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Chair

Mr. Harold Albrecht

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● (1530)

[*English*]

The Chair (Mr. Harold Albrecht (Kitchener—Conestoga, CPC)): I'd like to call our meeting to order.

This is meeting number 13 of the Standing Committee on Environment and Sustainable Development.

Today we have appearing before us from the International Joint Commission, Mr. Gordon Walker, acting chair of the Canadian section; and appearing by video conference from Washington, D.C., from the Great Lakes Fishery Commission, Mr. Robert Lambe, executive secretary.

This portion of the committee is scheduled to run until 4:30. We're going to proceed with opening statements, first of all from Mr. Gordon Walker.

Mr. Walker, welcome. We welcome your opening 10-minute statement.

Mr. Gordon W. Walker (Acting Chair, Canadian Section, International Joint Commission): Thank you, Mr. Chairman.

I'm Gordon Walker, acting chair of the Canadian section of the International Joint Commission. Two of our staff people are here today, our secretary, Camille Mageau, and Nick Heisler, senior adviser. With your permission, they will answer any questions I can't, which are mostly technical and scientific, I'm sure.

In keeping with the focus of the hearings, I will speak to water quality issues from our unique perspective, and particularly our mandate under the Great Lakes Water Quality Agreement.

As many of you will know, the commission is an independent treaty-based organization. Commissioners do not represent the positions of their respective governments. They take an oath on appointment to work in the interests of the people of the two countries. My comments are therefore those of the commission, determined by consensus by past and current commissioners.

The IJC was established by the Boundary Waters Treaty of 1909 as a permanent independent international organization that prevents and resolves water disputes along and across the entire Canada-United States border. In that context of water quality under the treaty, our role is to investigate, alert, report, monitor, and ultimately advise governments.

Under the treaty, there is complete equality between the six commissioners, three from Canada and three from the United States. Even though the U.S. has 10 times the population, there is complete equality.

With respect to the Great Lakes Water Quality Agreement, there have been some substantial accomplishments. In the 1970s, in 1970 itself, the IJC issued a series of reports on pollution in the Great Lakes, in response to a 1964 request by the governments. The findings of these studies led the two countries to sign the Great Lakes Water Quality Agreement in 1972.

This agreement, which was most recently updated in 2012 and entered into force in Canada in 2013, commits the governments to restore the physical, chemical, and biological integrity of the lakes. It's considered to be one of the most enduring and successful environmental agreements in the world. The agreement assigns the IJC roles in monitoring progress, providing advice, and engaging the public and alerting the governments to emerging issues.

With that background, I want to outline our assessment of water quality and what the IJC sees as priorities for the Great Lakes.

There are, as you know, five great lakes, each could fill today's hearings several times over in the allotted time, but I want to focus on some of the problem areas, particularly Lake Erie. In the Great Lakes, one of the most significant and recent priorities for the IJC has been to try and help, and address the crisis facing Lake Erie. The work meets all of your study criteria. It focuses on an area of environmental concern, it reviews efforts under way now, and it recommends best practices.

Government can take action to correct problems. As I noted, in the 1970s Lake Erie was in great distress. The IJC in its reports to Canada and the United States called for action, and they led to that agreement. Within 10 years of the signing of the Great Lakes Water Quality Agreement both countries had upgraded and expanded municipal sewage treatment plants, and the phosphorus concentrations in household detergents had been reduced.

By the mid 1980s, Lake Erie phosphorus loadings were reduced by more than half from the 1970s levels, and many of the problems associated with eutrophication had been reduced or eliminated. Around the world it was hailed as a success story, but now, once again, Lake Erie is at risk.

Following the record algal bloom in Lake Erie that covered almost the entire western basin of Lake Erie—some 5,000 square kilometres—in 2011 the commission launched its major effort into the Lake Erie ecosystem priority, also known as LEEP. To address the challenge dozens of scientists from both countries were brought together to examine scientific, socio-economic, and regulatory dimensions of the issues in both countries as part of a comprehensive approach.

The result is a report, which will be released to the public on Thursday this week. It is entitled “A Balanced Diet for Lake Erie: Reducing Phosphorus Loadings and Harmful Algal Blooms”.

● (1535)

The timing of my appearance is fortuitous, as some of you may have been able to participate in the embargoed LEEP webinar we held for Canadian and American federal legislators earlier today.

I'm going to give you a preview today, as IJC has already forwarded the report to the U.S. and Canadian governments. My apologies go to staff on Thursday. I hope I haven't scooped them too much by making some comments today.

To summarize, the LEEP study found that in most years, total phosphorus loadings into Lake Erie have been below the target of 11,000 metric tons per year established under the Great Lakes Water Quality Agreement in the 1980s.

The question is, if that's the case—if it's below the level of 11,000 metric tonnes—why is Lake Erie in trouble? The answer is that phosphorus loads to Lake Erie are not distributed equally across the basin. Between 2003 and 2011, the average loads in the western basin were 64%, while the central and eastern basins of Lake Erie received just 26% and 11% respectively. Loads within each basin also may vary among tributaries for both total phosphorus and dissolved reactive phosphorus, with the largest contributions coming from the Maumee, the Sandusky, and Cuyahoga Rivers in the United States, and the Detroit River through Lake St. Clair to Lake Erie.

Phosphorus enrichment is a binational issue. It is not just from those rivers that I've identified, which happen to be mostly in the United States, but is across the board—across the lake itself and its tributaries. We in Canada contribute as well, but quite a bit less, I might say, than the Detroit, the Maumee, and the Sandusky Rivers do. I'm thinking of the Grand River into Lake Erie and the Thames River into Lake St. Clair. The monitoring initiated through Environment Canada's $16 million Great Lakes nutrient initiative along the north shore of Lake Erie and in the Thames River will complement existing and more intensive monitoring efforts in the Ontario Grand River.

The story, though, gets more interesting and complicated. Recall that the Great Lakes Water Quality Agreement originally focused on total phosphorus as a measurement by which Lake Erie eutrophication was to be managed, and that those low targets have generally been met. So this is not the same as the 1970s problem. The real problem, recent research has shown, is that the proportion of dissolved reactive phosphorus—the form of total phosphorus that is highly bioavailable and stimulates algal growth—is increasing.

The LEEP report focuses on the Maumee River watershed in the United States, in Ohio, as the highest priority for remedial action. It recommends a targeted 41% reduction in dissolved reactive phosphorus loadings for the spring period, as compared with the 2007 through 2012 average.

To help achieve this goal, the commission recommends that the States of Michigan and Ohio formally list the waters of western Lake Erie as impaired under the U.S. Clean Water Act. That would trigger development of the total maximum daily load or nutrient reduction plan overseen by the United States Environmental Protection Agency. A complementary plan using both regulatory and non-regulatory measures could also be used to reduce loadings from Ontario watersheds.

