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Wednesday, May 8, 2019

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Chair

Mr. Ken McDonald

Standing Committee on Fisheries and Oceans

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• (1535)

[English]

The Chair (Mr. Ken McDonald (Avalon, Lib.)): Good afternoon, everyone.

Before we get started, the bells are ringing, but we have about 21 or 22 minutes before the actual vote. I was wondering if we at least could hear the presentation of the witnesses for the seven minutes. Then we'd go to the vote and come back. That way, we'd be ready to go with the questioning if everybody's in agreement to that.

We'll hear the presentations first, then we'll suspend to go and vote, and then we'll come back. Okay? All right.

Pursuant to Standing Order 108(2), we are continuing the study of aquatic invasive species.

Today we have with us officials from the Department of Fisheries and Oceans: Philippe Morel, Assistant Deputy Minister, Aquatic Ecosystems Sector; H el ene Marquis, Executive Director, Fisheries Protection Program and Major Projects; Brent Napier, Chief, Enforcement Programs; and, Simon Nadeau, Senior Adviser, Ecosystem Science.

You may make your opening statement, for seven minutes or less, please, when you're ready, Mr. Morel.

Mr. Philippe Morel (Assistant Deputy Minister, Aquatic Ecosystems Sector, Department of Fisheries and Oceans): Thank you, Mr. Chair. We're following up on where Mr. Napier is, but during the vote we will find him and make sure he is here when you come back.

I'm very pleased to be here with my colleagues to conclude your discussion on aquatic invasive species.

As you know, Fisheries and Oceans Canada recognizes aquatic invasive species as a serious national threat that can negatively impact Canada's ecosystems, economy and society. They can harm fish, fish habitat and use of aquatic resources, for example, fisheries, aquaculture or even the recreational fishing industry. They are also the second leading cause of decline for species at risk. AIS of public interest across Canada include zebra and quagga mussels, four species of Asian carp, European green crab and various species of invasive tunicates.

The department is the federal lead on managing AIS in collaboration with provinces and territories. The aquatic invasive species regulations came into force in 2015 under the Fisheries Act

to provide tools for federal, provincial and territorial action and partnerships, setting significant expectations regarding Canada's collective ability to manage AIS. The AIS regulations list over 160 aquatic species as prohibited or controlled in Canada according to geographic conditions and complement other federal legislation intended to prevent AIS introduction, such as Transport Canada's ballast water management and control regulations.

To facilitate collaboration and coordination among federal, provincial and territorial governments, Fisheries and Oceans Canada co-chairs the national aquatic invasive species committee under the Canadian Council of Fisheries and Aquaculture Ministers.

[Translation]

Fisheries and Oceans Canada has long been involved in addressing the threat of aquatic invasive species. In 2005, the department began implementing the invasive alien species strategy for Canada. Half of the funding for this initiative was allocated to the sea lamprey control program, while the remaining balance supported the development of regulatory policy as well as science activities, including research, regional monitoring and priority biological risk assessments.

[English]

In 2017, the federal budget allocated \$43.8 million over five years and \$10.6 million annually thereafter for national AIS activities, including the establishment of a new AIS national core program, renewal of the Asian carp program and support for the sea lamprey control program. The AIS national core program's mission is to implement the AIS regulations and act on scientific and other advice according to four international AIS pillars, which are prevention, early detection, rapid response, and control and management. The program will focus on pathways and vectors of AIS spread rather than individual species, as it is a more efficient and cost-effective approach.

Key activities undertaken by the department include the development of training material on the AIS regulations, a national response strategy and regional response strategies; regional early detection, monitoring and control programs in high-risk areas or for high-risk species; implementation of tools and procedures for authorizing habitat modification, the deposit of deleterious substances and licensing fishing for AIS; and, various education and outreach initiatives.

[Translation]

To establish a national presence, aquatic invasive species national core program funding was allocated to each of the department's regions. Resources have been dedicated towards high-risk pathways, vectors and areas based on sound scientific and other advice.

