

March 31, 2019

*Via email*

Hon. Senator Fabian Manning,  
Chair of the Senate Committee to review Bill C-68  
c/o Chantal Cardinal, Committee Clerk  
SENATE OF CANADA | SÉNAT DU CANADA

Dear Senator Manning,

**Re: Written evidence for the Fisheries and Oceans Senate Committee re  
Bill C-68 - An Act to amend the Fisheries Act and other Acts in consequence**

Since 1916 the Georgian Bay Association (GBA) has taken a leadership role, advocating on behalf of the water-based communities on the eastern and northern shores of Georgian Bay. We are a not-for-profit organization with a qualified volunteer Board of Directors, whose mandate is to work with our members and other stakeholders to ensure the careful stewardship of the greater Georgian Bay environment. Our committees, which include a Fisheries and an Aquaculture Committee, oversee and monitor specific issues of concern.

Senator Griffin has recommended that we contact your Senate Committee to request that GBA is granted standing as a witness to the Bill C-68 Committee and to outline GBA's concerns about the open net cage aquaculture operations in Georgian Bay and the North Channel of Lake Huron ("open net fish farms"). In particular, the extent to which these operations breach certain conditions of the proposed Bill C-68 amendments to the Fisheries Act. We also have two recommendations for additional provisions under the proposed Bill C-68.

In Appendix A of this submission we analyze how, in our opinion, the open net fish farms breach the relevant clauses of the proposed Bill C-68 amendments to the Fisheries Act. The main points arising from this analysis are as follows:

**GBA maintains that the open net fish farms:**

1. Are not properly managed and controlled. In particular, they do not conserve and protect native fish and their habitat, but instead pollute and degrade the quality of the waters and sediment by depositing deleterious substances (fish feces, excess feed, pharmaceuticals and chemicals used to clean the nets) into the water and under the cages, which accumulate over time and negatively impact the physical characteristics and chemical composition of the water.

2. Are inconsistent with the precautionary approach and damage the ecosystem over time. They harm, alter, disrupt and, ultimately, destroy native fish habitat. Therefore, they are not sustainable long term.
3. Require a full and complete study by the Department to determine their long-term detrimental effect on native fish and their habitat. Existing data should also be reviewed, as a significant number of scientific studies demonstrating the harm that the open net fish farms cause exist and which should be taken into account. Most of these are referred to in the attachments.
4. Could be moved on to land into fully sustainable, closed containment systems to avoid the continued harm to water quality, native fish and their habitat. The Minister could issue an order to move them on to land into fully sustainable, closed containment systems.
5. Do harm by adversely affecting native fish and fish habitat in an ecologically significant area - Georgian Bay and the North Channel are ecologically significant areas. Therefore, the Minister should make regulations to move them on to land into fully sustainable, closed containment systems, with waste treatment to provincial standards, in order to conserve and protect native fish and fish habitat in an ecologically significant area.

The attachments to this submission provide the bulk of the evidence that GBA has garnered in support of the above assertions, and are listed here:

## Attachments

<b>Background Information, including previous GBA submissions to the DFO &amp; Senate</b>	
1	GBA Aquaculture updated position and rationale October 18 2018
2	GBA Briefing Notes to Standing Committee on Fisheries and Oceans Nov 2011
3	GBA comments on DFO'S National AQ Strategic Action Plan Sept 2009
4	GBA Letter to Senate Committee on aquaculture Oct 2014
4A	Follow up Letter to Senate Committee re Industry Testimony Feb 17 2015 final
4B	Internal GBA memo on Industry testimony to Senate Committee Jan 2015
5	Transcript of GBA's Witness statement to DFO Senate Committee Oct 2014
5A	GBA Notes re NASAPI plan Oct 2014
6	GBA Response to NOAA Fact Sheet November 2012
7	GBA Phosphorous Fact Sheet 2013 Paul Hamblin
8	GBA Letter to Glen Murray re GLPA Feb 23 2015
9	GBA Petition to Federal Environment Commissioner Feb 2007
10	GBA Letter to DFO Dec 17 2013
11	Ontario Nature & GBA Brief to Ontario MNR Oct 2006
12	GBA memo Summary Fish Habitat Paper, Lotimer Apr 2007
13	Letter to Ontario MECP re Class EA RSFD Nov 13 2018
<b>Examples of sustainable land-based systems</b>	
14	Advanced RAS2020 Model, 2019
15	Report on Manitoba Aqua-Farm 2018 and GBA Notes
16	Feb 2017 news article on sustainable salmon operation – 2 articles
<b>Lake Wolsey</b>	
17	GBA Report on Lake Wolsey Jan 8 2018
18	MOECC Lake Wolsey Study Part 1