To address the complex challenge of nutrient pollution from diffuse agricultural operations, the IJC recommends that governments throughout the watershed refocus agri-environmental management programs to explicitly address dissolved reactive phosphorus.

The commission also specifically recommends that the Province of Ontario and all the U.S. Great Lakes states ban the application of manure, biosolids, and commercial fertilizer containing phosphorus on frozen ground or ground that is covered by snow.

● (1540)

The IJC recommends that all governments work with municipalities to accelerate the use of green infrastructure, such as rain gardens and green walls, in urban stormwater management. In addition, the IJC recommends that the Province of Ontario and the U.S. States of Ohio and Pennsylvania prohibit the sale and use of phosphorus fertilizers for lawn care except in certain circumstances.

Because wetlands both support wildlife and filter pollutants, the IJC recommends that governments, working with non-government partners, commit to a goal of a 10% or 1,000-acre increase in coastal wetland areas in the western basin of Lake Erie by the year 2030. The IJC further recommends enhancing monitoring networks throughout the Lake Erie basin, including the establishment of a monitoring system at the outlet of the Detroit River that measures phosphorus and other critical nutrient parameters.

The IJC offers its analysis and recommendations in its LEEP report in a spirit of cooperation, recognizing that today's challenges to Lake Erie's health are formidable, could be aggravated by climate change for sure, and require the leadership and guidance of the United States and Canadian governments and collaboration by all sectors of society. The IJC believes this teamwork will occur, as citizens and governments care deeply about this lake.

Through such cooperation, the IJC is confident that the recovery of Lake Erie can again become a globally known success story. It is timely to have dwelt on this one subject, Lake Erie, given today's briefings of your colleagues and Thursday's public release. There are, however, many aspects that I could dwell on, but time will not afford me that luxury at this moment during these opening remarks —climate change being one that could take a long time.

But I will mention some aspects. I understand that Environment Canada discussed the areas of concern with you as a committee two weeks ago, so I'm not going to belabour the importance that the IJC places on cleaning up those areas of concern, other than to note that the commission's role in areas of concern is substantial.

It is important to first point out that the governments, along with many public and private partners and agencies, are ultimately responsible for cleanup of hot spots, these "areas of concern", as they're known. Under the 2012 agreement, the government will consult with the commission if they want to designate new areas of concern. The remedial action plans produced for each site are made available to the commission for review, and governments solicit review and comment from the commission, amongst other agencies, prior to delisting an AOC or designating an area of recovery.

The Chair: Mr. Walker, we're well beyond your 10 minutes. I'm going to suggest that the committee members quickly read the last two paragraphs. We want to move to our witness as well from Washington D.C.

I thank you for your comments. Thank you especially for bringing them in written form, because that will help us all to refer back to them.

Thank you very much.

Mr. Gordon W. Walker: It's an appropriate place for me to stop.

The Chair: I thought the rest of it was a bit of a summary, so I hope I'm not taking too much licence here. Thank you.

We're going to move now to Mr. Robert Lambe for his opening statements.

Mr. Lambe, welcome.

Mr. Robert Lambe (Executive Secretary, Great Lakes Fishery Commission): Thank you, Mr. Chair and members of the committee, for inviting me today. I thank you for letting me do this via video. Being from Canada and working in Michigan, I would have preferred an opportunity to get back home but the schedule didn't permit it, so thank you for allowing me to do this.

I missed a lot of Commissioner Walker's comments because of the video problems, so hopefully that won't plague my few minutes here.

I'll start with an opening statement, as you suggested. I'm not going to start with some of the superlatives that I normally use to describe the Great Lakes. I'm sure you'll hear a lot of those over the course of the coming weeks. But I will point out a couple of facts. It represents 5% of North America's water. It is home to 30% of Canada's entire population. One that you may not hear otherwise is that it houses a $7 billion trade. These are just some of the things that speak to the significance of the Great Lakes.

They are great. However, urban things like urban development, industrialization, globalization, fishing, habitat alterations have all left an imprint on the basin, and in some cases, a considerable legacy that current and future generations will have to address. So while the lakes are great and large enough for abundant resources, they are indeed fragile and require protection. Canada and the United States have for a long time cooperated; they have a cooperative history on the Great Lakes. For instance, in 1954, Canada and the U.S. agreed to the Convention on Great Lakes Fisheries, which is really what created my organization, the Great Lakes Fishery Commission, as a two-way cooperation for the benefit of...[*Technical difficulty—Editor*]...to combat the most destructive of invasive species, the sea lamprey.

The Great Lakes Water Quality Agreement, first signed in 1972, and updated as recently as 2012, is the very mechanism used to help Canada and the U.S. work together to ensure the physical, chemical, and biological integrity of the Great Lakes Basin.

It is those two things, the Convention on Great Lakes Fisheries and the water quality agreement, that I wanted to focus my comments on today.

First, the Great Lakes Water Quality Agreement—I believe Commissioner Walker spoke to that in his opening statement. The water quality agreement, as we mentioned, was revised in 2012 to bring greater attention to the basin's ongoing and emerging issues. I believe the revised agreement in 2012, in my estimation, offers an unprecedented opportunity for the commissions to work with other agencies, governments, first nations, and stakeholders to connect fishery issues to overall Great Lakes priorities. In particular, the Great Lakes Fishery Commission is deeply engaged in a number of annexes addressing such things as lake-wide management, invasive species, habitat, and science.

I just want to spend a few minutes talking about the role that the Great Lakes Fishery Commission is playing on those annexes, which really define the water quality agreement.

First, on annex 2, it focuses on lake-wide management, with a goal of coordinated binational assessment and management of... [*Technical difficulty—Editor*]...which, due to their nature, are best addressed on a lake-specific basis. Under the Convention on Great Lakes Fisheries, as I mentioned before, my commission is responsible for facilitating...[*Technical difficulty—Editor*]...arrangements among the fishery management jurisdictions of the Great Lakes Basin. It also went to a non-binding agreement called a joint strategic plan on Great Lakes fisheries. Under the plan the agencies come together to develop, work, and implement fish community objectives, which are shared fishery management goals and environmental objectives that really define the objectives.

Traditionally, and unfortunately, fisheries managers and water quality experts have not worked together as closely as they could have. Annex 2, however, presents a tremendous opportunity for fishery managers to link their objectives to the lake-wide management plan. As such, the Great Lakes Fishery Commission is working to provide an active link between the strategic plan signatories and members of annex 2.

● (1545)

Moving on to annex 6, its focus is on aquatic invasive species, which is our major concern from a water quality perspective. It focuses on invasive species with a goal of preventing new introductions, managing existing invasive species, and conducting scientific risk assessments to improve the understanding of those things. Simply put, invasive species must be addressed.