Provinces and territories with international borders have identified importation as a major vector for the introduction of aquatic invasive species into Canada. However, Fisheries and Oceans Canada's enforcement resources for the Aquatic Invasive Species Regulations are low. For this reason, the aquatic invasive species national core program will fund seven new fishery officers to be deployed in the central and Arctic and Quebec regions by 2020-21, aligning with the priorities outlined in Minister Wilkinson's mandate letter to protect freshwater resources in the Great Lakes, St. Lawrence River and Lake Winnipeg basins.

[English]

Addressing the threat of AIS is a shared responsibility across federal, provincial and territorial governments. For instance, some provinces and territories are the lead for freshwater AIS, while the department leads for marine. However, the AIS national core program is not equipped to fund provincial or territorial activities, as this is not our role.

Nonetheless, in August 2018, Fisheries and Oceans Canada responded to western provinces' call for support by reallocating funds to non-government organizations to undertake activities to prevent the spread of zebra and quagga mussels in British Columbia. The outcomes of these initiatives are intended to be nationally beneficial and applicable. The department also hopes to leverage the new nature legacy fund to prevent and mitigate the impact of AIS on species at risk.

• (1540)

[Translation]

In April 2019, the commissioner of the environment and sustainable development audited Fisheries and Oceans Canada and Canada Border Services Agency's aquatic invasive species-related activities from 2014 to 2018. The audit found that neither department had implemented adequate measures to prevent aquatic invasive species from becoming established in Canadian waters and recommended clarifying roles and responsibilities and developing strategies for various Fisheries and Oceans Canada activities.

Fisheries and Oceans Canada agrees with the recommendations and is actively working to address them. The department anticipates that it will be able to fully implement all of the recommendations by March 2022.

[English]

There are many other positive outcomes of Fisheries and Oceans Canada's AIS activities that were not reflected in the commissioner's conclusions, particularly for control and management. As the audit focused solely on prevention, it did not fully capture the successes of the Asian carp program and the sea lamprey control program. As a result of the activities of Fisheries and Oceans Canada, in collaboration with provincial, non-governmental and indigenous partners, Asian carp have not become established in the Canadian waters of the Great Lakes.

Meanwhile, through the Great Lakes Fishery Commission, Fisheries and Oceans Canada is working diligently with counterparts in the United States to control sea lamprey populations. The audit also did not capture the ongoing science support that Fisheries and Oceans Canada provides Transport Canada regarding the ballast water pathway, which will also contribute to the upcoming amendments to Transport Canada's ballast water management and control regulations.

Finally, Fisheries and Oceans Canada will continue to make progress on its commitments to promote healthy ecosystems and build safe, secure communities towards a sustainable future. The department will continue to build relationships with provincial and territorial partners, as well as indigenous peoples and other stakeholders, to ensure a cohesive approach to prevent the introduction and spread of aquatic invasive species in Canadian waters.

Thank you, Mr. Chair.

The Chair: Thank you, Mr. Morel.

We'll suspend now to go and vote. We'll return as quickly as possible. I encourage everybody to try to get back as soon as they can after the vote.

• (1540)

_____ (Pause) _____

• (1615)

The Chair: Welcome back, everybody.

For everyone who was here for the first seven minutes of the committee meeting, we did hear the presentation of the witnesses, and we're now ready to go into our question round.

Mr. Donnelly has his hand up.

Mr. Donnelly.

Mr. Fin Donnelly (Port Moody—Coquitlam, NDP): Chair, if I may, is it possible to put forward my motion at this time?

The Chair: Is it the motion that you gave notice of on Bill S-238?

Mr. Fin Donnelly: Yes.

The Chair: Yes. It has to be dealt with.

Do you want to read out your motion again for everybody?

Mr. Fin Donnelly: I just want to make sure that everyone has it. I think it was in the minutes of the last meeting.

The Clerk of the Committee (Mr. Michel Marcotte): Shall I read it?

Mr. Fin Donnelly: If you wouldn't mind, that would be great. Thank you.

The Clerk: It states:

That the Committee hold a meeting for the clause by clause review of Bill S-238 as soon as possible.

Mr. Fin Donnelly: I so move.

The Chair: We've heard the motion. Is there any discussion?

