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**THE STANDING SENATE COMMITTEE ON FISHERIES AND OCEANS**

**EVIDENCE**

OTTAWA, Tuesday, October 7, 2014

The Standing Senate Committee on Fisheries and Oceans met this day at 5:00 p.m., to continue it study on the regulation of aquaculture, current challenges and future prospects for the industry in Canada.

[Translation]

**Maxwell Hollins, Committee Clerk:** Good evening, honourable senators. As clerk of your committee, it is my duty to inform you of the unavoidable absence of the chair and deputy chair, and to preside over the election of an acting chair.

 [English]

I'm ready to receive a motion to that effect.

**Senator McInnis:** I nominate Senator Stewart Olsen to be the chair for this evening's meeting in the absence of the chair and the deputy chair.

**Mr. Hollins:** Thank you. Any other nominations?

Hearing none, it is moved by the Honourable Senator McInnis that the Honourable Senator Stewart Olsen do take the chair of this committee.

Is it your pleasure, honourable senators, to adopt the motion?

**Hon. Senators:** Agreed.

**Mr. Hollins:** I declare the motion carried and invite the Honourable Senator Stewart Olsen to take the chair.

**Senator Stewart Olsen** (*Acting Chair*) in the chair.

**The Acting Chair:** Thank you very much. Good evening all. I'm calling the meeting to order and am pleased to welcome you to this meeting of the Standing Senate Committee on Fisheries and Oceans.

My name is Carolyn Stewart Olsen. I'm a senator from New Brunswick and I'm pleased to take the chair for this evening's business. Before I give the floor to witnesses, I invite the members to introduce themselves.

**Senator Meredith:** Senator Meredith, Ontario.

**Senator Baker:** Senator George Baker, Newfoundland and Labrador.

**Senator McInnis:** Senator Tom McInnis, Nova Scotia.

**Senator Batters:** Senator Denise Batters, Saskatchewan.

**Senator Nancy Ruth:** Senator Nancy Ruth from Go Home Bay, Georgian Bay.

**The Acting Chair:** The committee is continuing its special study on the regulation of aquaculture, current challenges and future prospects for the industry in Canada. Tonight we are pleased to welcome, from the Georgian Bay Association, Claudette Chabot, Chair, Aquaculture Committee; and Bob Duncanson, Executive Director.

On behalf of members of the committee, I thank you for being here today. We will begin with a statement from Ms. Chabot and the senators will follow with questions.

**Claudette Chabot, Chair, Aquaculture Committee, The Georgian Bay Association:** I will pass that over to Mr. Bob Duncanson, if you will.

**Bob Duncanson, Executive Director, The Georgian Bay Association:** Thank you very much, honourable senators, ladies and gentlemen. It is a pleasure to be here to participate in the Senate committee's study of aquaculture.

The Georgian Bay Association represents 20 community associations along the eastern and northern shores of Georgian Bay. We have been advocating on behalf of our property-owning members since 1916. We are a not-for-profit organization, and one of our key mandates, as directed by our members, is to help the governments with the stewardship of the fragile and finite natural environment of Georgian Bay.

Georgian Bay has often been referred to as the sixth great lake, as it and lakes Huron and Michigan constitute one body of water. The water in the Great Lakes supports 30 per cent of Canada's population by providing drinking water, transportation, energy, fisheries and recreation. It is a resource that all Canadians should work hard to protect as it is a valuable and non-renewable resource.

Claudette Chabot, who is here with me today, is the chair of our aquaculture committee. Claudette, supported by her committee of experienced volunteer scientists, has been engaged on the aquaculture file for over a decade. Over that time they have monitored the development of this industry and the government oversight thereof. At most stakeholder meetings we have been the voice of the Canadian public when it comes to aquaculture in the Great Lakes region.

We are very concerned about the long-term environmental impact of open water cage aquaculture to the public waters of Georgian Bay in the North Channel. We have several concerns, but given the time restrictions today we are going to focus our remarks on just one. Our number one concern with cage aquaculture is the pollution created by the direct discharge of phosphorus into public waters from fish feces and uneaten fish food.

The current impact of the existing commercial aquaculture operations, based on their approved feed quotas, is the release of 46 tonnes of untreated phosphorus into public waters annually. That is the equivalent to the discharge loads from the three largest municipal waste water treatment plants on Georgian Bay. Another way to look at it is that it is the equivalent to the phosphorus output that would result from 16,000 market hogs defecating directly into Georgian Bay. We feel that this is unacceptable and unsustainable.

The fragility of the Great Lakes ecosystem has been demonstrated by ongoing toxic blue-green algae challenges, most noticeably in Lake Erie. While Lake Erie and particularly the City of Toledo have been in the news lately, blue-green algae has reared its ugly head in lakes Ontario, Huron, Michigan and Georgian Bay. These outbreaks have been fuelled by too much nutrient in the nearshore zones of these lakes. Phosphorus has been cited as the primary nutrient. The Canadian and U.S. governments have recognized this threat in their latest redraft of the binational Great Lakes Water Quality Agreement.

All of the cage aquaculture operations in Georgian Bay in the North Channel are in the nearshore. To date, the Canadian government through DFO and the Ontario government through the Ministry of Natural Resources have determined that these operations are acceptable as long as they are located in areas that have good currents to flush the waste and help it assimilate into the public waters. Their attitude seems to be that the solution to pollution is through dilution. We think that is unsustainable and irresponsible.

We should note that none of the eight Great Lake states that share our Great Lakes allow or have cage aquaculture operations in their jurisdictions.