Annex 6 is particularly promising in that it calls for major efforts to detect new invaders early and to respond quickly upon their discovery. It calls for a ballast water discharge program, whereby Canada and the United States would have either identical or at least harmonized ballast water standards sufficient to protect the Great Lakes ecosystem.

It envisions the immediate implementation of proactive, binational programs to prevent new introductions of invasive species like Asian carp, and it commits the nations to scientific understanding of the risk invasive species represent so that prevention, control, and rapid response measures could be supported.

Great Lakes Fishery Commission knows much about invasive species because, after all, we are charged with sea lamprey control, and I'll discuss that briefly in a minute. The commission sees annex 6 as a fantastic opportunity for both nations to make tremendous progress in mitigating the considerable threats that invasive species pose.

The commission has long been involved in invasive species policy and sees annex 6 as a tremendous opportunity for great collaboration and action. By integrating invasive species into the water quality agreement and by demanding swift and aggressive action, the commission, other government agencies, and stakeholders throughout the region have the chance to make real and lasting progress in this area. So we're quite committed to annex 6.

Annex 7 focuses on preventing further loss of critical habitat and native species that contribute so much to the overall integrity of the Great Lakes. The link between quality habitat and thriving fisheries is, of course, strong. Without spawning habitat, for instance, self-sustaining fish populations and the billions of dollars in economic benefit they provide would not be possible. Annex 7 is critical in that it establishes tight timeframes and affords the development and implementation of lake-wide strategies to prevent habitat loss and aid in the restoration of native species.

Annex 10 seeks to establish efficiencies and effectiveness in Great Lakes science. The Great Lakes Fishery Commission has always believed that science is essential to manage the resources effectively and to justify the expenditures of public resources. Not only will science indicate how, why, and where to expend resources, it will also inform about progress in achieving objectives. One really important point about annex 10 is that it commits Canada and the U. S. to the development of and adherence to science-based indicators of success. That informs about the health of the Great Lakes and helps direct policies.

Under the Convention on Great Lakes Fisheries, the commission is charged with facilitating the generation of fisheries science. So indeed since the commission was created in 1956, it's led the way in identifying science priorities and native species recovery. To that extent annex 10 really provides the commission with great opportunities to connect its resource priorities with those of the larger priorities of water quality agreement from a water quality perspective.

I'm going to conclude by speaking briefly to sea lamprey because it does speak to invasive species issues in a large way. Sea lamprey is a tremendous threat to the sustainability of the Great Lakes fishery. Sea lamprey is without question the most destructive of the invasive species that we've ever faced. It's a non-native species, has no predators, and attaches itself to fish using its large suction cup mouth. A typical sea lamprey will consume about 20 kilograms of fish during its lifetime. Sea lamprey caused unprecedented ecological and economic harm to the Great Lakes. The Convention on Great Lakes Fisheries, 1954, called upon the commission to implement a border-blind, sea lamprey control program. The commission works with the Department of Fisheries and Oceans and agencies in the U.S. to deliver sea lamprey control.

● (1550)

The program has been extremely successful. Over the years, we've been able to reduce the population by 90% of what it was in its problematic days of the early 1960s. Now we have a thriving fishery that was once destroyed. The fishery at present is worth $7 billion. So the news is good. We have the technology to control it. But as we've seen a couple of times in the past, when we relaxed control these predators do respond and rebound quickly and start to have the same devastating effect on the fishery.

Canadian currently contributes $8 million to this program, the U. S. in excess of $20 million. Even with the equitable distribution of the formula that was developed for funding this program, Canada still falls short. In fiscal year 2014, it should be contributing about $11 million; it's contributing $8 million. A report last year by the Standing Committee on Fisheries and Oceans lauded the sea lamprey control program and recommended that it be fully funded. So I hope that the Standing Committee on Environment and Sustainable Development will follow suit and join the Standing Committee on Fisheries and Oceans in recognizing the significance of funding this program fully.

In the interest of time, Mr. Chair, I'll stop there and try to answer any questions. Thank you very much.

● (1555)

The Chair: Thank you very much, Mr. Lambe, for your commitment to being with us by video conference.

We're going to move now to the questioning rounds. We'll start off with Mr. Carrie and Mr. Sopuck for a seven-minute round.

Mr. Colin Carrie (Oshawa, CPC): Thank you very much, Mr. Chair, and I'd like to get right to the questions.

The first is for Mr. Lambe.

I was wondering if you could comment on the 2013 Great Lakes summit, the outcomes that followed, and the importance of that.

Mr. Robert Lambe: You're talking about the governors' and premiers' summit?

Mr. Colin Carrie: Yes.

Mr. Robert Lambe: I thought it was a great summit overall. The one thing that we were particularly pleased with was the resolution to establish a mutual aid agreement amongst the provinces and the states. The Council of Great Lakes Governors actually came to the commission to establish that. We have worked collaboratively with the eight states and the provinces of Ontario and Quebec, and the federal governments as well as those with tribal responsibilities. I believe the agreement will be signed in April when they meet again.

So it will be an important construct of an important framework for all the agencies that have responsibilities under that very complex governance model that we have for Great Lakes resource management. It will be one of the first constructs we've had that really help those agencies and entities identify how they can collaborate, share resources, identify when an emergency is imminent, and be able to respond more quickly with particular emphasis on important invasive species that we're trying to stay ahead of. That was one very significant outcome.

Mr. Colin Carrie: I think with the presentations today we see how important the cooperation is.

My next question would be to Mr. Walker, but of course, Mr. Lambe, you could comment as well.

The reality is our government and the U.S amended the Great Lakes Water Quality Agreement in 2012.

I was wondering, Mr. Walker, could you start and tell the committee what this says about the importance being placed on the Great Lakes remediation, because you brought up the whole issue of phosphorous and the algal blooms. I was wondering if you could give your insight to the committee on that issue.

Mr. Gordon W. Walker: Certainly, Mr. Carrie, the renewed agreement, the updated agreement, which in many respects has a number of changes, reflects a much more modern approach to be taken. The IJC has a number of responsibilities that flow from the actual Great Lakes Water Quality Agreement, particularly the annexes: the areas of concern, the lake-wide management, discharge from vessels, and science generally. There are special responsibilities for the IJC that flow from that.

I think what it reflects is a determination on the part of the two governments to cause these pristine lakes to be as pristine as possible. They were once the most magnificent lakes, and there has been some deterioration as a result of public involvement with them and the growth of population around them, and the fact that 44 million people I think live within the basin and make use of Great Lakes water. We all probably.... Well, at least I come from southwestern Ontario and some others here do as well, and you've been drinking that water for a long time.