Mr. Calkins.

Mr. Blaine Calkins (Red Deer—Lacombe, CPC): The motion did not call for any committee meetings to hear witnesses. It simply suggested that we should go to clause-by-clause on the bill. However, it could be inferred that we would move to clause-by-clause as soon as possible after a timely hearing of witnesses. Is that what the mover of the motion is implying?

The Chair: Mr. Donnelly.

Mr. Fin Donnelly: It's at the will of the committee. The preference would be to expedite this as quickly as possible. Time is of the essence. The longer this takes.... You can look at Bill S-203. This is following a similar path, but it's behind, and in terms of this being brought back for third reading, it's critical that it get through committee. Assuming it does get through committee, it's still going to face an uphill challenge. The more committee hearings we have, the longer it takes.

I will remind the committee that this has been through the Senate for a couple of years. Senator MacDonald has spent much time on it, and the committee hearings had many witnesses. This has, I think, been studied and looked at, and testimony has been given on this bill. I would urge the committee to move this as quickly and expeditiously as possible.

Of course, it's at the will of the committee as to whether you call witnesses. At this point, I would encourage us to have as few meetings as possible to really give this bill the best chance of trying to get through Parliament before we rise in June.

The Chair: Mr. Calkins.

Mr. Blaine Calkins: Mr. Chair, could we get clarification either from you or from those who are advising you as to what the timeline is for a Senate-sponsored bill compared to a House of Commons private member's bill, and if there's any difference in the timelines for those bills as they appear before a House standing committee? Also, what are the minimum requirements for due diligence that a committee is obligated to undertake insofar as a private member's bill is concerned, insofar as the Standing Orders dictate? Can we get some advice on what a typical timeline would be for dealing with a private member's bill before the committee?

• (1620)

The Chair: The clerk tells me that he doesn't have that information today, but it's my understanding right now that what's before us is simply the motion. We can still vote on the motion. The committee, as the mover of the motion has stated, can dictate the

timelines of what takes place here with regard to studying the actual bill. Then, of course, it has to go back to the House.

Mr. Blaine Calkins: While that is true, I would like to make an informed decision on the motion. If there's no answer to the questions I have, then I'll have to make the assumptions accordingly.

The Chair: Okay.

Mr. Arnold.

Mr. Mel Arnold (North Okanagan—Shuswap, CPC): In my reading of the motion, it's simply that the committee hold a meeting for the clause-by-clause review. It doesn't mention anything regarding hearing testimony or anything like that.

Is the member recommending that we simply rubber-stamp something as a committee?

The Chair: Mr. Donnelly.

Mr. Fin Donnelly: Mr. Chair, in answer to the question from Mr. Arnold, I don't believe that anyone is requesting that this committee rubber-stamp anything. I think there have been a good debate and a good discussion certainly through the upper House. When we heard the debate at second reading, we heard all parties speak in favour of this legislation. I don't think there is any issue with the questions of debate or witnesses. I think it's time to take a position.

The issue here, as we know, is that we are up against the clock to get this through. As for the chances of even getting it through, even if this does get through committee, it will still have to go back to the House for third reading. It will be on the September schedule, and then the issue will be whether we can move it up fast enough to actually be voted on in the House. That is going to be difficult.

I would again implore the members to consider that, as we did with Bill S-203, and hopefully expedite this thoroughly studied bill.

The Chair: Hearing nothing else, I'll call the question on the motion.

(Motion agreed to)

The Chair: Thank you, Mr. Donnelly.

Now we'll get into our questioning of the witnesses.

For the first round, on the government side, Mr. Rogers.

Mr. Churence Rogers (Bonavista—Burin—Trinity, Lib.): Mr. Chair, first of all, I'll thank our witnesses for being here.

I was looking at some of the numbers, Mr. Morel, that you referred to in your presentation. Some of the previous witnesses talked about how there was an uneven distribution of funding across the country for dealing with invasive species. It appeared that 80% of the funding was directed at central Canada and the Great Lakes. I just wondered, have you looked more recently at redistributing some of that funding, and if so, how is it distributed today?

