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August 22, 2020

Antonia Testa  
Special Project Officer  
Environmental Assessment Branch  
Ministry of Environment, Conservation and Parks ("MECP")  
135 St Clair Ave W  
Toronto, ON  
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***By Email***

**Reference #: 99026**

**Re: Class EA for Resource Stewardship and Facility Development Projects ("RSFD") that pertain to open net pen aquaculture operations in Lake Huron**

Dear Ms. Testa,

The Great Lakes is the most important aquatic ecosystem in North America and contains approximately 20% of the world's freshwater resources. Georgian Bay and its North Channel to the Manitoulin Island area is a particularly unique water basin that represents one of the most pristine ecosystems in the Great Lakes. The eastern side of Georgian Bay comprising the 30,000 Islands, marks the largest freshwater archipelago in the world, and is recognized by the United Nations as a World Heritage Site, designated as the Georgian Bay Littoral Biosphere Reserve (<http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/europe-north-america/canada/georgian-bay/>).

The Georgian Bay Association (GBA) is an umbrella organization for 19 community associations along the east and north shores of Georgian Bay, representing around 3,000 families. We have been advocating on behalf of our land-owning members for over 100 years and estimate that we reach around 18,000 residents of the Georgian Bay. Our mandate is to work with our water-based communities and other stakeholders to ensure the careful stewardship of the greater Georgian Bay environment.

The GBA Aquaculture Committee has been following the issue of open net cage aquaculture in Ontario since the 1990's. For all these years both the GBA and some First Nations groups have often wondered why the regulation of a federal issue such as this, which concerns Great Lakes water quality and fisheries, has been assigned to an Ontario Ministry, Natural Resources and Forestry, ("MNRF").

We realize that any new applications for the rights to farm fish for commercial purposes will have to go through an extensive environmental review. This is welcome news. However, when it comes to regulating the existing open net cage aquaculture operations of Georgian Bay and the Manitoulin Island area of Lake Huron, we regard the application of the MNRF's Class EA RSFD as questionable. This document and its major amendments will continue to allow these "projects" to be approved for the utilization of public waters for the assimilation of farm waste, and anchorage for the nets, without sufficient environmental screening. They have been continuously assigned to a Category A EA RSFD.

We would have expected MNRF to demonstrate that these existing open net cage aquaculture operations had gone through extensive environmental assessments of their impacts on:

- water quality, particularly phosphorus loading;
- the natural habitat of other aquatic species;
- encouraging the growth of dreissenids and other invasive species that are attracted to the farms; and
- wild fish stocks, due to the voracious feeding appetites of escapees;

but we have not found evidence that this has ever been done.

None of these impacts can be contained within the open net cage aquaculture sites. However, MNRF has not demonstrated the appropriate level of environmental assessment to address these issues.

Therefore, GBA must continue to insist that these projects be assessed under a Category C EA RSFD process in order to properly assess the potential high negative environmental effects and address public concerns regarding open net cage aquaculture. MNRF plans to expand the operational boundaries of each existing cage site and allow an increase in production levels.

Accordingly, we are making this submission to register our ongoing concern about the use of the Class EA for RSFD for the commercial culture of net pen cage farmed fish in public waters. This industry is completely different from other resource stewardship projects and facility development projects that are subject to this Class EA and should not therefore be assessed under the same classification. If the fish farms were land-based, contained operations on crown land, then the Class EA RSFD would be an appropriate environmental assessment tool, but they are not. They operate in public water.

The Ministry of Natural Resources & Forestry (“MNRF”) has designated these finite, fragile waters (Crown land) for the “assimilation” of farm waste from the intensive open net cage aquaculture industry. In fact, open net cage aquaculture production of rainbow trout in the Georgian Bay and Lake Huron area continues to dominate all land-based forms of aquaculture in Ontario and accounts for 90% of the total farmed fish output in Ontario. This industry is slated for continuous growth.

(<http://animalbiosciences.uoguelph.ca/aquacentre/files/aquastats/Aquastats%202018%20-%20Ontario%20Statistics%20for%202018.pdf>)

This growth, and the allocation of public (Crown) resources for private industry gain, must be conducted in a manner that is sustainable and has minimal impact on the environmentally sensitive aquatic resources of Georgian Bay and the North Channel of Lake Huron.