19	MOECC Lake Wolsey 2016 Study Part 2
<b>Other Reports, Articles and Studies</b>	
20	Resolution on Aquaculture, GLFC June 2015
21	Lake Huron LAMP 2017-2021
22	Michigan nixes net-pen aquaculture - Aquaculture North America
22A	Report, Michigan's Science Advisory on Net-cage aquaculture, Oct,2015
23	Ontario MOECC report on cage aquaculture effects on sediment and water quality June 2013
24	Ontario MECP Draft Objectives for Sediment and Water Quality, 2016 posting
25	GBA EBR Response to MNRF June 10 2016
26	GBA EBR Response to MOECC June 10 2016

## Highlights of our main concerns

### A. Summary Section Clause d) – HADD:

We are pleased to see the inclusion of the “Harmful Alteration, Disruption or Destruction” (HADD) provision that will: *“provide measures for the protection of fish and fish habitat with respect to works, undertakings or activities that may result in the death of fish or the harmful alteration, disruption or destruction of fish habitat, including in ecologically significant areas, as well as measures relating to the modernization of the regulatory framework such as authorization of projects...and establishment of a public registry.”*

In this respect, the abundance of protected inlets and islands and the relatively clean, clear and naturally oligotrophic (high oxygen, low nutrient) waters of Georgian Bay and the North Channel, where the subject open net fish farms are located, make it attractive to a recently expanding commercial open net aquaculture industry. This industry is currently given free use of these waters, and a license to pollute it and rear fish for sale in an unsustainable fashion for this ecologically significant area.

**Please refer to Attachment 21: Lake Huron LAMP 2017-2021:**

#### Page 13:

*Two of Canada’s Biosphere Reserves are located in Georgian Bay, one on the Bruce Peninsula, and the other along the eastern Georgian Bay coast. They are recognized by the United Nations Educational Scientific and Cultural Organization (UNESCO) as ecologically significant regions that strive to balance development and conservation. The rugged landscape of eastern Georgian Bay and its 30,000 islands inspire tourists, artists and nature lovers from far and near.*

*The French River Provincial Park in north-eastern Georgian Bay protects a remarkable 1,000 km (621 miles) of coastal and nearshore habitat; more than any (other) protected area in the Great Lakes. The North Channel (is) recognized as one of the best fresh water cruising grounds in the world, the North Channel features a vast number of uninhabited islands with sheltered anchorages, a natural fjord, and the world’s largest freshwater island – Manitoulin Island.*

## **Page 15:**

*Lake Huron's large watershed (118,000 km<sup>2</sup>; 45,600 mi<sup>2</sup>) and long residence time\* (22 years) makes it vulnerable to water quality impacts that can originate in its watershed.*

\*"residence time" refers to the average time that waters remain in the basin before flushing through connecting rivers and out to the St Lawrence River.

**Page 19**, which speaks of the nearshore waters – where the open net fish farms are located:

*The shallow nearshore waters are a highly productive environment. Virtually all species of Great Lakes fish use nearshore waters for one or more critical life-stages or functions. As a result, the nearshore area hosts the highest diversity of fish species (Liskauskas et. al., 2007).*

**Page 39**, which speaks to Harmful Algal Blooms (HABS) and recognizes cage aquaculture as a threat:

*Harmful Algal Blooms (HABs)*

*The current status of harmful algal blooms is 'fair' with an 'undetermined' trend offshore, and a 'deteriorating' trend nearshore (ECCC and USEPA, 2017). Other than episodic summer blooms that occur in Saginaw Bay, Sturgeon Bay and Deep Bay (Georgian Bay), and parts of the North Channel where farming occurs, Lake Huron waters are safe and substantially free from toxic and/or high abundances of harmful algae (ECCC and USEPA, 2017).*