The strategy for sustainable aquaculture development in Ontario that was prepared by the cage aquaculture industry, in conjunction with DFO, lays out a vision that states:

Within 10 years . . . total output of rainbow trout in Ontario will double, to approximately 9,000 tonnes annually . . .

This would result in 92 tonnes of phosphorus being released into public waters annually, and that is a real concern to us. The GBA does not oppose the growth of aquaculture in Canada or in the Great Lakes region. We believe, however, that the only way forward for freshwater aquaculture is to transition the open net cage farms to environmentally responsible closed containment systems.

These systems would enable the operators to capture and properly treat their farm waste. This would be consistent with all other feedlot operations in Ontario that are required to have nutrient management plans for the management of their waste. Such technology is being successfully used in B.C., and we gather in Nova Scotia, as well as other countries such as Norway and Denmark. We think that with a little creative thinking between the governments — both federal and provincial — and the industry, closed containment technology could be implemented successfully in the Great Lakes region. This would enable the industry and the government to achieve their vision for aquaculture growth, but in an environmentally sustainable fashion.

Thank you for your time and attention to this issue, and we look forward to answering any questions you may have.

**The Acting Chair:** Did you have anything to add, Ms. Chabot?

**Ms. Chabot:** Not at this time. If there are questions we will be glad to take them.

**Senator Baker:** Thank you to the presenters and the supporting staff.

You say that eight states in the United States border the water system, and yet not one of those states has any open water cage aquaculture. Is there a reason for that? Is there a U.S. law?

**Mr. Duncanson:** No, it's a state-regulated system. There are two states that have specific legislation in place that forbids this activity. The others don't have anything in writing, but, in our discussions with their equivalent of the Ministry of Natural Resources, we get the indication that there is no appetite at the state level to see this activity take place. I should add that there are some parts of Great Lakes that would not be ideal for cage aquaculture. For instance, I don't think anyone would line up to put a cage aquaculture system into Lake Erie, particularly given its current phosphorus load problem.

**Senator Baker:** Canada and the United States, of course, administer the water systems, and there are regular meetings and recommendations made. Surely this matter has come up consistently over the years. You have outlined a very strong case here for a major change immediately; this is a crisis situation. In the negotiations Canada has on a continuing basis with the U.S. over these water systems, do you know if this matter has been discussed thoroughly?

**Mr. Duncanson:** I was an advisor on behalf of the Georgian Bay Association. We were invited by then Minister Prentice to sit as an advisor to Environment Canada, who was renegotiating the Great Lakes Water Quality Agreement. I took the opportunity, in the course of those two years of renegotiations, to raise this on a number of occasions. My sense is that Environment Canada gets it, but the U.S. does not spend a lot of time worrying about what is going on north of the border on the Great Lakes because we are relatively pristine compared to the issues that the U.S. Environmental Protection Agency and others are trying to deal with.

**Senator Baker:** You are advocating that Canada adopt a closed cage system. Right now, as you pointed out, there is the open water cage aquaculture. What would that look like, and what is the major concern as to why this is not instituted? What is the major difference between the two? In the open water system, I presume you would see the nets in kind of a square or rectangle, and the food would be thrown in. What would a closed cage system look like, and why has this not been implemented to date?

**Ms. Chabot:** First, closed systems would not be in cages. They would be in solid tank systems that could be floating in the water.

Some cage farmers have tried to trap the waste by using what is like a diaper system around the floating cages, but they found that this system does not work. The feces will not fall in the area where they are able to actually draw it away, and they have ended up scuba diving with a vacuum kind of thing to get the waste to where they can treat it properly. There is a company, AgriMarine, on the West Coast, in B.C., that has floating contained systems — pods, if you will.

One of the things keeping the industry back is the capital cost for these floating contained systems. Our argument, on the other hand, would be that within contained systems, for rainbow trout, for instance, you have to have a certain temperature that's ideal for the trout to grow. Between 12 to 15 degrees Celsius is ideal. They need a certain oxygen level to really thrive, and oxygen can be pumped into these closed contained systems. Harvesting could be done more often throughout the year, whereas now, in the open cage systems in Lake Huron or Georgian Bay, they have to pretty much fallow during the winter. The fish go into a state of almost hibernation. They feed only once a day, and these are the ones that have not grown to weight and haven't been harvested in the fall.

There are definite advantages to the closed contained systems. The nets don't break. There are no nets to break. They don't lose their stock into the open waters, but it is pretty much the cost. The cost would be of the energy, the hydro, to keep the pumps running for this system.

The other method is recirculating aquaculture systems that would be done in tanks inland, where they can recirculate about 80 per cent of the water and continue use, but that has even higher capital costs. The industry doesn't have the support to put in the initial cost.

**Senator Baker:** It would require a change in the Fisheries Act. Is that what you think would be required to implement this particular change?

**Mr. Duncanson:** I think it's more an issue of political will than of actual regulation. The industry operates within the parameters that government gives it, and, in the current situation, DFO has essentially deferred to the Ontario government on this file. We've suggested that we would like to see DF0 be more aggressive on this file because it is a binational waterway that we are dealing with, and we don't think it is fair that they basically leave it to the province.

To Claudette's point, there are some opportunities here. This is northern Ontario. This is FedNor country. This is where government grants are given from time to time to help industry, and this would be a perfect example of that.

On the electricity side, for the pumping — and there is no doubt there is an ongoing operating cost to running circulating pumps — currently Ontario has a surplus of power, particularly in parts of the North. We would encourage the Ontario government to be creative in looking for ways, as they have done with the auto industry and the steel industry, to look at this industry to see if they can give them a little bit of a break to help them as they transition into this new technology.