Mr. Philippe Morel: Thank you for the question.

If you look at it from a broader perspective, what you've mentioned is actually correct, but we also need to differentiate how the AIS activities in Fisheries and Oceans are distributed. Previous to budget 2017, all the funding for AIS was directed to the central and Arctic region for the Great Lakes program for the sea lamprey and for the Asian carp.

What was added in 2017 was the creation of a national program. The national program is the program that does the coordination work with stakeholders and provinces and territories on how to better manage species and prioritize them, and it's also the group that manages the regulations. For that program, the new money...because in 2017 what was done is that the Asian carp and the sea lamprey programs were renewed. They were B-base and now they're A-base. Also, part of the funding for the Great Lakes Commission was expired; that money was just reconfirmed.

For the national program, in terms of the way it's distributed, or will be, because it's a ramping-up program, the distribution of the money is quite equal between all the regions, although it's based on where the species are located. To give you an example, at headquarters we have three people on that national program, but we have one in Newfoundland, one in the Maritimes region, two in Quebec, two in the central and Arctic region, two in the Pacific region and two in the Gulf region. It's based on the number of species that they have to manage, more than an equal...because we're managing species; we're not managing the number of staff in an office.

• (1625)

Mr. Churence Rogers: Okay.

The other question I was wondering about is that some of the people talked about the preventive approach, of course, and trying to protect their waterways and their different regions of the country, whether it's from the zebra mussels or other invasive species. What is being done to protect regions from these invasive species being transported into our regions and our country from other sources?

Mr. Philippe Morel: As you said, prevention is a very important part of the program for aquatic invasive species. We know that when a species is established in an area, it's very difficult to remove it. The costs for the ecosystem and for the economy could be very high. The example of zebra mussels you use is a good one.

What you should also know is that each region has been allocated not only personnel but also some budget. Depending on the species and the risks they have to manage, they may decide to put more of the budget on prevention or on control. The Asian carp program is a good example of the type of prevention that we're doing because the Asian carp is not established in the Great Lakes. It stopped with the barrier.

Another example could be with the smallmouth bass. The early detection program monitoring downstream of tributaries in Miramichi Lake is also very efficient and helps us to better manage the species.

Usually, we do it with the province, when they manage that species, or we do it with some groups—NGOs or committee groups—and manage the species to do the prevention when possible.

Mr. Churence Rogers: You also mentioned in your presentation the coordinated effort of Fisheries and Oceans with Transport Canada regarding ballast water shipping and so on. Is that something of major concern, or is that something that's under control, from your perspective?

Mr. Philippe Morel: I think we have good collaboration. The capacity is probably not as complete as it could be, but in a program like AIS, it's the kind of program where if you have more funds, you can do more.

I think what we're delivering and working on with transport or CBSA, preventing some of the establishment of species, is a good collaboration. It's working well. All of us, with more resources, will do more. We'll work better with provinces and with groups. Also, sometimes our front line can inform us of some activities with new species that are being—

Mr. Churence Rogers: Okay, thank you.

The Chair: Thank you, Mr. Rogers.

Now we'll go to Mr. Arnold for seven minutes or less, please.

• (1630)

Mr. Mel Arnold: Thank you, Mr. Chair.

I thank the witnesses for being here today. It's an important study, I believe, for all of Canada.

Does the aquatic invasive species component of the fisheries protection program still exist, or has it been replaced by the national core program?

Mr. Philippe Morel: Hélène will respond.

Mr. Mel Arnold: There was an aquatic invasive species component of the fisheries protection program.

Ms. Hélène Marquis (Executive Director, Fisheries Protection Program and Major Projects, Department of Fisheries and Oceans): Yes.

Mr. Mel Arnold: Now you're talking about a national core program.

Ms. Hélène Marquis: Yes.

Mr. Mel Arnold: Does the aquatic invasive species component still exist, or has that been replaced?

Ms. Hélène Marquis: It still exists. What existed in the past, starting in 2005, I believe, was funding for the sea lamprey program as well as research. A colleague from science can comment on that if you wish.