It's very important to us, and I think both governments have recognized that. Really, beginning in 1972 with the agreement, and with the number of revisions that were made to reflect the modern day, I think it's a testimony to both governments and indeed to the eight states that border the Great Lakes and the two provinces that are involved with the Great Lakes, Ontario particularly. I think it shows a very strong commitment on their part to make these lakes the best possible thing they can be.

● (1600)

The Chair: Mr. Sopuck, you have three minutes.

Mr. Robert Sopuck (Dauphin—Swan River—Marquette, CPC): Thanks.

Mr. Lambe, from the Great Lakes Fishery Commission's standpoint in terms of invasive fish species, the rainbow trout, the coho salmon, and the chinook salmon are all introduced species, but they are not captured under the rubric of invasive species. They seem to have settled into that ecosystem very nicely and have formed the basis of very important fisheries. Those species, probably, you would consider to be welcome additions to the Great Lakes. Is that a fair assessment?

Mr. Robert Lambe: Yes. It's a very good point that you make. Those are probably the three best examples of species that technically would be called invasive; however, we have found a balance with them in the ecosystem. They've become prized sport fisheries as well. We have other examples of introductions such as alewives, for example, that have become fisheries as well, but unlike the ones you mention, alewives continue to be problematic, in that they attack the forage base. They just continue to be a nuisance as competitors with our native species.

Those are probably the three exceptions. The invaders we typically have, such as alewives, zebra mussels, the spiny waterflea, and the sea lamprey, are ones that have continued to be our nemeses, because they compete with or attack our native species that are so valuable to the ecosystem.

Mr. Robert Sopuck: I agree with that, but I think it's important to have it on the record that there is a distinction between those salmonid species and the rest you named.

Mr. Walker, you talked about how one of the goals of one of the projects was to increase the number of wetland acres to a thousand acres in a certain area. Specifically how do you plan on doing that?

Mr. Gordon W. Walker: Well, that's not our job. I think we sort of say that we suggest they put—

Mr. Robert Sopuck: That's the main goal.

Mr. Gordon W. Walker: Yes.

Mr. Robert Sopuck: Can you tell me what the mechanism might be?

Mr. Gordon W. Walker: This is like putting the ship in the bottle, but it's up to you to put the ship in the bottle. We believe that it's possible to do. In fact, we're very strong on all of the Great Lakes having more wetland acres. We're going to be strong on that in the future. In other areas, we're going to be calling on it, and certainly with Lake Huron and Lake Erie, it's feasible for governments to do that and just to reserve areas and make them better for wetlands.

The Chair: Thank you for that, Mr. Sopuck, Mr. Carrie, and Mr. Walker.

We'll move now to Mr. Choquette.

[*Translation*]

Mr. François Choquette (Drummond, NDP): Thank you, Mr. Chair.

I want to thank the witnesses who are participating in this meeting by videoconference, directly from Washington.

Mr. Walker, you talked about wetlands, as did Mr. Sopuck. We went on a tour as part of the National Conservation Plan, and wetlands were a very important element of that plan. The organization Ducks Unlimited Canada even asked us to intervene so that wetlands would be added to Budget 2014. Unfortunately, unless I have misread the budget, I see that no financial resources have been committed to wetlands.

Do you think increasing the surface area of wetlands in the Great Lakes Basin is an urgent need?

[*English*]

Mr. Gordon W. Walker: Wetlands are something of a canary in the mine shaft. The wetlands are able to produce the kinds of water species, the kinds of growing species—flora and fauna—that are important to restore the shoreline and also to restore and replenish the birds, to restore and replenish the animals, to restore and replenish the growing fauna. All of this is extremely important for a good and balanced system. If it doesn't have the balance, the problem can be exacerbated and gets out of whack. When that happens, it presents problems and shows a problem in the entire watershed.

It doesn't affect just the edge of the water. It doesn't affect even just the water. It affects the basin that comes and feeds it entirely, and the basin is very huge. The Great Lakes Basin is bigger than all of Europe put together, so it's a pretty substantial basin.

● (1605)

[*Translation*]

Mr. François Choquette: I have another question for you, Mr. Walker.

You talked about green infrastructure and said that it would be important to improve our infrastructure to better adapt to climate change and the difficult times we will have to go through. Even the deputy ministers of the environment are saying that it is very important to fight climate change. Unfortunately, that is not currently being done.

How can we prepare to combat climate change hazards and respond to the issues in the Great Lakes Basin? What are your suggestions and recommendations when it comes to green infrastructure?

[*English*]

Mr. Gordon W. Walker: Climate change is huge for all of us, and none of us in this room could likely say that they haven't seen the impact of climate change, such as more moderate winters, although I can't say that about right now. We've had a pretty impressive winter, and just two weeks ago 90% of the surface of the Great Lakes was covered by ice. That is the first time that has happened since 1994, but if I'd been here in any year in between, I would have been bemoaning the fact that there was not enough ice cover and that the evaporation was so phenomenal that it was taking away huge amounts of water and causing great impact on the Great Lakes.

How to stop climate change is something that scientists have been arguing for a long time, and of course, there are hundreds of arguments out there on how to stop climate change. I'm not sure I can add much to that equation, but very obviously, if climate change can somehow or another be slowed or reversed, then that would have a huge impact on the Great Lakes and a great impact on all of us. Stretching from the point where Lake Superior is at one end all the way to the Gulf of St. Lawrence, it has huge impact on the water, both in terms of quantity and in terms of what flows from that.

When there is a lower quantity of water caused by climate change, that presents a problem. That makes trouble for shipping. That makes trouble for fishing. It makes trouble for the quality of the water, so anything that can stop, discourage, or reverse climate change is important. It may be a pretty tough order to accomplish. It's going to take the entire world being part of that.

[*Translation*]

Mr. François Choquette: Thank you very much.

How much time do I have left, Mr. Chair?

[*English*]

The Chair: You have one minute.

[*Translation*]

Mr. François Choquette: I will yield the floor to Mr. Bevington.

[*English*]

Mr. Dennis Bevington (Western Arctic, NDP): Thanks.

My question might be a little bit more complicated than one minute, but I think I'll get some time later. I just want to start talking to you about cumulative impact assessment and how that's taking place.

Do you have modelling systems now that you're using to determine the impacts of all these stresses on the Great Lakes? Are you able, say with climate change, to predict what will occur with a two-degree warming in the system? Are you in a position to forecast different outcomes as a result of potential change in climate or different types of loading that may end up in the system due to increased population or use?

● (1610)

The Chair: Mr. Bevington, you've used up your entire time with the question. We'll have to come back to Mr. Walker perhaps in a future round for the answer.

Mr. Toet, you have seven minutes.

Mr. Lawrence Toet (Elmwood—Transcona, CPC): Thank you, Mr. Chair.