Further to this, three other factors in the Class EA amendment should be considered:

1. MNRF is adopting a modernization plan for cage aquaculture (Modernizing Ontario’s Approach to Cage Aquaculture through Enhanced Licensing and Occupational Authority [ERO number 013-5097] under the Fish and Wildlife Conservation Act 1997, (“FWCA”)) that will extend FWCA license terms from the current 5-year term to 20 years. This could reduce the flexibility to make changes during this extended period to operations deemed to be in non-compliance with provisions of their license under the Act.
2. The granting of the Aquaculture Licence for these open net cage aquaculture operations and its review process should be assessed at the same time as the Class EA RSFD (Category C) assessment process for the disposition of Crown Land – i.e. the Land Use permits or Crown Leases that are currently granted primarily for waste assimilation. These two requirements for the industry should not be dealt with under separate evaluations. They are intrinsically linked by the potential environmental impacts and public concern that GBA has identified and articulated.
3. Climate change appears to be occurring more rapidly than previously envisaged. According to the same source “Aquastats” (University of Guelph 2018) cited above, there have already been losses due to warmer lake water temperatures, and large escapement of stocks due to major storm events. Climate change also impacts the receiving waters and natural ecosystems that rely on maintaining waters and bottomlands in a healthy state - the same waters and bottomlands that MNRF designates to the proponents (cage farm operators) through the Class EA RSFD for direct discharge of waste.

GBA therefore recommends that the Government of Ontario take a proactive approach to its proposed amendments to the current Class Environmental Assessment for MNRF Resource Stewardship and Facility Development Projects as follows:

- In future assess open net cage aquaculture under a **Class C** EA RSFD (if the Class EA RSFD continues to be applied to this industry), since these operations clearly do NOT fit the description for **Class A** EA RSFD projects. **Class A** EA RSFD projects are described in Section 2.2.1 of the May 2020 “A Class EA for MNRF RSFD Projects”, which is entitled: “Similarities and Differences among the Projects”, as: *projects ... characterized by environmental effects that are well understood, recurring in nature and have minimal and/or localized short-term effects on the environment*. The environmental effects of open net cage aquaculture operations are not well understood (due to a paucity of the required studies), and are significant, far reaching, and long-term. Accordingly, Class A is not the correct classification.
- Require MNRF to monitor and encourage the application of emerging technologies which provide alternate aquaculture methods that have little or no environmental impact. These low impact aquaculture technologies that can be operated in land-based facilities are substantially more acceptable to the public than high impact open net cage aquaculture operations, as they only cause minimal public concern. GBA has been evidencing to MNRF and MECP the high public concern regarding open net pen operations for over 20 years.
- Improve transparency by posting notices (not bulletins) of all proposed legislative and regulatory changes applicable to the industry on the environmental registry for public comment. Such notices to make it clear that the relevant dispositions of crown land concern water lots, not dry land.

Since GBA last commented on these matters in November 2018, the following developments have occurred:

- There is a current plan underway to change from the previous 5-year Aquaculture Licence Renewal process to a 20-year Licence, and from the previous 5-year Land Use Permit to a 20 -year Crown Lease allocation;
- A third cage farm at Lake Wolsey has now been rendered inoperable for various reasons, but which no doubt can be directly related to the fact that it caused continuous hazardous algae blooms (cyanobacteria) which were reported by MECP at a cage farm that had been incorrectly screened to Category A (of low public and environmental concern by its Class EA designation), whereas it is clear that it should have been screened for Category C, as requested by GBA for all cage farm sites and directly supported by the MECP studies of this operation;
- 5 other open net cage aquaculture operations sites intend to relicense for 20 years once the interim licences expire, 3 of which are requesting increase in production (feed quota), and all sites will be requesting an increase in land tenure (to encompass their sediment and phosphorus footprint into the receiving waters/bottomlands); and

- The now finalized MNRF Guidelines for Cage Aquaculture in Ontario will be in use within the next year or two under which MNRF will be allocating open net cage aquaculture sites operational boundaries for Primary and Secondary sites utilizing public resources (Crown waters and bottomlands), which should require a public consultation process.