## **B. Section 4.6.5 of Bill C-68 – THREATS:**

*A variety of human activities can increase nutrient pollution and promote nuisance and harmful algae growth. Sources of excess nutrients from urban areas include runoff and sewer overflows. In rural areas, the mishandling of animal waste or fertilizers can contribute to excess nutrients. Cage aquaculture operations must be properly sited and managed to minimize enrichment of nearby waters. Faulty septic systems can leak nutrients (and bacterial pollution) into nearshore waters. The impacts of climate change are causing increased nutrient pollution due to severe rain events and warmer conditions that promote nuisance and harmful algae growth.*

Three fish farm operations have so far found to have been incorrectly sited and have caused substantive blue green algae (cyanobacteria) outbreaks. Two in the Manitoulin Island area have been closed by the Province – at LaCloche Channel and Grassy Narrows – but continue to cause damage to the aquatic environment at both locations. The closure orders for these two operations resulted from the eutrophication and oxygen depletion so degrading the water quality that the areas became uninhabitable for wild fish. Another fish farm at Lake Wolsey (an embayment of the North Channel) should be closed down forthwith (see attachments 17-19) for the same reasons. These three examples demonstrate the long-term, cumulative damage caused by open net fish farms, as waste and excess feed accumulate under the cages, and nutrients and chemicals (antibiotics, etc. in the feed and chemicals used to clean the nets) are released into the waters.

## **C. Improper Regulation and Management of the Fish Farms**

Prior to 2012 there was a joint Environment Canada and Department of Fisheries & Oceans lead on the management of the industry to ensure environmental sustainability through the Ontario Sustainable Working Group. GBA received copies of this Group's meeting minutes, thereby providing transparency. In 2012 the Fisheries Act was amended and this Group was

disbanded. Since then we have observed the following lack of transparency and improper regulation and management of the open net fish farms:

- 1) Aquaculture permits and land use permits for the operators are no longer being posted on the Environmental Registry under the supervision of the Ontario Environmental Commissioner. Public access to view comments from the Ontario Ministry of Environment, Conservation and Parks (MECP) regarding the water quality and sediment impacts of the permits is no longer available. We believe that the removal of Section 36 from the 2012 Fisheries Act may be responsible for reducing the powers of MECP and the lack of transparency in this respect.
- 2) There appears to be an ongoing conflict between the Ontario Ministry of Natural Resources and Forestry (MNR) and MECP. MNR support the open net fish farms, and have taken the stance that the “assimilation” of the waste (sewage and uneaten feed), which is changing the aquatic ecosystem, is a legitimate use of public water resources. Conversely, MECP have regularly expressed concerns about the negative environmental impact of open net fish farms. MNR has largely ignored these concerns in favour of the industry – see the Lake Wolsey MECP reports in attachments 18-19. It is unconscionable that this operation has not yet been closed down, and that these reports were not made public. GBA had to resort to a Freedom of Information request to obtain copies.
- 3) We believe that one result of this conflict is that MECP have yet to finalize the long overdue provincial “*Policy for Managing the Effects of Cage Aquaculture Operations on the Quality of Water and Sediment in Ontario’s Waters*” that is crucial to supporting the MNR’s *Application Guidelines for Cage Aquaculture Facilities in Ontario*, (EBR #012-5045) finalized in September of 2017.
- 4) Bob Duncanson and Claudette Young of GBA appeared as witnesses to the “study of the regulation of aquaculture, current challenges and future prospects for the industry in Canada” on October 7, 2014. The report released from this study recommended an Aquaculture Act for Canada. On Dec 21, 2018 we received from Fisheries and Oceans Canada a response to our Freedom of Information Request (AOR-2018-00959/CM). Out of the 383 pages regarding the proposed Aquaculture Act, all but 6 titles to some paragraphs were redacted, and therefore nothing of any significance as to what may be contained in such an Act was made available – specifically protection provisions for the internationally protected waters of the Great Lakes.
- 5) Following the unravelling of the environmental protections in the 2012 *Fisheries Act* came the *Aquaculture Activities Regulations*. These regulations have effectively authorized pollution (HADD) of the Georgian Bay and North Channel waters by the open net fish farms, by making them exempt from the Section 35 provisions of the Act that require protection of wild fish, their habitat and the aquatic ecosystem.

We suggest that, once Bill C-68 is enacted, action should be taken to ensure appropriate management and regulation of the open net fish farms, and the reinstatement of full transparency on their operation and supervision. In particular the replacement of subsections 35(3) and (4) of the Act by paragraph (2)(b) concerning amendment, suspension or cancellation [of fish farm licenses] will be of assistance to MECP for the proper regulation of open net fish farms.