I have a few questions and I may pass it back to Mr. Sopuck.

One of the things was anecdotal, and that was the great work that has occurred with the IJC. I can attest to that on a personal basis. I think it was 2001 that I actually had my swim with my family in Lake Superior, which meant I had finally had my opportunity to be in every one of the five Great Lakes. There was a time in the seventies when there were a few of those lakes I would have not wanted to have been in at all. I think we have made great progress, as you have told us, and anecdotally I can speak to that.

You talked about the wetlands increase. One of the great programs that I've seen out there in the last couple of years that has been quite effective is the recreational fishery restoration program that was working and engaging groups on the ground. A lot of our different fish groups and habitat stewardship groups do great work on the ground, and have been engaged in this process.

Is this something you see that would also be very beneficial to the work on the Great Lakes going forward, especially as we increase the capacity for the recreational fishery? Will that automatically have a very beneficial effect for the Great Lakes Basin area?

Mr. Gordon W. Walker: Whenever people are involved, a population getting involved with the Great Lakes.... In the areas of concern that we have, the hotspots around the Great Lakes, the remedial action plans are populated almost entirely by volunteers, by people who are participating in helping to solve the problem.

I'm thinking of the Hamilton Harbour, the Randle Reef, and Toronto, but all the harbours that have had issues. The Collingwood Harbour, the Wheatley Harbour, the Severn Sound—they have been removed as areas of concern because people were involved. So the testimony to people being involved actually coming up with the solutions is huge.

The dimensions of the problem are gigantic as well. When you think about the Great Lakes fishery, think just in terms of Lake Erie. The walleye industry alone is close to $1 billion a year. That's a huge industry and there are an awful lot of people who are involved with it. To the extent that groups from schools and other kinds of associations can be brought together to work in their organizations, to work with the IJC.... We have many organizations within the IJC that are populated by volunteer participation.

To the extent that more people can get involved in it, that's going to be extremely important to solving the issues coming in the future, especially with the concentrated populations that are growing up in this area. It just gets greater and greater. Since 1960 we've probably seen almost a doubling of the population in the basin. Well, that has a huge impact. It is very important that people be involved to the extent that they can be encouraged, by all means.

The Chair: Mr. Sopuck.

Mr. Robert Sopuck: Mr. Lambe, I'm on the fisheries committee as well and you referenced our study on invasive species. I'm going to ask a question regarding the Asian carp species that are present in the Mississippi watershed.

Do you think that we will be able to keep them out of the Great Lakes?

Mr. Gordon W. Walker: I sure hope so.

Mr. Robert Sopuck: I hope so too, but can we actually do it?

Mr. Robert Lambe: We did an assessment, the Government of Canada actually led an assessment, and the report was released in 2011 that demonstrated that Asian carp could have a pretty devastating impact on the Great Lakes. Simply put, we have to keep them out.

Right now, there's a lot of debate going on here within the U.S. Of course, the U.S. Army Corps of Engineers released a report called "The Great Lakes and Mississippi River Interbasin Study" on January 6. They identified eight alternatives for stopping the spread of invasive species between the Great Lakes and the Mississippi River Basin, and vice versa.

The focus is obviously on stopping the Asian carp from coming up the Mississippi, as you noted. Most people who are engaged in that debate say that they believe, and there's some science to support it, that there has to be a physical divide, that the natural divide that existed before the artificial canal was put in...[*Technical difficulty—Editor*]. That comes with some significant problems. If you do that, you certainly aggravate some flooding situations that we have in Chicago. There's a commercial waterway that would be impacted by that.

A lot of the discussion now is about what you can do if you don't have a physical divide. That's where most of the energy is going right now. Looking at better locks systems and through more effective technology, more effective electrical barriers, can we exploit the development of that newer technology to keep them out?

I think we have to be optimistic at this point. Because the population front is about 60 to 70 miles from our barrier and they are not advancing that quickly, we can use a little bit of time here to come to an interim solution that's going to satisfy all the users. But the clock is definitely ticking. I'm glad there is as much attention on this as there is because we do need to find a solution very quickly.

● (1615)

The Chair: You have 45 seconds.

Mr. Robert Sopuck: There's some anecdotal evidence that the zebra mussels in the Great Lakes have had an effect on water quality and some say it's a positive effect. Is this true or not?

Mr. Walker, can you comment on that?

Mr. Gordon W. Walker: Well, they've made it look prettier. Zebra mussels have cleaned up things an awful lot. I've often crossed the bridge over the Detroit River and the St. Clair River. If you crossed it in 1970, it was a pretty grey-looking body and today it's a very bright effervescent blue. So there has been a cosmetic improvement, and zebra mussels of course are becoming less of an issue as the quagga mussels take over.

We have all these issues, you know. There's been an awful lot of improvement made, but since 1986 or 1987 up to...for a considerable period of time, there was something like 34 new invasive species that were non-indigenous that came into our waterways.

It is fair to say though, that since 2006, not one has been identified as new. So there's been a substantial improvement with the ballast water that created the problem in the first place. The improvements are working very well. In fact, in Washington there's a ballast water meeting next week.

The Chair: Okay, we have to move on now to Mr. Scarpaleggia.

Mr. Francis Scarpaleggia (Lac-Saint-Louis, Lib.): Thank you, Mr. Chair.

Thank you to both witnesses for your testimony.

I'm just trying to understand the historical arc of this issue. It was very interesting that you mentioned that the first time governments really got concerned with water quality in the Great Lakes was 1964 and that led eventually, as I understand it, to the Great Lakes Water Quality Agreement in 1972. My understanding is that the agreement's focus was initially narrow. It was to look at the problem of phosphorus, is that correct?

Then I imagine over time other issues were dealt with jointly by the Canadian and American governments within the framework of that agreement. It sounds like where we are now is that we have phosphorus out of detergents and I presume we have our house in order when it comes to waste water effluence. We've had enough time to make those investments.

Now the problem appears to be—and please, after I finish, I'd really welcome a correction on my understanding of the issue.... What we seem to be talking about is agricultural runoff and the phosphorus from that source. Is that a correct understanding of the arc of the issue, if I can put it that way?

● (1620)

Mr. Gordon W. Walker: I think that's a pretty good summation. It wasn't one thing; there were many things.

The Cuyahoga River was on fire, if you can imagine that, in the late 1960s. There were lots of issues. That obviously was not phosphorous. At the same time, the fishing industry was dying, and the lake was deemed to be a dead lake. That was phosphorous. You're quite right that they solved many of the issues by removing the phosphorous as much as possible from the loadings that came from the waste water plants. The billions of dollars invested by the governments of the two countries, and the states, and the provinces, solved a lot of problems by cleaning that up, as did taking phosphorous out of the laundry products. Contrary to what was said by the manufacturers of Rinso and Tide and all those at the time, that we would all have grey shirts, well, some white shirts continued after that.