**Senator McInnis:** Welcome to our guests.

Let me just take you back for a minute. As to the procedure for getting into the operation, you have to have a licence from the Government of Ontario. For all of the other aquaculture licences that I'm aware of in the country, there is a procedure whereby both Fisheries and Environment Canada are involved a great deal.

I take it that's not the case here. I'm getting from what you're saying that DFO has backed off, and I take it that the departments in the province would be Natural Resources and Environment?

**Mr. Duncanson:** And a little bit of Agriculture. They are a commenting agency.

**Senator McInnis:** First, to get the licence, obviously there has to be an application. I would have thought that DF0 would be involved. Is there public engagement? Are there open meetings where you can go and state your case as to whether you are opposed or not?

**Ms. Chabot:** There is an application process. Currently, we are not aware of any new applications at this time. They would go through Ontario’s Environmental Registry. They need two licences — a land use permit in order to have use of the Crown land or the bottom lands of the lake, and then the aquaculture licence. Both are given by the Ontario Ministry of Natural Resources.

The existing cage aquaculture sites have been here since the late 1980s and early 1990s, and they did not have to go through an environmental assessment, for example. When they reapply every five years for their licence, they are automatically skipped through the Class EA for MNR Resource Stewardship and Facility Development Projects. They are targeted as Class 1, which means they are of little public or environmental concern because they've been here for so long in the lakes. They are under the class Environmental Assessment Act.

We've been wishing that this would change. We have asked that there be environmental assessments to these existing cage culture sites as well, but there is no room for public input. It is posted on the Environmental Bill of Rights registry site for comment only. We give our comments each time, but it does not have an influence for the outcome of their licensing. A Class C would be registered as some environmental concern, and it needs to be looped through a different process. However, right now there is the short-term environmental risk assessment which simply says that rainbow trout exist in the lake, that this is not an introduced or a new species and if escapes occur, it will have little impact. We think differently.

**Senator McInnis:** What is the depth of the water where the pens are?

**Mr. Duncanson:** It varies between operations. You can be as deep as 100 feet and as shallow as 50. It is site specific. MNR are concerned with the flush rate to try to get the stuff dispersed as quickly as possible so it will not build up and feed a potential algae bloom. At one site, the LaCloche Channel, they pulled the cages, revoked that licence and forced the operator to move. For several winters thereafter you could see from the sky, when ice would form, circles where the methane was being released from the bottom and keeping the ice from freezing above it. Yet they say there is no environmental impact from this. In a way, it's frustrating to bang up against this.

My understanding is that DFO is copied on all these licences as they come forward, even for a renewal, from a commenting perspective. However, to our knowledge and experience, DFO has been hands off, letting Ontario have its way on this.

**Senator McInnis:** There is no written agreement between them on this?

**Mr. Duncanson:** I believe there is some kind of agreement because, as with anything dealing with federal and provincial ministries, there must be some terms of understanding.

**Ms. Chabot:** There is a memorandum of understanding, which we have not received a copy of.

**Senator Poirier:** Thank you for being here.

I will follow up on what Senator McInnis started because it is along the same line of questioning that I wanted to ask about. From my understanding, a lot of the issues you are dealing with right now seem to be under provincial jurisdiction. If there is some kind of agreement with the federal government, or DFO, it seems like they have the jurisdiction to pretty well make the decisions that they want.

Based on that, at the end of this study we have to make recommendations. Without going into an area where we have no authority, could you share with me what you would like to see in the recommendations that could be helpful to you? That is, is there something we could do or possibly consider as a recommendation that could help you?

**Mr. Duncanson:** I would like to see some direction that both DFO and Environment Canada remain engaged on this file and take it a bit more proactively than they have or than we, the public, are sensing they have. We are not privy to their backroom discussions now, but up until about two years ago we used to see DFO coming to stakeholder meetings. That has drifted. Maybe they don't have the resources to put into this. Where you'd see two or three people from DFO at meetings, you might see one now. They seem to have drifted into the background. When engaging with Environment Canada on this through the Great Lakes Water Quality Agreement, they were very sympathetic to the issue but clearly didn’t have the opportunity to engage up front. I would like to think that DFO, if they were fully reviewing aquaculture, could also bring Environment Canada into the room for those discussions. I don't get the sense that that's happened, certainly in the freshwater side of aquaculture.

**Senator Poirier:** You said you've not seen if there was a memorandum or an agreement. Are you aware of any discussions that would have happened in the last few years, or do you think a memorandum of understanding between the province and the federal government has been in place for a number of years?

**Ms. Chabot:** I really can't say. I have just been told that there is a memorandum of understanding. Taking up from where Mr. Duncanson was speaking about DFO's involvement, there used to be an Ontario Sustainable Aquaculture Working Group co-chaired by DFO and Environment Canada. I really don't know what has happened to this working group either. It has gone by the wayside.

**Mr. Duncanson:** It's disappeared.

**Ms. Chabot:** We were never invited to the committee with the working group, although we wanted to be. We applied to be part of that discussion, but we would receive the minutes to the meetings a couple of months later. They've stopped coming, and I don't know what has happened to that working group. It was industry and government working together to try to discuss sustainable ways of growth or scientific projects that would be conducted, and DFO would put the funding toward.

Senator Poirier, you asked what we would like to see DFO doing. I understand the funds come from DFO for some of the freshwater studies. I think study after study would show the input of phosphorus. There hasn’t been a study lately. The last one was in 1989, regarding the impact of the phosphorus on the nearshore, for instance.