#### **D. Other Negative Environmental Impacts of Fish Farms**

- 1) The release of high quantities of antibiotics and other chemotherapeutants necessary for high density fish culture into the open aquatic ecosystems of the Great Lakes poses unknown risks to fish and fish habitat.
- 2) Fish farms appear to be assisting the growth of invasive species, such as zebra and quagga mussels, which are found in abundance around cage farms feeding on the excess nutrients from the open net fish farms, thereby promoting the spread of invasive species.
- 3) There are continuous cases of fish escapement (large spills) caused by damage to net pens from vandalism, storms and ice conditions (see table in Appendix B).

#### **E. Other Considerations**

- 1) The State of Michigan recently conducted a detailed review after fish farmers applied for open net licenses in Lake Michigan. They concluded that this industry posed too great a risk to water quality, and that the cost of regulating and monitoring it made no sense when set against the nominal tax revenues and employment that this low-margin industry would generate. As a result, no US Great Lakes state allows open net fish farms. See attachments 22 and 22A.
- 2) The precautionary principle should be applied when considering whether or not to allow the continued operation of the open net fish farms. Why take the risk of polluting the water and causing harm to the aquatic ecosystem when fully sustainable land-based alternatives for growing trout are available to the industry? There are numerous recent technologies that have been developed to grow fish profitably at locations near to market, which employ advanced technologies and techniques, and avoid high transportation costs. The open net fish farms are an antiquated, unsustainable technology. Transporting farmed fish over large distances to market damages the environment by unnecessarily burning additional carbon fuels.

### **Recommendations for Improvements to the Act**

GBA proposes the following improvements to the Act in order to enhance the protection of the Great Lakes aquatic ecosystems:

#### **F. Restore the environmental assessment triggers to those previously contained in Section 36 of the Act prior to 2012.**

Prior to 2012 Environment Canada and Climate Change (ECCC) were able to protect the Great Lakes water quality as per their mandate, which includes application of the precautionary principle. As part of the 2012 legislative changes, authorizations under the *Fisheries Act* no longer trigger an environmental impact assessment under the *Canadian Environmental Assessment Act, 2012* (CEAA). Without this trigger, fish communities, and the aquatic species that support them, no longer have full protection from damage that might be caused by pollution of the Great Lakes system, including open net fish farms. This matter is becoming increasingly urgent as climate change is also causing ongoing changes to the ecosystem, with higher water temperatures and lower dissolved oxygen levels increasing the risks of blue green algae blooms. We suggest that the Ontario guidelines and regulations

currently applicable are inadequate to deal with the expanded aquatic ecosystem management issues we are now facing, and which are increasing in severity every year now.

**G. Incorporate compliance with the Canada – U.S. Great Lakes Water Quality Agreement; the Ontario Great Lakes Strategy; the Great Lakes Protection Act; The Canada - Ontario Great Lakes Agreement; and the Lake Huron Lakewide Action and Management Plan 2017-2021 (the Agreements).**

Under the Agreements there has been a considerable effort made over the years to remediate and reduce phosphorous loading and other pollutants entering the Great Lakes. GBA suggests that open net fish farms are inherently non-compliant with the objectives, intentions and legal requirements of the Agreements. Adding a clause to ensure all ongoing activity on, and discharges into, the Great Lakes are compliant with the various terms of the Agreements would have a far-reaching and positive impact on protecting the Great Lakes from open net fish farms and other polluting industries. It would also allow the DFO to step in to ensure compliance as and when required.

Finally, we would like to point out some important information relating to the Lake Wolsey fish farm:

- The operator of this facility, Mike Meeker, appeared before the Senate Committee for Fisheries and Oceans, Regulations of Aquaculture and Future Prospects in 2014 and we have included our input to that Committee, and comments on his testimony at the time, in Attachments 4, 4A, 4B & 5.
- There have been annual blue green algae (cyanobacteria) blooms caused by this fish farm in Lake Wolsey every year since 2015 and in 5 other years before that, after the fish farm commenced operations there.
- We understand that the operator has attempted to sell contaminated fish grown at this facility, but thankfully they were disposed of following positive testing for toxins, as they would have posed a risk to public health and safety.
- The rest of the aquaculture industry would like to see this facility closed down, as it is giving the industry a bad name, and the potential health and safety issues are a threat to the industry's reputation.