So it did work, but now it's a different kind of issue. It is mostly agricultural runoff. But there are problems. For instance, there's what the dog does on the front lawn of the home in Toledo, or in Fort Wayne, Indiana. It just washes down into the gutter, goes from there into a sewer, ultimately goes into the river, untreated, and then is in Lake Erie. Those are problems.

There's the concentrating that we now have of the feedlots, and perhaps even the ethanol production where corn requires a different form of fertilizer, a lot more fertilizer, and they run it right up to the edge of the river, with no buffering or anything of that sort. That's creating a great deal of problem.

Something has happened in the past 10 years on the rivers I've identified, rivers like the Maumee and the Sandusky. Something has happened. It was all right 10 or 12 years ago, but not now. What has happened? Something has come in.

Ethanol is probably a good thing to point at, and feedlots that are much more aggressive. As well, there's the continuing, of course, of putting fertilizer onto the frozen ground, where it doesn't sink in. It washes off into the creeks, into the drainage system, into the river, to the point where when you look at the end of the Maumee River, it has created that huge bloom of algae. The only way to stop it is to try to curb those efforts—not necessarily to stop putting the manure on the ground but to stop doing it when the ground is frozen. That's not an easy task. Farmers will give quite a story on that.

Mr. Francis Scarpaleggia: I think the issue, at least in Canada, is that the responsibility for agricultural land management falls under provincial jurisdiction. If you're going to create a larger buffer zone between the fields that are in operation and the water course, it's really up to the Province of Ontario, basically, I would imagine.

But you were saying that they are on board. They've negotiated agreements and they're working with states and so on and so forth.

Mr. Gordon W. Walker: They're supportive, but they are only....

Take the rivers that service, let's say, southwestern Ontario, such as the Thames River, 200 kilometres or so of that, and the Grand River right up almost to Orangeville and down to Dunnville, where it goes into the lake; those systems are just a fraction of what the other rivers are putting in.

Mr. Francis Scarpaleggia: The U.S. rivers?

Mr. Gordon W. Walker: Yes. It's difficult to put a number on it, but they're just a tiny fraction—a big difference.

Mr. Francis Scarpaleggia: Right.

I have another question in terms of the impact of climate change. We understand that water levels are up and down, but generally the trend is down, which will affect shipping and so on. I understand that climate change leads to more extreme weather events, which leads to runoff of fertilizer, and that's a problem.

Are there other ways in which climate change will impact, or is impacting, water quality in the Great Lakes? Or is extreme weather and runoff and flooding and all of that really the crux of the issue?

● (1625)

Mr. Gordon W. Walker: Yes, floods create a huge problem because they are not very controlled. By their very nature, they sweep up far too much and bring into the system that which is not intended to be in it, including an awful lot of fertilizer and an awful lot of other stuff as well that will impair the quality of the water.

So floods are not helpful, although they are helpful when raising the water level. Witness what was happening in the Muskoka areas in this past 12 months. The levels of Lake Huron are today substantially higher than what they were and what they would normally be expected to be at this point in time. There's been an improvement.

The Chair: Thank you, Mr. Scarpaleggia.

We're going to move to the last round and to Mr. Bevington.

Mr. Dennis Bevington: Thanks, Mr. Chair.

Mr. Walker, I don't know if you have perfect recollection of the question I asked, but I'll let you go ahead with it. Then I'll redirect you as we go along.

Mr. Gordon W. Walker: I think what you're trying to say is that with the advent of climate change, and perhaps the temperature rise, two degrees would be substantial. I think probably in the last 30 or 40 years, there's been an increase of about one degree, or three-quarters of one degree, on surface water.

This is an area we intend to focus on in stage two of our LEEP, our Lake Erie plan. We'll be assessing that and we'll be focusing on that very question.

Mr. Dennis Bevington: I was more interested, actually, in your modelling approach to cumulative impact assessment. Are you doing cumulative impact assessment?

Mr. Gordon W. Walker: We are doing something called our SPARROW model. Don't ask me to tell you exactly what SPARROW stands for. In essence, it's a measurement that links water quality with the historic data of the water flow and the nutrient loading to be better able to estimate the cumulative effects of the various inputs into the lake, including, of course, the question of climate change and all that circles around climate change.

Mr. Dennis Bevington: You'd have a model, and you've developed a model that—

Mr. Gordon W. Walker: We are developing models with—

Mr. Dennis Bevington: Now?

Mr. Gordon W. Walker: Yes. When I say “we are”—

Mr. Dennis Bevington: The scientists who are working—

Mr. Gordon W. Walker: —that's Environment Canada's scientists and the EPA, Environmental Protection Agency in the United States, are involved in this, and of course the corps of engineers. But developing the model—

Mr. Dennis Bevington: So it's only just now.

I was familiar with that process in the nineties when I sat on the northern river basins study. We developed models to look at these cumulative impacts on river reaches.

Are you just going into that work now?

Mr. Gordon W. Walker: No. Modelling has been going on for years, but better and better modelling is our key initiative.

We now have to appreciate.... For instance, the climate change issue is something that probably has been fully recognized in the past dozen years and probably was paid little attention to prior to maybe the middle nineties or the end of the nineties. Now, of course, it's been exacerbated, so better and better models are coming into service.

Mr. Dennis Bevington: What I'm looking at is this. Are you going to be in a position to prejudge the impacts of the changing climate on the Great Lakes? Are you going to be able to prejudge the impacts of a greater population density along these tributaries on the Great Lakes? Is that the direction we're going, so you can actually start making moves before the problems occur?

Mr. Gordon W. Walker: Yes, I'd like to think that. It's also a bit like forecasting the weather. Sometimes the best thing we can use is the *Farmers' Almanac*.

We can develop the models, but again, it's a model and not the actual. Our best evidence, invariably, has been whatever the previous year was, or the years before. But in terms of models, they come out our ears. We have lots of models, and I would say they're getting more and more refined.

● (1630)

Mr. Dennis Bevington: The alternative might be the precautionary principle. If you don't know what's going to happen to it, don't let it happen.

Mr. Gordon W. Walker: Yes, that's right. I can't improve on that.

Mr. Dennis Bevington: You can't disagree with that.

Are you moving forward in those directions that are going to give us some surety that you're looking to the future and not just to the present, in terms of what is going on in those lake basins?

Mr. Gordon W. Walker: The answer to that is yes. I'd be glad to drop you a line that gives you a more detailed explanation of where we're going with it. It's very scientific. I'd like to have the scientists around our shop weigh in a bit on it.