Regarding this talk about appropriate siting, we have heard in past meetings with the Department of Fisheries and Ocean officials that there simply are not that many sites appropriate for the growth of aquaculture in the fresh waters of Georgian Bay and Lake Huron. DFO needs to use their scientific knowledge as well and bring in Environment Canada and look at the areas, in the Great Lakes, Lake Huron and Georgian Bay in particular, because of the high oxygen levels. It is ideal for fish farms to locate there because the purity of the water allows them to pollute to provincial standards of 10 micrograms per litre of phosphorus in the water.

**Senator Poirier:** During our hearings, we heard from different witnesses. Some said there could be a need for a national policy and regulatory framework for aquaculture, including an aquaculture act. What are your thoughts on that? Would that help?

**Mr. Duncanson:** The challenge is that there are significant differences between marine aquaculture, freshwater aquaculture and trout versus salmon. We don't have sea lice, but we are worried that in any feedlot operation, regardless of what animals you are growing in density, you are running the risk of having disease that could, in an open net situation, transfer to the native fisheries. There are some similarities, but the freshwater situation, the Great Lakes situation, needs to be a stand-alone chapter in a national strategy.

We've had these discussions with Ontario specifically. We can't argue that we should be promoting homegrown product and that there is a growing demand for fish from the consumer. We absolutely can't disagree with any of that, but we can't do it at the expense of another resource, our fresh water.

As I say, it's a slightly different issue in the Great Lakes, from what I read, and we read a lot about what's going on in the Maritime scenarios. They still have pollution issues and abeyance in the Maritimes. It's the same issue as we're concerned with, but you're dealing with a totally different type of body of water, being salt versus fresh water, different profiles as far as baseline nutrients versus lesser nutrients in the Great Lakes to start with.

Yes, I think having a strategy would be good, but I wouldn't want to see us being a footnote in the Great Lakes. I would want to see some dedicated thought being brought to the table to look at the freshwater challenges.

**Senator Meredith:** Thank you so much. You mentioned in your comments that Canada continues to lag behind the advancements in new closed systems of technology occurring in countries such as Denmark and Norway. Members of our committee recently returned from Norway and Scotland, having looked at the aquaculture industry there. There is a great sense of collaboration between industry and government bodies.

What is industry doing here with respect to the high level of phosphorus you're citing in terms of containment, ensuring that those levels are reduced? Answer that question for me, and then I have a follow-up as well.

**Mr. Duncanson:** Okay. Another difference between the Great Lakes aquaculture industry and what you're seeing on the East Coast and West Coast is the size of operation. You're talking about relatively small operators in the Great Lakes, mom and pop-type operators, farmers who have decided that they want to expand from just on-land beef to get into the fisheries. That's the level of sophistication.

A company called Blue Goose was coming in and bought two of the existing operators, and we had great hope because they also bought AgriMarine, the closed containment system that Claudette mentioned earlier. We had this hope that that operation would bring a higher level of sophistication to the Great Lakes situation, but I think that our challenge is to get the government, with their expertise, to help these guys find their way forward. Left to their own, not only do they not have a lot of deep pockets, but they don't have a lot of the sophistication to start thinking outside the box and look at collaboration with government on these things.

**Senator Meredith:** So you're saying, then, that the challenge is the financial aspect of it, from the industry's standpoint, to almost self-regulate themselves? Government policy regulation would not really help the situation because you're not adverse to the industry growing, but you have concerns about the levels of phosphorus and other waste that obviously are being put out — the lakes are being polluted.

Is it fiscal, monetary support that the industry is looking for from government, or is it more on a regulatory aspect where they want us to ensure that they are actually complying in how they operate?

**Mr. Duncanson:** From our standpoint, from the public standpoint, we would like to see stronger government oversight of this industry.

**Senator Meredith:** Okay.

**Mr. Duncanson:** If the industry were sitting here today, and it's always dangerous to speak for the other guys, but I've been in the room with them often enough over the years —

**Senator Meredith:** You should know what they're thinking.

**Mr. Duncanson:** They would say, “Just tell us what the rules are and get out of our lives.”

Our concern is the level of sophistication, when we look at what's going on in some of these other jurisdictions and the advancements they're making, and we aren't sure the guys that are operating right now, the existing operators, have their head into that game.

We think the government could partner with them and bring some of this knowledge to help them move forward in a sustainable way. They've been very frustrated, I can tell you, for the past 10 years, and it's largely thanks to Claudette and her team that go to these meetings with government and get the Ministry of the Environment pitted against the Ministry of Natural Resources in Ontario, so they can't agree to disagree on some of these things that have frustrated this industry to keep a cap on its growth. And it's been very frustrating for these operators because they go to these meetings and say, “When is somebody going to give us a green light to get on with growing?” We're saying absolutely, the green light is there, but it has to be within an environmentally sustainable model, and we're not there with the current technology.

So they need help, and I think that that is both a regulatory thing and not even financial; it's bringing the resources, the intelligence from DFO and from Environment Canada.

**Senator Meredith:** The expertise.

**Mr. Duncanson:** Presumably DFO somewhere has been on these trips with you and has seen what's out there internationally that can be brought back to Canada, and hopefully to the Great Lakes part of Canada, to move this industry forward.

**Senator Meredith:** Now my last question is with respect to the economics. If the industry had all those pieces in place, what would the economic benefit to the region be if we were able to get our act together, so to speak?

**Ms. Chabot:** In my experience at these meetings with the Department of —

**Senator Meredith:** I'm sure you've heard those numbers. If we were able to get the full green light without all the impediments moved out of the way, this is the economic benefit to the region, the job creation, and the other industries that could be impacted positively, especially for northern Ontario.