We hope that the evidence we have provided in this submission will lead you to consider our concerns, recommending and supporting the action suggested once Bill C-68 is enacted, and incorporating the two amendments to the Act outlined above.

We look forward to the opportunity to be a witness and meet with your Committee in Ottawa.

Yours sincerely,



**Rupert Kindersley  
Executive Director**

## APPENDIX A

### ***Analysis of the extent to which, in the opinion of GBA, the open net fish farms breach the relevant clauses of the proposed Bill C-68 amendments to the Fisheries Act.***

<b>Relevant clause heading, number &amp; contents:</b>	<b>GBA maintains that the open net fish farms:</b>
<p><b>Purpose of Act</b>            2.1 The purpose of this Act is to provide a framework for            (a) the proper management and control of fisheries;</p>	Are not properly managed and controlled.
<p>(b) the conservation and protection of fish and fish habitat, including by preventing pollution.</p>	Do not conserve and protect native fish and their habitat, but instead pollute the waters.
<p><b>Considerations for decision making</b>            2.5 Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things,            (a) the application of a precautionary approach and an ecosystem approach;</p>	Are inconsistent with the precautionary approach and damage the ecosystem over time.
<p>(b) the sustainability of fisheries;</p>	Are not sustainable long term.
<p>(c) scientific information;</p>	There are a significant number of scientific studies demonstrating the harm that the open net fish farms do that should be taken into account.
<p><b>Factors</b>            34.1 (1)            (c) whether there are measures and standards            (i) to avoid the death of fish or to mitigate the extent of their death or offset their death, or            (ii) to avoid, mitigate or offset the harmful alteration, disruption or destruction of fish habitat;</p>	Could be moved on to land into fully sustainable, closed containment systems to achieve this objective.
<p>(d) the cumulative effects of the carrying on of the work, undertaking or activity referred to in a recommendation or an exercise of power, in combination with other works, undertakings or activities that have been or are being carried on, on fish and fish habitat;</p>	Have long term negative impacts on native fish and their habitat.



Relevant clause heading, number & contents:	GBA maintains that the open net fish farms:
<p><b>Factors - 34.1 (1) (cont)</b>  (f) whether any measures and standards to offset the harmful alteration, disruption or destruction of fish habitat give priority to the restoration of degraded fish habitat;</p>	<p>Could be moved on to land into fully sustainable, closed containment systems to achieve this objective.</p>
<p><b>Standards and codes of practice</b>  34.2 (1) The Minister may establish standards and codes of practice for  (a) the avoidance of death to fish and harmful alteration, disruption or destruction of fish habitat;  (b) the conservation and protection of fish or fish habitat; and  (c) the prevention of pollution.</p>	<p>Could be moved on to land into fully sustainable, closed containment systems to achieve all these objectives.</p>
<p><b>Studies, etc. — management or control of obstruction</b>  34.3 (1) If the Minister considers that doing so is necessary to ensure the free passage of fish or the protection of fish or fish habitat, the owner or person who has the charge, management or control of an obstruction or any other thing that is detrimental to fish or fish habitat shall, on the Minister’s request and within the period specified by him or her, conduct studies, analyses, samplings and evaluations, and provide the Minister with any document and other information relating to them, to the obstruction or thing or to the fish or fish habitat that is or is likely to be affected by the obstruction or thing.</p>	<p>Require a full and complete study by the Ministry to determine the long term detrimental effect on native fish and their habitat and analysis of existing data.</p>
<p><b>Minister’s order</b>  (2) If the Minister considers that doing so is necessary to ensure the free passage of fish or the protection of fish or fish habitat, the owner or person who has the charge, management or control of an obstruction or any other thing that is detrimental to fish or fish habitat shall, on the Minister’s order, within the period specified by him or her and in accordance with any of his or her specifications,  (a) remove the obstruction or thing;</p>	<p><b>The Minister should issue an order</b> to move them on to land into fully sustainable, closed containment systems</p>