Certainly we can demonstrate for you that we understand the problem, that we know what you're saying, and that we're doing something about it. We can show you what we're doing, and we can show you what others are doing, as well. I'd be glad to see that it gets to you.

The Chair: On that note, Mr. Walker, if you'd commit to following up with some scientific information for Mr. Bevington that would answer the question he's raised today, that would be very helpful.

Mr. Gordon W. Walker: Yes.

The Chair: Thank you.

On that note, we've concluded our first hour of witness testimony. We're going to adjourn for a minute or two to allow our witnesses to leave.

Thank you, Mr. Lambe, for appearing from Washington, D.C. Your information has been very helpful.

● (1630)

(Pause)

● (1630)

The Chair: I'd like to call the meeting back to order.

We welcome as witnesses Mr. Joe Farwell, chief administrative officer, appearing from the Grand River Conservation Authority, and from the Chiefs of Ontario, Chief April Adams-Phillips and Mr. Jim Ransom.

We'll give each of the groups a 10-minute opening statement. We'll begin with Mr. Farwell, followed by Chief April Adams-Phillips, each for a 10-minute opening statement.

Mr. Farwell, welcome.

Mr. Joe Farwell (Chief Administrative Officer, Grand River Conservation Authority): Good afternoon, and thank you.

As you said, my name is Joe Farwell. I'm the chief administrative officer for the Grand River Conservation Authority and I'm really pleased to have the opportunity to provide input to this study on water quality in the Great Lakes Basin.

The Grand River Conservation Authority is one of 36 conservation authorities in Ontario that manage water, forests, and other natural resources in some of the most populated parts of the province. We are by our very definition a partnership of municipalities in a watershed for the management of water and natural resources across municipal boundaries.

Our watershed is located immediately to the west of the Greater Toronto Area, and at 6,800 square kilometres it's the largest watershed in southern Ontario. It's about the same size as Prince Edward Island.

The Grand River runs 300 kilometres, roughly north to south, and drains into the eastern basin of Lake Erie. There are 39 municipalities in our watershed, with a population of close to one million people. It's also one of the richest farming areas in Canada, with farmers working 70% of the land, producing a very wide variety of products.

I'm pleased to see the three questions that you have asked. l'II speak to them in turn.

When we talk about identifying locations within the Great Lakes Basin that are of environmental concern and about the prioritization of areas to be addressed, we at the Grand River authority immediately think of watersheds that drain into the lake. The conservation authorities were created first and foremost as water management agencies.

Very early in our history, we learned that managing water also means protecting the land. The health of the river and the Great Lakes is directly related to how we treat the land that drains into them. One big part of our success over the years has been that we have adopted an integrated, watershed-wide approach to managing natural resources, both land and water. Through partnerships with watershed farmers, municipalities, the province, and the federal government, great gains have been made in the quality of the Grand River. But there is still much work to be done.

In addition to identifying specific points in the Great Lakes that need special attention, I would encourage the federal government to continue to support the work of agencies that work directly with landowners who manage those lands that drain into the Great Lakes. I would urge you to pay special attention to what is happening in the lands that drain into the lakes.

There are many efforts currently under way to remediate the identifiable areas of environmental concern. The way we treat our land affects the quality of our water. We have recently completed a draft water management plan for the Grand River watershed. The plan addresses the issues of water quality, water quantity, and flood control, and the way these matters are impacted by our growing population and by climate change.

Working with many partners, we have identified several best practices in priority sub-watersheds. These practices include programs to promote cover crops and nutrient management plans in areas with intensive agricultural production.

We've been very fortunate in the Grand to have municipal support to provide financial incentives to farmers to encourage these practices. We've worked closely with operators of waste water treatment plants to build a community of practice that encourages optimization of waste water plants to achieve higher-quality effluent.

In addition, our plan highlights best practices for rural and urban stormwater management. It considers both practices and the physical infrastructure used to manage storm runoff. The water management plan was developed over a four-year period, in cooperation with those people who will implement the required actions. By developing the plan in this way, the partners have created a real spirit of cooperation and a willingness to take action.

Environment Canada has been a strong supporter in the development of the water management plan. The Grand River has a significant impact upon the eastern basin of Lake Erie. We need continuing federal support to implement actions at the ground level. There are a number of specific things the federal government can do to support the water management plan.

We would appreciate help from the federal government to continue working with the Grand River Conservation Authority on our working groups and our committees; to continue with the development of the science required to manage the Great Lakes, including developing nutrient targets and improving water quality and land use models; and assisting with funding the implementation of rural and urban best practices to improve water quality.

With respect to the question of recommending best practices that will facilitate the further remediation of areas of environmental concern within the Great Lakes Basin, again I would like to focus my comments on the watersheds.

It is anticipated that the Grand will be highlighted in the Canada-Ontario agreement as a priority area to address nutrient issues identified in annex 4 of the Great Lakes Water Quality Agreement. The water quality in the Grand River affects the near shore of the eastern basin of Lake Erie and can promote nuisance weed growth along the shoreline.

● (1635)

This weed growth impacts not only upon the quality of the recreation we've come to enjoy along the shoreline, but also the health of the aquatic ecosystem in the nearshore area. Again we see working with watershed landowners to enhance nutrient management practices and working with municipalities to optimize sewage treatment and stormwater management practices as key elements of a plan to improve water quality in Lake Erie.

We recognize that the lake's ecosystem has fundamentally changed with the introduction of such invasive species as zebra and quagga mussels and the round goby. Science is needed to understand this ecosystem shift. The federal government has a role in developing that science and any measures to reduce the impact of the invasive species on the lake's ecosystem.

The Grand River is recognized as a river with potential for enhancing Lake Erie's walleye stocks. Commercial and recreational walleye fisheries represent a large economic benefit to our communities. The water quality and lack of connectivity of the Grand River is currently a barrier to realizing some of these economic benefits.

In the Grand River watershed, we have an 80-year history of working at a local level to resolve matters that are important to all of us. Along with our watershed municipalities and the Province of Ontario, the federal government has played an important role over the years. We hope that long tradition continues.

When we look to the future, please remember that any discussion of water quality in the Great Lakes should start with a careful look at what's going on in the watershed that drains to them. By continuing to work together, I believe we can make a positive difference in the Great Lakes Basin.

I'll be pleased to respond to your questions after the other speakers.

Thank you.

● (1640)

The Chair: Thank you very much, Mr. Farwell. Thank you for keeping your comments well under the 10 minutes.

We move now to Chief April Adams-Phillips.

Welcome.

Chief April Adams-Phillips (Representative, Mohawk Council of Akwesasne and Chiefs of Ontario): Good evening. I'm Chief April Adams-Phillips from the Mohawk Council of Akwesasne.