**Ms. Chabot:** Well, there's one study we could refer you to that was done a few years ago, but I can't give you the numbers at this time. I do know that for some reason governments at all levels seem to be closed-minded on the possibility of going beyond the cages for freshwater aquaculture.

Yes, Canada has a large resource of water, but like I said, we could support the industry to grow outside of the cages or within closed contained systems. Otherwise they're going to be at a standstill at one point or another. Their applications will not be processed through. They will be denied.

As Bob said, the fish farmers in Ontario just want government to get rid of all this, to streamline the regulations. And those stakeholders would also like the regulations streamlined to have caps on the amount of phosphorus that can be entered into the waters. Let's have cage sitings in particular, or better yet, work towards growing into closed contained systems.

We're not asking them to all of a sudden close down their cage aquaculture systems, but they have remained at a small level so that the impact has not been fully felt.

Phosphorus doesn't go away. It keeps accumulating. Eventually the cage farmers will be shut down as the issues and the monies have to be put in to lakes, the issues regarding collection of phosphorus from the lakes, combatting the algae blooms and so on.

So there are no figures for the environmental impact. How do you put a number to something that's future and down the road?

**Mr. Duncanson:** But to provide a little bit of economic overview, we're talking about dozens of jobs as opposed to hundreds of jobs for the industry as it currently stands. These are mom and pop-sized operations, but they're still putting out 46 tonnes of phosphorus a year, even to sustain the dozen or two jobs.

I mentioned in my formal comments that as they grow, the vision is to double the industry in the foreseeable future. So again, you're adding another couple of dozen jobs, albeit in northern Ontario, which is where a lot of government focus is, where they're wanting to get this into the markets or into those underemployed areas.

Another economic side of this I'll share with you is the social license that Loblaws, Walmart and others are pushing on to sell certifiably sustainable seafood in their markets. We have been sitting down with Loblaws and Walmart to say this could be a go-to industry for you guys if they can do this, this and this.

At the senior level of Loblaws, they get it. Galen Weston Jr. understands that this is the way to go, but when you get down to his seafood buyer, he's looking at tilapia from Chile versus rainbow trout from Ontario and not wanting to sacrifice his margins.

So there's a huge effort that we're working on at the same time with retail and with the consumer to say that there's a reason why you should be paying a few more pennies a pound for a sustainably grown rainbow trout because it means that you're going to be able to swim in that lake and not worry about blue-green algae.

It's a huge education thing. Again, we'd love the government to partner with us in getting that message out. Some days, we feel as though we're Don Quixote tilting at windmills on some of this stuff, but we feel passionately enough that we're here.

**The Acting Chair:** Before we go to second round, I’d like to ask you a couple of questions myself, just building on Senator Meredith's questions.

How many of these small operations are we looking at?

**Mr. Duncanson:** Again, two of them were bought out by Blue Goose. Prior to that, we're talking six operations, one of which has a couple of sites. Again, putting it in perspective, we're not talking a huge number here, thankfully, because we've been pushing back to keep this industry from growing using what we consider to be faulty technology.

Even in the wildest dream of DFO and the industry using cage aquaculture, they are only looking at doubling the industry. We think they could go well beyond that if they used technology that was environmentally sustainable and would allow them to grow an environmentally sustainable product and could get true public license and get the big guys, Loblaws and Walmart, to give it their marketing push. It's a win-win-win for everybody.

**The Acting Chair:** Is Blue Goose operating the same type of fish farms that have been there before?

**Mr. Duncanson:** Yes. They've basically bought the two fish farms. Blue Goose is an operation that's run by the Goodwin family in Toronto.

**The Acting Chair:** Yes.

**Mr. Duncanson:** They have a vision to be the purveyors of organic protein. So they started in beef. They've moved into chicken, and they've decided that fish fits into their thing. So they've started going down this road. They've run into some financial hiccups, where I think that every fish they sell costs them about twice what they're selling it for. So they're going through a very rough patch, but we believe that the family is sincere about trying to make this industry work.

**The Acting Chair:** There are six sites, and they've all been there since the 1980s?

**Ms. Chabot:** No, Aqua-Cage Fisheries in the Parry Sound area, on Eastern Georgian Bay, was the first, in the early 1980s, to come in. That was at the time when they needed certificates of approval for their wastes. Somehow, that all changed.

The other fish farms are in the area of Manitoulin Island, and they are generally sited in protected bays and embankments. There are some First Nation ones as well.

**Mr. Duncanson:** Which we haven't included in this mix because they don't have a reporting requirement to the same degree, so we don't have access to their numbers.

**The Acting Chair:** But they all came in before the environmental assessments were necessary?

**Ms. Chabot:** Yes.

**The Acting Chair:** The other question I had was you gave us a statement of how many tonnes of phosphorus are produced each year. Where did that figure come from?

**Mr. Duncanson:** In the background package we provided, you'll see a chart.

**The Acting Chair:** I saw it, yes.

**Mr. Duncanson:** This is all based on feed quota and trout that actually comes out of the system and doing the mathematics of how much feed goes in versus how much flesh comes out, with agreed-to scientific conversion factors. That's what our science committee —

**Ms. Chabot:** This came from the scientists of our committee. We have not had an argument when we presented this at the other government meetings with industry there.

**The Acting Chair:** No, no, I'm not arguing, just trying to get the facts.

**Ms. Chabot:** It's from the members of our committee who all have a scientific background.

**Mr. Duncanson:** That's how they work it. They work it based on the feed that goes in, the conversion into flesh and how much flesh poundage comes out.