What budget 2017 provided to us was funding to do management of aquatic invasive species, permanent funding for the Asian carp program, which is very successful in prevention, as well as a little bit more funding for the sea lamprey program.

Mr. Mel Arnold: Okay.

Ms. Hélène Marquis: The science and research work continues. On top of that we have a small management program that we call the AIS national core program. As Philippe indicated, we have representative staff distributed in each of our six regions.

Mr. Mel Arnold: Okay, thank you.

The mandate letter says that the minister is to:

Support the Minister of Environment and Climate Change to renew our commitment to protect the Great Lakes, the St. Lawrence River Basin, and the Lake Winnipeg Basin.

This mandate has been cited by the government in relation to their AIS activities. Do you know why this mandate from the Prime Minister's Office is so narrow in its geographical scope in relation to AIS risk across the country? Has this ever been explained?

Mr. Philippe Morel: The mandate letter is not only related to aquatic invasive species, but it's also related to the three main ecosystem initiatives, and it's to work with Environment and Climate Change Canada. There are some Great Lakes plans. There's an action plan, I think, for Lake Winnipeg also, and one for the St. Lawrence. It's for us to work with ECCC and other partners in these initiatives to provide support.

It's not dedicated to AIS, but AIS is of course one part that we can contribute to in marine environments, both to manage species at risk and also aquatic invasive species in those three priority ecosystems. As we mentioned earlier, we are also active in all the regions. We have staff and resources in all the regions to support AIS. It's just that the approach in those three ecosystems is probably more different and more integrated.

Mr. Mel Arnold: It's interesting that the mandate letter seems to be so narrow in scope.

As quickly as we can, because our time is very short, how are risks assessed and prioritized dealing with AIS? Who is responsible and how are they assessed?

Mr. Philippe Morel: I'll ask science—

Mr. Simon Nadeau (Senior Advisor, Ecosystem Science, Department of Fisheries and Oceans): Thank you.

It's actually the role of science to screen potential invasive species in terms of their risk to arrive and then to establish and become invasive in Canada. We've performed that work for hundreds of species, and we also do it for specific species that are known to be close to invade or have been detected.

We've produced a number of science advisory reports doing just that.

Mr. Mel Arnold: In earlier testimony, we heard about the incredible risk of the smallmouth bass from Miramichi Lake getting into the Miramichi River, and basically the potential of devastating the fishery in the river.

Why has DFO blocked any use of rotenone in that lake and not addressed the treatment of AIS?

Mr. Simon Nadeau: Rotenone is a very nasty product.

Mr. Mel Arnold: No.

Mr. Simon Nadeau: It will kill everything that breeds, and not just fish. It will kill invertebrates. It will kill amphibians.

Mr. Mel Arnold: No, no.

Mr. Simon Nadeau: It does. It's actually in the literature.

The main factor to consider for any invasive species action is to look at three things: the risk that the species will arrive, the risk that the species will establish itself and then become invasive. One important factor for Lake Miramichi and the smallmouth bass issue is that it's in 195 lakes in Nova Scotia and 70 lakes in New Brunswick. That's one thing to consider.

We did not produce advice specifically on the use of rotenone. It would need a project, with all the details, to be able to assess that and to look at the risk of re-establishment after treatment. That's something that would need to be considered from a scientific perspective.

• (1635)

Mr. Mel Arnold: I noticed in your introduction today that half of the funding for the initiative referred to in 2005 was allocated to the sea lamprey control program—one specific species—while the remaining balance supported science activities, I assume for the rest of the country.

Do you still consider that a fair and reasonable appropriation of resources, to have half of that investment go to one species only?

Mr. Philippe Morel: I think it all depends on the size of the funding.

It was \$4 million in 2005. I believe it was actually less than that. It was a portion of \$3 million, so \$1.65 million in 2005 for the sea lamprey. I think the funding that was provided and is still provided for the sea lamprey program is well used and very efficient.

Mr. Mel Arnold: I don't doubt that the money for the sea lamprey program is well used, but should there be proportionate funding across the rest of the country in relation to the risks out there?