We therefore urge the Ministry to revisit and respond to the following concerns regarding use of the Class EA for RSFD for open net cage aquaculture:

1. Use of the Class EA RSFD does not take into consideration MNRF's obligation for fish habitat management and the long-term sustainability of aquatic resources as it seems to ignore the fact that the large escapements that occur at open net cage aquaculture sites disrupt fish habitat and create competition with wild fish stocks for food, and reverse the positive impact of planned fish stocking by the MNRF fish culture stations.
2. This industry does not comply with the waste disposal provisions of the Ontario Environmental Protection Act that all other land-based aquaculture operations must abide by.
3. The Land Use Permits/Crown Lease and Licensing processes for this industry grant it unprecedented use, that has not gained social licence, of a public resource (such as Georgian Bay) to dispose of its farm waste in public waters without any remediation provisions. The effects of this can be seen in Exhibits A, B, and C.
4. By not requiring proper waste disposal from these open net cage aquaculture operations, MNRF is actually working counter to the purpose of Section **2.2.8 Waste Disposal** of the Class A EA RSFD Document which states:  
*The purpose of MNRF's waste disposal service is to dispose of hazardous and non-hazardous waste in a satisfactory manner to eliminate any health hazard and minimize any contamination of the air, land or water. In this regard, MNRF complies with all applicable laws, including the Ontario Environmental Protection Act.*

To further explain our viewpoints and reasons for commenting on the amendments to this Class EA RSFD, please note that:

- GBA has repeatedly reported our concerns to both MOE and MNRF on both the social and environmental issues of concern related to this industry on behalf of the approximately 3,000 families who are members of our associations, as well as other recreational users and business operators dependent on long lasting environmental stewardship measures for maintaining their livelihoods, water-based leisure activities and the businesses that support them. These concerns themselves ought to have required the EA Category to be upgraded to Category C, so that it would once and for all: "provide an appropriate planning and consultation process for projects that have potential for moderate to high net negative environmental effects."

- MECP's very own studies on The State of Lake Wolsey, 2016, should be sufficient to confirm our affirmations that commercial size open pen net cage aquaculture operations do indeed qualify for Category C: Potential for high net negative environmental effects and/or concerns.
- A review of the License Applications of the existing 6 open net cage aquaculture operations sites shows that the feed quotas totaled 4,736 tonnes/year in 2014 and by 2016 these had increased to 5,686 tonnes/year, an increase of 950 tonnes. From this number, our mass balance calculations of TP (assuming 1.3% P in feed, 1.25 FCR, and 0.4 in trout, and no escapes occurring) predict the Phosphorous pollution to be 55.7 tonnes/year flowing freely into public water. Such is the purpose for the disposition of Crown land – to be used as a natural sewage treatment for “assimilating” the manure.

**In accordance with your duty to review the Proposed Class EA Amendments under the requirements of the Environmental Assessment Act, we request that you will ensure that existing open net cage aquaculture license applications are moved from the Pre-Assigned Category A projects of the Class EA to the correct Category C process, with all its provisions on consultations and requirements for an Environmental Study Report.**

To underline this point, please find below details regarding the potential for high negative environmental impacts from open net cage aquaculture in Lake Huron:

- A. There is the case of the open net cage aquaculture operation located in La Cloche Channel, where the undesirable anoxic (low oxygen) condition of the water was attributed to this operation, which was documented by Hamblin and Gale (2002) and Clerk et al. (2004) in two refereed journals. (Please refer to Exhibit A attached)
- B. At the open net cage aquaculture farm located in Grassy Narrows, Milne (2008) has documented that it took approximately nine years, after operations ceased in 1999, for most of the accumulated fish deposits and excess feed to dissipate, and that some detectable deposits of fish manure on the lake bed near the cage location still remain. Close to 1/3 of the phosphorus occurring in the surrounding waters was attributed to this fish farm.
- C. The open net cage aquaculture farm located in the embayment known as Lake Wolsey has turned that lake's total phosphorus concentration from the naturally oligotrophic, (meaning low concentration, which supports the normal low plant growth characteristic of healthy lakes) to levels well into the mesotrophic range, resulting in the overgrowth of plants. In other words, phosphorus levels reached the “the impacted water quality” range, as documented by Hamblin and Gale (2002) and Milne (2012).