**The Acting Chair:** One last question: Do you have the algae blooms near the fish sites themselves?

**Mr. Duncanson:** Not yet.

**The Acting Chair:** Not yet, but you are expecting them?

**Mr. Duncanson:** Certainly, the science would lead you to believe that there is a tipping point in any of the abayments on Georgian Bay and Manitoulin that will be hit. The MNR and DFO are trying as hard as they can to make sure that there's a good flush rate in these various abayments so that the stuff gets diluted quickly enough to avoid triggering blue-green algae.

**The Acting Chair:** So they are working with the farms?

**Mr. Duncanson:** I'm not sure how scientific it is because they obviously have had one failure that we know about where there wasn't enough circulation —

**The Acting Chair:** That's the one they shut down.

**Mr. Duncanson:** That's right.

**Ms. Chabot:** The oxygen was depleted in the area.

**Mr. Duncanson:** The methane, the feces, built up in the sediment underneath and didn't get dispersed well enough.

**Ms. Chabot:** There was one application for a new cage aquaculture facility. They applied for the West Bay area of Manitoulin Island. It is necessary to do a number of background water-quality studies, and I think it takes about three years. By the time the industry had accumulated all the necessary background knowledge of the communities there — the oxygen, the total phosphorus and all the other things — it turned out that the phosphorus level in this bay was too high for the industry to even begin to operate. Also, there was an outcry of the surrounding First Nation communities because they were not asked to contribute their opinions to having a fish farm right in the middle of their community.

**The Acting Chair:** So it was not allowed to go ahead?

**Ms. Chabot:** No, it fell through.

**The Acting Chair:** Thank you very much. We'll go to second round now. Senator McInnis?

**Senator McInnis:** Much of the thunder has been stolen. You mentioned, at the beginning, that your organization represents, I think, 20 —

**Mr. Duncanson:** Community associations, correct.

**Senator McInnis:** So it seems to me that you should have considerable political clout.

**Mr. Duncanson:** We would like to think so. Minister Clement is our primary minister, our MP, and he is sympathetic to this issue. Every time we speak to him, which we do on about a quarterly basis, we have a sit-down to go over our laundry list of issues. In fact, he's aware that we're here this evening.

That said, he defers us to DFO and says it's really not his —

**Senator McInnis:** That was going to be my next question. Have you actually had a sit-down with the —

**Mr. Duncanson:** Not with the minister, no.

**Ms. Chabot:** With past ministers.

**Mr. Duncanson:** Yes, with past ministers of DFO — we're going back into Liberal government territory — we had a meeting. That's how long ago it has been since we —

**Senator McInnis:** But have you actually dealt with the officials in DFO?

**Mr. Duncanson:** The officials that come to the meetings we have talked to, but, as I say, the officials are becoming fewer and fewer. Claudette mentioned that there was a meeting — I think this was two and a half years ago — where a senior official from DFO took her and me and a few others from the GBA aside and said, “Don't worry; I'm doing this model, this mapping system, where we're going to see that there are very few spots in Georgian Bay, so the industry can't grow that much.” Nudge, nudge, wink, wink. This was all off the record. He ceased to come to meetings, and this map never materialized.

My Machiavellian side could say something went wrong. I think that probably the funding got pulled. That's my guess.

**Ms. Chabot:** There were meetings led by Eric Gilbert for the National Aquaculture Strategic Action Plan Initiative in various communities, and we attended these meetings for the freshwater side of the plan.

**Senator McInnis:** In how large an area are these dispersed?

**Mr. Duncanson:** The ones up on Manitoulin are fairly close to one another in that Manitoulin is a big island, but it has a few sites. Then there's Parry Sound, which is quite a bit removed; it's the furthest to the south. They are all within striking distance of our member association communities, which is why this has been on our agenda.

**Senator McInnis:** I'm having difficulty getting my head around the following. I read in here some place that there were two channels that were plugged — you used another word.

**Ms. Chabot:** Yes; oxygen depleted.

**Senator McInnis:** How do you know that?

**Ms. Chabot:** The Ministry of the Environment ordered the fish farm to be decommissioned in that area because, I guess, there was not enough knowledge beforehand to know to put these cages into areas that had high flushing.

The oxygen demand to disperse the waste, and so on, was so great that even the wild fish would not come into this channel anymore. They were not able to exist. There are studies to show that.

**Mr. Duncanson:** That is the channel that I mentioned which had the methane build up in the sediment to the point that, even after the cages were gone for years, it was still bubbling up through the ice.

**Ms. Chabot:** Another cage farm in the Manitoulin area was asked to relocate its farm by government.

**Senator McInnis:** What would you be asking — and I think this is what Senator Poirier was getting at, namely our recommendations — that we put forth here?

**Mr. Duncanson:** Absolutely I think there should be a strategy for aquaculture growth in Canada, or management of aquaculture, with the idea that it's going to be a growing industry that will benefit Canada.

I think there needs to be a dedicated chapter or focus on the Great Lakes because the Great Lakes have unique characteristics. I would encourage DFO and Environment Canada to bring their science and dig out the files that they've had over the years to bring some quality material to that chapter.

**Senator McInnis:** Would you distinguish fresh water versus ocean-based?

**Mr. Duncanson:** Absolutely. There are different challenges. There are some similarities in that nutrient loading is nutrient loading, but nutrient loading into the ocean is a bit easier in places to handle than in Georgian Bay, where you've got more closed containment and the nearshore issues that I've discussed.