We've heard multiple times on the potential economic and ecological risks of the zebra and quagga mussels in all of our salmon rivers and water systems on the west coast, as well as the irrigation systems on the Prairies. There are incredible costs if they're allowed to enter.

Ms. Hélène Marquis: The investment that is done in the sea lamprey program has allowed to reduce by 90% the number of sea lamprey in the Great Lakes. In turn, it has had a very positive impact on the economy—jobs on both sides of the border. That's a very good illustration of how to manage the species when the species is established.

In some other circumstances, when the species is not established, prevention and communication are already the best tools. We have illustrations.... For example, the Asian carp program is a very good prevention program as well, because no Asian carp have established to date on the Canadian side of the Great Lakes. That means these efforts and investments are having a positive impact on the management of those species and preventing the threat.

Mr. Mel Arnold: But one of the—

The Chair: Thanks, Mr. Arnold. Your time has gone way over.

The lights are blinking, so I guess the bells are ringing.

Do I have unanimous consent to continue for another 15 minutes?

Some hon. members: Agreed.

The Chair: Okay.

Ms. Mathysen, you're up next. You have seven minutes or less, please.

Ms. Irene Mathysen (London—Fanshawe, NDP): Thank you, Mr. Chair.

First, in relation to Bill S-238, I've been advised that in order for the clause-by-clause to be held on May 27, I need to put forward this motion:

That the proposed amendments to Bill S-238 be submitted to the Clerk of the Committee in both official languages by noon on Wednesday, May 22, 2019, at the latest.

The Chair: Mr. Calkins, do you want to speak to that motion?

Mr. Blaine Calkins: Again we find ourselves with the precedent set by Mr. Rogers' motion a few days ago. We saw Mr. Donnelly put a notice of motion forward on Monday, which was certainly in order.

I would suggest to you, Mr. Chair, that if Ms. Mathysen were simply putting a notice of motion before the committee, that would be one thing. I don't see how we would associate relevance of this motion to the study currently before us. I would ask you to rule on whether or not moving the motion is actually in order.

The Chair: It's not germane to our discussion, so I guess it's not in order, per se. I'll rule it not in order.

Would you like to change it to a notice of motion, Ms. Mathysen?

Ms. Irene Mathysen: Yes, Mr. Chair. I will certainly change it to a notice of motion.

The Chair: Okay. Thank you.

Please continue with your questioning.

● (1640)

Ms. Irene Mathysen: Thank you very much.

I do not pretend to be expert at all in terms of DFO's work in invasive species, but a colleague of mine some years ago was doing quite a lot of research for the University of Western Ontario. It was in regard to Asian carp. Apparently, from what I hear today, that research was effective. It paid off in terms of addressing the issue and prevention. Of course, prevention is far more effective than remediation.

What kind of research is being funded, if any, by DFO in collaboration with universities or other entities at this point? How do you see that research proving effective?

Mr. Simon Nadeau: For a good 10-year period up to 2014, I believe, we had two research networks in place, co-funded by the Natural Sciences and Engineering Research Council. We still benefit from that program, a few years after the end of it. It created a network across the country that continues to generate some outstanding publications in the area of aquatic invasive species in terms of better understanding them and methods to control them. That was very effective.

We have in DFO a partnership program for science, which may fund activities in the area of aquatic invasive species. We also have our core program where we conduct research ourselves. A lot of times this research is done in collaboration with university partners.

Ms. Irene Mathysen: Obviously, there are lessons learned in terms of what's going on in the Great Lakes. I'm from the Great Lakes region and I'm very concerned about that. We've heard from others that there are other areas that are at risk. I'm thinking of Lake Winnipeg, I believe, and of course the Miramichi River. Is the research you're able to do supported? Do you need more support in terms of investment from government? Where is it going in regard to both Lake Winnipeg and the Miramichi?

Mr. Simon Nadeau: We have our core program, which started to be funded in 2004. We received some new influxes of money through budget 2016 and science in general. We have different funding mechanisms. We have our dedicated funds for aquatic invasive species, but we also have our broader research funds that will allocate resources to different priorities, including aquatic invasive species. We have a genomics fund that helps us develop state-of-the-art detection tools. We dedicated personnel back in 2004, who are still working on aquatic invasive species across the country in each region, to develop the science, to do the proper monitoring for a suite of species and to perform risk assessments in order to inform management decisions.