- D. Hamblin and Gale (2002) also documented that near-farm phosphorus concentrations had reached hypereutrophic levels in Lake Wolsey, meaning the water was determined to be excessively rich in phosphorus, a nutrient which supports excessive plant growth. This is a concern since such nutrient rich waters are at risk for algal bloom growths and oxygen deficiency and can also become generally undesirable for drinking water and other needs. (Please refer to Exhibit B attached) This prediction proved to be correct as there have been blue green algae outbreaks in Lake Wolsey in each of the 4 years from 2014 to 2018.
- E. Applications were made to the State of Michigan to support licencing open net cage aquaculture in Lake Michigan and Huron. After commissioning independent studies, the State clearly ruled against allowing any cage farms into their waters. Currently, none of the U.S. States permit aquaculture in their Great Lakes waters, whereas Ontario allocates Crown Land to these projects and has Categorized the as Category A under the Class EA RSFD even though these open net cage aquaculture operations had never gone through a proper environmental assessment, and seem to have acquired rights that no other industry would be granted.
- F. No decommissioning cleanup/bonds or tax is required from the operators for closed sites such as the recent Lake Wolsey closure. This is an unjust use of public/Crown freshwater and lakebed resources.
- G. It is well known that the increase in invasive zebra and quagga mussels in Georgian Bay/ Lake Huron has changed the nutrient levels. Claims made that adding phosphorus through the normal operations of cage aquaculture (which feeds these invasive species, that habituate on/near the pens) are beneficial does not make for sound science or practice. More study on invasive species and the relationship to aquaculture operations are required.

It should also be noted that the Canada-US 2012 Great Lakes Water Quality Agreement's Annex 4 on Nutrients (Environment Canada, 2012) states as a lake ecosystem objective, that the waters of Lake Huron should be maintained in an oligotrophic state and that algal species, which produce toxins that pose a threat to humans or ecosystem health, such as cyanobacteria, should be maintained at healthy levels in the nearshore waters of Lake Huron.

According to the Lake Huron Bi-national Partnership, (2011), a massive wildlife die-off occurred in Georgian Bay in 2011. Open net cage aquaculture operates in nearshore waters. Since phosphorus contributes to water quality conditions that can facilitate the growth of algae, it would be responsible and prudent to be concerned about the phosphorus loading into nearshore waters from fish farm operations.

Negative environmental impacts associated with fish farm operations have been documented and have led to ongoing research in Canada and internationally on ways to minimize or eliminate the negative environmental impacts of aquaculture.

Please consider the various rationales in this submission to upgrade the Class EA RSFD from Category A to category C for the environmental assessment of these open net cage aquaculture operations.

We look forward to hearing from you in this respect and would welcome the opportunity to meet (virtually) to discuss these matters further.

Yours sincerely,

A handwritten signature in blue ink, reading "Rupert Kindersley". The signature is fluid and cursive, with the first name "Rupert" and last name "Kindersley" clearly distinguishable.

**Rupert Kindersley**  
**Executive Director**

CC:

Hon. John Yakabuski, Minister of Natural Resources & Forestry

Hon. Jeff Yurek, Minister off Environment, Conservation and Parks



## Exhibit A

La Cloche Channel 10 years after the fish farming cages were removed. The methane created by the fish manure in the sediment below the cage sites was still sufficient to melt the ice above where the cages used to be. Fish farming using open net technology is not a benign practice.



## Exhibit B

The following two pictures are from a research report published by Kelly Amber Hille in 2008 on the effects of cage aquaculture on epilithic biofilms.

The portion of her report that focuses on Lake Wolsey concludes in part, “even though the aquaculture operation may not be the main impacting agent on the system, it still plays a part. Every new invasion, every added nutrient and every physical change to the system adds stress to this already highly disturbed system.”



Phytoplankton bloom in the near-shore region of Lake Wolsey adjacent to fish farm.  
Photo by K. Hille September 2006



Aquaculture cage and Phytoplankton bloom at Lake Wolsey.  
Photo by K. Hille September 2006