There are a few similarities, but I would argue probably more dissimilarities. However, there is the same goal: How do we grow this industry in an environmentally sustainable way? Everybody wants jobs; everybody wants Canadian food, close to the Canadian market. No one's going to argue that. The question is how do you do that in a sustainable fashion?

**Senator McInnis:** You see it as an opportunity?

**Mr. Duncanson:** Absolutely. I eat fish. At the end of the day, the farmers get so frustrated with us because they say you guys are preventing us from growing. I say “No, absolutely not. I serve fish twice a week in my household.” However, I want to make sure that the fish I serve isn't causing problems in another part of my life.

**Senator McInnis:** Thank you.

**Ms. Chabot:** The way forward, I believe, is beyond the cages for the Great Lakes. Those scientists in my aquaculture committee would also say this: Our Great Lakes are finite and they're fragile. I would like to suggest that DFO help to push this industry into contained systems in this freshwater instance. Then it wouldn't be your problem anymore. If it was on land, I don't know who would regulate the industry exactly.

Since the Walkerton tragedy, for instance, the Nutrient Management Act has come into place. Our knowledge of this was that aquaculture was supposed to be regulated by the Nutrient Management Act as well. It is the nutrients that caused the pollution within the Great Lakes. Municipalities have to use taxpayers' money to keep the nutrients from going in there. Farms are regulated so that cows don't cross streams and nutrients don't go into the waterways. It flies in the face of all these other regulations that we would allow the expansion of fish farms into our Great Lakes in an open net cage system.

**Senator McInnis:** The Nutrient Management Act is provincial?

**Mr. Duncanson:** Yes.

**Ms. Chabot:** But it's for agriculture.

**Mr. Duncanson:** This is the only sub-segment of the agriculture industry that doesn't have to comply with the Nutrient Management Act — I think largely because no one's figured out how to get them to comply. It's easy when you have a fish farm on land. You have circulating pumps and a waste stream that you can capture and monitor. Somebody from MOE can go in and actually do the test. Here it's not so easy because it's being dispersed to the environment.

I don't want to get off on a side loop, but we've argued that it's not even fair to have these guys grow protein to compete with farmers that are adhering to the nutrient management plan. They're competing for places on your plate, but these guys are using the public trust, the public environment, as their waste disposal system for nothing compared to the land guys who have to pay quite a bit to put nutrient management facilities in place.

**Ms. Chabot:** Bob is referring to fish farms on land — different regulations.

**Mr. Duncanson:** Or even beef, pigs and chickens. They all have to go under a nutrient management plan. This is one of the things that really bug me: These guys have the public waters to dispose of their waste for nothing, and we're allowing them to get away with it.

**The Acting Chair:** Sorry, Mr. Duncanson, we have some more questions coming.

**Senator Baker:** First, congratulations to both of you. This is a non-profit organization that you represent, and you've spent a lot of time for the public good on this issue.

I'm still unclear on how to solve the problem. The problem would have to be solved by regulation, by law, as I see it. If it costs considerably more to have the closed tanks, and if it was considerably less to have open tanks, and you're in the business of rearing fish, then there would be an indication that most people would go the cheapest way.

Where there have been closed tanks in British Columbia, has that been imposed — to your knowledge — by any kind of regulation by the province?

**Mr. Duncanson:** I can't answer that. I don't know.

**Ms. Chabot:** No, I don't think so.

**Senator Baker:** Okay. On the bottom line that you're asking the committee to do, I can understand where you want the committee to go in the recommendation, but how do we get there? Who should be passing the regulation? The Province of New Brunswick regulates aquaculture. There's a Department of Aquaculture connected with the fisheries. Is that the place where you think, in these circumstances in the Great Lakes, the regulation should be brought in?

**Mr. Duncanson:** Absolutely. Under the model, as I understand it, the Ontario government will maintain priority in this. At the same time, however, I think there's a role for the federal government to play in saying, hey, guys, this is a binational waterway. This is a waterway where we have to go to the table every four years, theoretically, to renegotiate the Great Lakes Protection Act. How can we sit there and say we're allowing something in Canada that you guys aren't allowing on your side of the border when we're all trying to fight to protect this common resource? I think the feds have a role.

**Senator Baker:** These farmers, though, have to go to the province for the licence?

**Mr. Duncanson:** Yes.

**Senator Baker:** In the issuing of the licence, the regulations flow from that.

**Mr. Duncanson:** With DFO sign-off, yes.

**Senator Baker:** Yes, because there are matters involving the environment. You would ask that this committee recommend that the province bring in regulations in the issuing of licences and that certain requirements be mandated under regulation before that licence is issued?

**Mr. Duncanson:** Yes.

**Ms. Chabot:** The Department of Fisheries and Oceans could implement sections 35 and 36 of the Fisheries Act, in particular targeted towards fresh water and the fact that the nutrient called phosphorus is a deleterious substance to fresh waters, in particular.

**Senator Meredith:** You talked about industry, and we have seen the great strides that industry has made in terms of technological advancements and development. You talk about these closed tank systems. What has industry done in terms of collaboration with those who are the experts in that field to help them grow so they become compliant?

We talk about Norway and Scotland and what they're doing in advancing their aquaculture industry in other parts of the world, but they are the experts as we have deferred to them because they are larger with more sites than we have in Canada.

Usually industry shares best practices: This is what we are doing to comply and these are the regulations that have been put around our operations. So there is an exchange of ideas and best practices to ensure they are compliant with existing regulations. I'm curious as to what has been done in that regard.