Relevant clause heading, number & contents:	GBA maintains that the open net fish farms:
<p><b>Minister's order</b>  (g) permit the escape, into the water below the obstruction or thing, at all times of the quantity of water that the Minister considers sufficient, in accordance with the characteristics of the water and water flow as may be specified by him or her, for the conservation and protection of the fish and fish habitat, including  (i) the water temperature, and  (ii) the physical characteristics and chemical composition of the water.</p>	<p>Negatively impact the physical characteristics and chemical composition of the water.</p>
<p><b>Modification, repair and maintenance</b>  (3) On the Minister's order, the owner or person referred to in subsection (2) shall  (a) make any provision that the Minister considers necessary for the free passage of fish or the protection of fish or fish habitat during the carrying on of any activity mentioned in that subsection;</p>	<p><b>The Minister should issue an order</b> to move them on to land into fully sustainable, closed containment systems</p>
<p><b>22 (1) Subsection 35(1) of the Act is replaced by the following:</b>  <b>Harmful alteration, disruption or destruction of fish habitat</b>  35 (1) No person shall carry on any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat.</p>	<p>Harm, alter, disrupt and, in the long term, will destroy fish habitat.</p>
<p><b>(3) Paragraphs 35(2)(c) and (d) of the Act are replaced by the following:</b>  (c) the carrying on of the work, undertaking or activity is authorized by a prescribed person or prescribed entity and the work, undertaking or activity is carried on in accordance with the conditions set out in the authorization;  (d) the harmful alteration, disruption or destruction results from the doing of anything that is authorized, otherwise permitted or required under this Act;</p>	<p>Harm, alter, disrupt and, in the long term, will destroy fish habitat.</p>

Relevant clause heading, number & contents:	GBA maintains that the open net fish farms:
<p><b>(5) Subsections 35(3) and (4) of the Act are replaced by the following:</b>  <b>Amendment, suspension or cancellation — paragraph (2)(b)</b>  (5) The Minister may amend, suspend or cancel an authorization issued under paragraph (2)(b).  <b>23 The Act is amended by adding the following after section 35:</b>  <b>Ecologically significant area</b>  35.2 (1) No person shall carry on a work, undertaking or activity prescribed under paragraph (10)(a) or that belongs to a prescribed class under that paragraph, in an ecologically significant area except in accordance with an authorization issued under subsection (7).  Designation — ecologically significant area  (2) The Governor in Council may, on the recommendation of the Minister, make regulations designating ecologically significant areas.</p>	<p>Do harm to an ecologically significant area - Georgian Bay and the North Channel are ecologically significant areas.</p>
<p><b>Requirement to provide information</b>  (3) Any person who proposes to carry on a work, undertaking or activity referred to in subsection (1) in an ecologically significant area shall provide the Minister with any document and other information that is required by regulation in respect of the prescribed work, undertaking or activity, or the water, place, fish or fish habitat that is likely to be affected by the prescribed work, undertaking or activity.</p>	<p>Adversely affect native fish and fish habitat in an ecologically significant area</p>
<p><b>Powers of Minister</b>  (7) If the Minister is satisfied, after having reviewed any document and other information provided under subsection (3) or (4), that avoidance and mitigation measures may be implemented to achieve the prescribed objectives for the conservation and protection of fish and fish habitat, he or she may authorize, subject to the regulations made under subsection (10), the carrying on of the work, undertaking or activity referred to in subsection (1) in an ecologically significant area, on any conditions that he or she considers appropriate.</p>	<p>Should be moved on to land into fully sustainable, closed containment systems in order to avoid and mitigate harm to native fish and fish habitat – the precautionary principle should apply.</p>

Relevant clause heading, number & contents:	GBA maintains that the open net fish farms:
<p><b>Regulations</b>  (10) The Governor in Council may, on the Minister's recommendation, make regulations  (a) prescribing works, undertakings or activities or classes of works, undertakings or activities, for the purposes of this section;  (b) respecting any document or other information that is required to be provided under subsection (3), including the manner in which and the time within which it is to be provided;  (c) respecting the objectives for the conservation and protection of fish and fish habitat in an ecologically significant area;</p>	<p><b>The Minister should make regulations</b> to move them on to land into fully sustainable, closed containment systems in order to conserve and protect native fish and fish habitat in an ecologically significant area.</p>
<p><b>24 (1) The portion of subsection 37(1) of the Act before paragraph (b) is replaced by the following:  Minister may require plans and specifications</b>  37 (1) If a person carries on or proposes to carry on any work, undertaking or activity that results or is likely to result in the death of fish, in the harmful alteration, disruption or destruction of fish habitat or in the deposit of a deleterious substance in water frequented by fish or in any place under any conditions where that deleterious substance or any other deleterious substance that results from the deposit of that deleterious substance may enter any such waters, the person shall, on the request of the Minister .....</p> <p>(a.1) whether the work, undertaking or activity results or is likely to result in the harmful alteration, disruption or destruction of fish habitat that constitutes or would constitute an offence under subsection 40(1) and what measures, if any, would prevent that result or mitigate its effects; or .....</p>	<p>Deposit deleterious substances into the water and under the cages, which accumulates over time - a long term negative environmental impact – which adversely affects water quality and native fish and fish habitat. The deposits of deleterious substances should trigger the above clauses of 37 (1) and consequent action by the Minister.</p>

