depletion within the net-pens is estimated to reach levels that may cause sub-lethal effects to the farmed fish, and mortality conditions may also be feasible at certain times.*
- *Near-bottom DO levels are likely to be low and sensitive to factors such as additional organic matter inputs that cause increased benthic oxygen demand, water current speeds, vertical mixing, and advection of the hypoxic and anoxic, deep waters within and beyond the site.*
- *This anoxic, deep water can periodically be pushed into the shallower waters and impact the farmed fish, as well as any wild populations in the vicinity.*
- *These predicted net-pen scale effects are compounding factors that are likely to exacerbate the hypoxic and anoxic conditions that already occur in Whycomomagh Bay.”*

We trust this assessment of conditions at these sites over the optimistic assessment of NSFDA. Based on what DFO states, the business plan of this expansion might be on shaky ground as suggested in the next Item.

ITEM # 2: Section 17 (1) (a) of the Aquaculture Licence and Lease Regulations [the contribution of the proposed operation to community and Provincial economic development].

We draw your attention to the proponent’s admission that this is an “all or nothing” proposition. They state: “Use of all sites, as described in the development plans, is required to enable WFN to reach financial viability.”⁸ Presumably their business plan has determined a certain level of expected mortalities (usually about 15% for sea cages along the coast). Based on what we focused on in the preceding section, the Board should seek clarification from the proponent on how large a margin for error exists within their plans. Failure of this proposition would be a serious matter.

ITEM # 3: Section 17 (1) (d) of the Aquaculture Licence and Lease Regulations [the other users of the public waters surrounding the proposed aquacultural operation].

We have often spoken about “social licence” – the concept that if a community wants open net pens in the waters adjoining their lands, then let them have them. In this case, it’s a simple matter to let the proponent do all the developing and advocating for their proposal. Where residents or ocean users dissent, however, it is much more difficult to mount an effective opposition. Division within the community, threat of reprisal, cost to engage legal counsel for even the most basic representation and the daunting prospect of facing well funded and hostile legal teams are often overwhelming to the average person. It prevents valid criticism of ill-conceived and unwelcome projects.

⁸ https://arb.novascotia.ca/sites/default/files/documents/2025-11/NSARB%202025-001-APP-004%20Application%20Package%20VOLUME%201%20-%20EXB%20004a_Redacted.pdf pdf page 38/495.

We believe that an independent and impartial Aquaculture Review Board has an important role to play in ensuring impacts on such individuals and groups are heard and given weight. We are telling you that this proposal is not a good one as evidenced by the findings of DFO. You may hear from locals who also have valid and substantial concerns but for whatever reason could not meet the threshold or take on the burden of becoming an intervenor. The Provincial Government is clearly not listening. Will you?

CONCLUSION

Request that these applications be denied based on reasonable doubt regarding the feasibility and success of this venture and a more fully informed assessment of its impact on the environment and the stocked fish.

Failing that, request that the licence and lease for Atlantic Salmon be denied. Conditions are not appropriate for the culture of Atlantic Salmon based on Government and industry assessments. The proponent should not object to this since no mention of how they would handle Atlantic Salmon culture was in evidence in their application.

At the very least, the ARB needs to clearly state as a condition that action must be taken by the Minister to review this operation should it continue to fail to meet EMP thresholds of 3000 and 6000 micromoles per litre, as anticipated.

Sincerely,



Derek Purcell, on behalf of the Healthy Bays Network