Ms. Irene Mathysen: Okay.

Do you need more people doing this work? It sounds very intensive in terms of the human component.

Mr. Simon Nadeau: Yes. Actually, if you ask other scientists if they need more money, they will always take it.

Ms. Irene Mathysen: You're probably right.

Are you finding that you have enough personnel, and are employees distributed equitably across the nation? Is there something that would be more advantageous there?

Mr. Simon Nadeau: We have very competent personnel. As I said, some are in these aquatic invasive species programs, and some are in other areas of the DFO science program that will actually inform and give us a better understanding of the environments in which these species are. All of this research and knowledge actually help us.

That's the best answer I can provide.

Ms. Irene Mathysen: One thing sort of helps or informs another.

Mr. Simon Nadeau: Yes.

Ms. Irene Mathysen: I was an MPP at a time in Ontario when the zebra mussel problem was out of control. The impact on water intakes, other species and the food source of other species was quite profound. I heard that lamprey eels have been controlled. Are zebra mussels also under control?

• (1645)

Mr. Simon Nadeau: Zebra mussels are broadly distributed in eastern Canada, so there's not much that we can do about them. I think that we provided advice before the treatment of Lake Winnipeg a few years ago. Unfortunately, that was not successful. This is where prevention is really the best approach.

Ms. Irene Mathysen: With regard to preventing the establishment of invasive species, Professor Hugh MacIssac outlined a two-pronged approach of managing targeted invasive species as well as the pathways. I think that we've talked about that to a degree.

What proactive measures should DFO take to prevent the threat of invasive species, and how would you rate the effectiveness of DFO's invasive species response operations?

Ms. Hélène Marquis: In terms of the pathways, the best approach, I guess—because it's co-management across Canada: DFO and other partners, like the provinces and territories—is to partner with others and to join forces—it's such a big threat—in this knowledge, not only in DFO with the science research, but also in many provinces.

So, if we're targeting high-risk pathways and vectors, it is more efficient and cost-effective than focusing on specific species because they would often be coming using the same vehicle, I would say, in Canada.

What we're doing is looking at the regional needs and the specificity, and working with the partners in that region on what would be most efficient to put out there some advice and just some awareness of what to do and what to report to make sure that we're preventing the entry into Canada of those species.

Ballast water is one of those pathways that we discussed earlier, and we share responsibility for boat fouling, depending on the size and the function of the vessel. That's an example of shared responsibilities for controlling pathways in Canada.

There are various research projects that have been done by our colleagues in science specifically to support Transport Canada's work with regard to ballast water.

Those are some illustrations of how we can work on pathways rather than on specific species.

Ms. Irene Mathysen: Okay.

You mentioned—

The Chair: Sorry, Ms. Mathysen. Your time has gone over.

Now we'll go to the government side.

Mr. Finnigan, you have seven minutes or less, please.

Mr. Pat Finnigan (Miramichi—Grand Lake, Lib.): I just have one question, Mr. Chair, and then I'll pass it back to Mr. Morrissey.

Mr. Nadeau, you said earlier that part of your assessment of whether to treat Miramichi Lake with rotenone would depend on whether it can re-establish again. As this species was introduced by humans, and if we kill all the other ones that are there, the chance of it re-establishing would have to be another human carry-over from another lake. Could you explain further? Rotenone usually does a good job of killing all...

Mr. Simon Nadeau: Yes, if we use rotenone, it will kill all the fish. There are 19 species of fish in that lake. If we wanted to bring them back, they would have to be rescued in the meantime. The effect of rotenone will last for a certain time, so the fish have to be maintained somewhere during that time.

Because smallmouth bass are in a number of lakes around that watershed, there's a risk they could be reintroduced after.

Mr. Pat Finnigan: There's no smallmouth bass in the Miramichi watershed today, other than in that lake, right?

Mr. Simon Nadeau: No, no, they're in many lakes in the general area.