Relevant clause heading, number & contents:	GBA maintains that the open net fish farms:
<p><b>Duty to notify — deleterious substance</b>  (5) If there occurs a deposit of a deleterious substance in water frequented by fish that is not authorized under this Act, or if there is a serious and imminent danger of such an occurrence, and detriment to fish habitat or fish or to the use by humans of fish results or may reasonably be expected to result from the occurrence, then every person shall without delay notify an inspector, a fishery officer, a fishery guardian or an authority prescribed by the regulations if the person at any material time</p>	<p>Deposit deleterious substances into the water and under the cages, which accumulates over time - a long term negative environmental impact – which adversely affects water quality and native fish and fish habitat. The deposits of deleterious substances should trigger the above clauses of 37 (1) and consequent action by the Minister.</p>
<p><b>2012, c. 19, s. 145(1)</b>  <b>(8) Subsection 38(6) of the Act is replaced by the following:</b>  <b>Duty to take corrective measures</b>  (6) Any person described in paragraph (4)(a) or (b), (4.1)(a) or (b) or (5)(a) or (b) shall, as soon as feasible, take all reasonable measures consistent with public safety and with the conservation and protection of fish and fish habitat to prevent the occurrence or to counteract, mitigate or remedy any adverse effects that result from the occurrence or might reasonably be expected to result from it.</p>	<p>Deposit deleterious substances into the water and under the cages, which accumulates over time - a long term negative environmental impact – which adversely affects water quality and native fish and fish habitat. The deposits of deleterious substances should trigger the above clauses of 37 (1) and consequent action by the Minister.</p>
<p><b>EXPLANATORY NOTES</b>  <i>fish habitat means spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes; (habitat)</i></p>	

## APPENDIX B

### MNRF's Record of escapes

<b>Event</b>	<b>Date of escapement</b>	<b>Basin</b>	<b>Size of fish</b>	<b>Number</b>
1	1999	North Channel	NA	300
2	September 28, 2000	North Channel	140-160 gr.	19561
3	Spring, 2001	North Channel	300 gr.	18000
4	Spring, 2001	North Channel	800-900 gr.	8000
5	Spring, 2001	North Channel	1, 000 gr.	40000
6	August, 2001	North Channel	1, 000 gr.	70000
7	October 23, 2002	Georgian Bay	1, 000 gr.	25000
8	March, 2003	Georgian Bay	1, 000 gr.	100000
9	March, 2003	Georgian Bay	300 gr.	220000
10	December 22, 2004	North Channel	190 gr	125000
11	August, 2005	Georgian Bay	275 gr.	2000
12	September 7, 2005	Georgian Bay	300-1000 gr.	3000
13	November 9, 2005	North Channel	1, 600 gr.	28000
14	November 9, 2005	North Channel	1, 000 gr.	68000
15	November 9, 2005	North Channel	900 gr.	18000
16	November 9, 2005	North Channel	455 gr.	39000
17	November 9, 2005	North Channel	200	80000
18	June 16, 2007	Georgian Bay	100 gr.	25000
19	April 29 2008	North Channel	127 gr.	33000
20	December 9 2009	North Channel	80 gr.	29000
21	December 25 2009	North Channel	1,180 gr	25000
22	October 22 2010	North Channel	55 gr	42000
23	Spring 2011	North Channel	market size	110000
24	July 26 2012	North Channel	3 lbs	24000
25	August 22 2012	North Channel	2.7 lbs	10000
26	Nov 5 2012	North Channel	500 gr	40000
27	June 17, 2014	Georgian Bay	10 g	13000
28	November 2014	Georgian Bay	1-2 kg	55000
29	Nov 17 2014	North Channel	500 gr	30000
30	Late March 2015	Georgian Bay	1-2 kg	15000
31	October 15, 2018	Georgian Bay	1 kg	32000