**Mr. Duncanson:** The existing operators, prior to Blue Goose arriving on the scene, were pretty unsophisticated operators. I'm sure they read literature and whatnot, but if they could continue to make a buck using what they have, why change anything? Blue Goose came along and bought not only these two operations but also AgriMarine, one of the closed containment systems out on the West Coast.

We were hopeful and still are that they will bring that technology and find a way to apply it in Ontario. Before Blue Goose bought AgriMarine, they were in negotiation with one of First Nations in the North Channel to test a floating closed contained system in the North Channel, and that fell through for various reasons. I don't know why.

We are still hopeful that Blue Goose, because they have the financial wherewithal and the vision for growing truly sustainable product, will bring this technology to bear.

**Ms. Chabot:** In regard to the best management practices, they have been developed and designed by the cage aquaculture industry, the Northern Ontario Aquaculture Association, and this has been adopted by the Department of Fisheries and Oceans.

I don't think the best management practices are as stringent as they could be as a result. As a matter of fact, in what I saw of the proposed aquaculture activities regulation, I think it is, and this is part of the sediment paper, part of licensing, no nutrient management plan is required unless the scales are topped off and there becomes need for an alert. Unfortunately, it seems to be rather reactive rather than proactive as far as keeping the areas clean. All this is in the works right now to be implemented. And that was the Ontario government.

**Senator Nancy Ruth:** You've said that the United States does not allow open cage freshwater aquaculture. Is one of your recommendations not asking Canada to prohibit this also? Just wipe them out. Force them into closed containers.

**Mr. Duncanson:** Realistically, for the current operators, it would be punitive to wipe them out. I think we could grandfather them and help them evolve and give them a sunset time for moving.

**Senator Nancy Ruth:** That's about regulations and how things get done. Would you not prefer it if Canada —

**Mr. Duncanson:** Absolutely. If we were talking a clean slate, I would adopt the Michigan state law, which is not happening. We're dealing with reality here. While it's only a couple of dozen jobs, it is a couple of dozen jobs. And we, the GBA, are being realistic here, saying, “Hey, guys, how do we help you get social licence and negotiate with the Ontario government around hydro costs and getting FedNor to come up with money to help you transition?”

We would like to be a conduit to get things rolling here. Then we'll take out an ad in *The Globe and Mail* and say, “Buy Ontario trout because now it is being sustainably grown. We are there.”

**Ms. Chabot:** We have heard that Canada lags behind other countries in aquaculture, and to me and our committee, Canada can take the lead by growing the freshwater industry in closed contained systems, and by refusing any further expansion of that within the Great Lakes in particular.

**Senator Poirier:** Just going back to some of the questions that Senator Baker was starting off a while ago, knowing that each provincial government across Canada has all their own rules and regulations in place, which are not always identical from one province to another, the situation you are facing with the fresh water compared to the salt water, but aquaculture is being done in every province in one way or another across Canada. Are you hearing from other associations throughout Canada over some of the requests that you are making that you would like to see your provincial government and DFO doing? Are you hearing that same need across the country from all the different provinces for the same request that you are making, or is this more of an Ontario issue?

**Ms. Chabot:** Ontario has the majority of the production of farmed freshwater fish. Eighty per cent of the production is within Ontario.

**Mr. Duncanson:** The tricky piece of this — and this is where I keep coming back to the fact that this is binational water, which automatically brings the feds into the game. It's all well and good for Ontario to put out regulations, but at the end of day it impacts a binational waterway that should take into regard binational agreements; so the feds should be at the table in a fairly aggressive way on this file.

That may not be the case for other jurisdictions and provinces that don't have the same kind of sticky binational overview on this.

That's my perspective. I've talked to enough people at both DFO and Environment Canada that there is some sympathy for that, because at the end of day they sit down with their counterparts in the Great Lakes region and have to talk about shared goals for water quality and protecting the environment.

**Ms. Chabot:** A way forward may be to reinvent the Ontario Sustainable Aquaculture Working Group. I don't know what happened to it. Stakeholders like the Georgian Bay Association were not invited to this table, but industry and the various levels of government were. It was co-chaired by the Department of Fisheries and Oceans and Environment Canada. Perhaps now might be the time to resurrect this committee and really focus on the binational treaties and how the growth of aquaculture fits in. I think there would be room for the arguments that we have presented before the senators today that there is continued need before any regulations, before any policies, to take a look at all the levels that are involved with the Great Lakes aquaculture.

**Senator Poirier:** And to see if there are any agreements in place and what the time frame is on those agreements.

**Ms. Chabot:** The Great Lakes Water Quality Agreement, the Great Lakes Protection Act, absolutely; the Fisheries Act.

**Senator McInnis:** It's just a comment. Senator Baker will help me with this, but wherever there are fish in the water, DFO has a role to play, if they're being meddled with in some way or another, whether it is environment, pollution or whatever. What we have been suggesting here in earlier meetings is that we may want to investigate concurrent legislation where we don't have this hodgepodge across the country and that we have, if at all possible, as I used the analogy before of the Criminal Code, concurrent legislation that is fed into by all the provinces. That would be the ultimate goal, I would think.

**Mr. Duncanson:** It would certainly help the transfer of knowledge. I respect what you were saying, sir, that there are jurisdictions that are further ahead than Ontario on this. I think having a framework at the national level would provide a conduit for sharing that technology and the learning so that you can truly get best practices advanced.

**The Acting Chair:** Thank you so much. I really thank you very much for coming and presenting the freshwater view. We've done a lot with the salt water, but I can see that it is quite different. Actually, the two borders is an interesting mix to what we're going to have to be thinking about.

Thank you so much. I appreciate it, once again.

Thanks to the committee. We are adjourned.

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