Mr. Pat Finnigan: But not in the Miramichi watershed.

Mr. Simon Nadeau: If I remember correctly, they're actually below the lake, in the river. There's a barrier that prevents these fish —

Mr. Pat Finnigan: That's true of the Miramichi Lake presently, but are there other areas, tributaries to the Miramichi, where there are smallmouth bass today?

Mr. Simon Nadeau: If they're in the lake, they could go to the tributaries.

Mr. Pat Finnigan: The lake, I know, but I mean right now.

•(1650)

Mr. Simon Nadeau: Outside of that specific watershed, what I could find out is that they are in many lakes, over 200.

Mr. Pat Finnigan: They're mostly in the Saint John River tributaries.

Mr. Simon Nadeau: The Saint John River, yes.

Mr. Pat Finnigan: Okay, but—

Mr. Simon Nadeau: These things have been introduced by people moving them around.

Mr. Pat Finnigan: Yes.

Mr. Simon Nadeau: So if we don't want that to take place again, we need some good outreach and education campaigns.

Mr. Pat Finnigan: Okay, thank you, Mr. Nadeau.

Mr. Chair, I'll leave some time for Mr. Morrissey.

The Chair: Mr. Morrissey.

Mr. Robert Morrissey (Egmont, Lib.): A treatment used in Prince Edward Island to control an invasive species in the mussel industry is the extensive use of lime, but one of the concerns that comes from the lobster fishery is that there are no good data on the cumulative impact this may have. You said there's one staff person in the Maritimes who looks after invasive species. Am I correct in that? There's one staffer?

Mr. Philippe Morel: That's in the core program in the maritime area.

Mr. Robert Morrissey: That's fine, but has the department done any scientific research on the cumulative impact of the use of lime to deal with the invasive species encountered by the mussel industry?

Mr. Philippe Morel: Not to my knowledge.

Mr. Robert Morrissey: Okay.

The other one is the green crab, which is extensive. When you look at the resources on the east coast that are dealing with invasive species, do you have any plan? I do not believe there's any corrective action being taken by the department, any action to mitigate the movement of green crab in maritime Canada. It may not even be possible.

Mr. Simon Nadeau: On the research or monitoring side of things, we are conducting monitoring activities for green crab—

Mr. Robert Morrissey: Yes, I realize you're monitoring, but have there been any studies, any research, done to find an effective methodology that might be introduced to at least control green crab?

Mr. Simon Nadeau: There have been some pilot projects involving fishermen to fish out some areas, but it's a very prolific species and it's able to recolonize areas through movement of both adults and larvae, so we have not developed specific—

Mr. Robert Morrissey: Okay, that's fine.

You made the comment on the invasive mussel that the advice you gave for Lake Winnipeg was not used.

Mr. Simon Nadeau: No, the advice was taken and the activity was done. The control measures and the use of liquid potash were performed, but the measures were not successful. So the species is still present there.

Mr. Robert Morrissey: Whatever corrective action you took—

Mr. Simon Nadeau: It did not work. You have to realize, a single minuscule zebra mussel—

Mr. Robert Morrissey: When was that done?

Mr. Simon Nadeau: In 2014, I believe.

Mr. Robert Morrissey: It was a while ago, and it had no positive impact.

Mr. Simon Nadeau: Yes, it probably, following the treatment, reduced the local abundance, but we only treated a few harbours where the species had been detected. The species must have been present in other areas. In the larval stage it can be carried by currents, and it's a big lake, so even if we had wanted to treat the whole lake, that would not have been possible. It took 33 cubic metres of liquid potash to treat these few harbours that had to be contained. Doing that for the entire lake would not have been possible.

Ms. Hélène Marquis: It was in 2014.

Mr. Simon Nadeau: It was in 2014, yes.

The Chair: Thank you, Mr. Morrissey.

Before I adjourn, I will advise the committee that the second hour that was normally scheduled for today will now take place on May 15, just so we know where we are, and that is the drafting instructions for invasive species and version two of striped bass.

Thank you to our officials for their attendance here today. It's greatly appreciated.

Thank you to the members.

The meeting is adjourned.

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