The Mohawk Council of Akwesasne welcomes the opportunity to address the Standing Committee on Environment and Sustainable Development, and presents its comments on the water quality of the Great Lakes Basin.

It is important to note that the first nations have a historical and ongoing relationship with the waters of the Great Lakes Basin and can provide an important perspective for this committee's consideration. As such, in making these comments, the Mohawk Council of Akwesasne supports the written submission of the Chiefs of Ontario in response to the questions posed by the committee on the Great Lakes Basin.

Akwesasne is geographically in a unique location within the Great Lakes Basin and along the St. Lawrence River in particular. As a first nation community we are located in the southeastern part of Ontario, southwestern part of Quebec, and in northern New York state. Population-wise, we are one of the largest first nations in Canada with membership over 12,000, and an on-reserve population of over 10,000. We have had a presence along the St. Lawrence River for thousands of years.

The environment program within our Department of Tehotiennawakon was created almost 40 years ago and is one of the most mature and experienced environmental programs among the first nations in Canada. Today it's managed by a staff of seven, including three environmental assessment officers, one science officer, one environmental educator, one forestry technician, and a manager. The environment program was established to help the community deal with the multitude of environmental impacts arising from the industrial development along the St. Lawrence River.

The St. Lawrence River at Akwesasne is one of 43 areas of concern in the Great Lakes Basin, primarily due to mercury and polychlorinated biphenyl, PCB, and other contaminants of concern in the water, sediments, and fish. We have been actively involved in the development of the remedial action plans, one American and one Canadian, that have been developed for the St. Lawrence area of concern. In the process, our environment program staff have developed strong relationships with Environment Canada in both the Ontario and Quebec regions, the Ontario Ministry of the Environment, the Ministry of Natural Resources, and with local conservation authorities in Raisin Region and South Nation.

In terms of identifying locations of environmental concern, we remain concerned about the health of the St. Lawrence River at Akwesasne. While the past 25 years have seen tremendous changes in the environment of the river with the cleanup of numerous hazardous waste sites and the closing of a number of industries that have been a major source of the pollution of the river, no substantive studies have been undertaken to verify that the contaminant levels in the fish, sediments, and plants in and along the river would support the delisting of the St. Lawrence River area of concern.

The fishery of the Great Lakes Basin is reliant on water quality and quantity. As water temperatures increase and water levels decrease, it places the fishery at risk, including the commercial fishery, recreational fishery, and the aboriginal fishery. Historically, the aboriginal fishery has received the least financial support from the Government of Canada in terms of allocating resources to protect it. In fact, since the termination of the aboriginal inland habitat program in 2012, no funds have been available from the federal government to protect or restore local first nation fisheries.

In July 2013, we hosted the International Joint Commission as they were holding hearings related to regulating water levels in the Great Lakes and St. Lawrence River. While council expressed support for efforts to mimic natural flows in the river, environmental concerns remain regarding shoreline erosion and the role ships in the St. Lawrence Seaway contribute to this ongoing environmental problem.

We have submitted a funding proposal to Aboriginal Affairs and Northern Development Canada to develop our own water law and regulatory framework. We understand the drinking water regulatory void faced by first nations as the setting of water standards is a provincial responsibility, and first nations are exempt from those standards. We have been working to be proactive in creating our own water law and regulatory framework, and have been trying to work with Canada in piloting a first nation initiative in this area.

● (1645)

Finally, the impacts of climate change represent one of the greatest challenges facing water quality in the Great Lakes Basin going forward. Extreme weather events and rising water temperatures in particular are a growing concern and have the potential to change the flora and fauna in the basin. It will also continue to contribute to lowering the water levels throughout the basin. Because of our long-term presence throughout the Great Lakes Basin, first nations can contribute positively to this discussion, if given the opportunity.

On prioritization, the impacts of climate change are fast and are becoming the greatest environmental threat to water quality within the Great Lakes Basin. First nations can play a critical role in this monitoring. Creating a first nations water law and regulatory framework is a proactive and responsible endeavour that Canada should support. Evaluating whether levels of contaminants in fish, sediments, and waters have lessened with the cleanup of many hazardous waste sites and the closing of many industrial plants, the source of contaminants, will be key to the delisting of many areas of concern. Improving the fishery of the Great Lakes Basin is important to commercial, recreational, and aboriginal interests. First nations can play an important role in protecting all three interests, but will need financial resources to participate.

Remediation efforts in the Great Lakes Basin represent a challenge for all involved in ensuring a healthy and productive basin. Continuing budget cuts to federal and provincial environmental agencies responsible for water quality in the Great Lakes Basin requires great cooperation and partnerships among basin interests, including first nations.

We have to continue to partner with others with an interest in the Great Lakes Basin, particularly the St. Lawrence River. Respectful and cooperative relationships have been developed, based on focusing on common interests of a healthy river for all. Our environment program is undertaking a three-year species at risk project in partnership with the Ontario and Quebec regions of Environment Canada and in partnership with Ontario Power Generation. The project is focusing on a critical habitat for five turtle species, two bird species, and one frog species in the St. Lawrence River.

We have been coordinating our efforts in creating a first nations water law and regulatory framework with both the Provinces of Ontario and Quebec and with the federal government. It has obtained letters of support from the respective provincial environmental agencies and we continue to pursue the project with Aboriginal Affairs and Northern Development Canada.

We have developed a relationship with the Department of Fisheries and Oceans. We have hosted meetings with representatives from the department and other first nations and developed a paper on the importance of sturgeon to the aboriginal fisheries for the department's consideration.

We have been an active participant in the development of Ontario's proposed Great Lakes protection act and have advocated for many of the changes to the proposed legislation that recognize and support first nations involvement in the protection of the Great Lakes. We have also been active in supporting the inclusion of a first nations' annex to the Canada-Ontario Agreement Respecting the Great Lakes Basin that will lead to greater engagement of first nations in basin issues based on the principles of respect and cooperation.

On recommendations for best practices, the strength of our environment program is its ability to integrate a culturally based approach with western science in addressing the environmental challenges facing the Great Lakes Basin. Respectful and cooperative relationships are the key to moving forward together in ensuring a healthy Great Lakes Basin for all.

On a local level, our environment program has developed a culturally based environmental assessment process that meets and exceeds the requirements of the Canadian Environmental Assessment Act. It has been used in conducting a harmonized environmental assessment for the Three Nations Bridge Crossing with the Federal Bridge Corporation. It is used in conducting environmental assessments of all projects in Akwesasne.

Within the province of Ontario, the changes to the proposed Great Lakes Protection Act embody how first nations can be meaningfully engaged in efforts to protect the Great Lakes for all people. They include: one, the acknowledgement of existing aboriginal and treaty rights of the aboriginal peoples of Canada as recognized and affirmed in section 35 of the Constitution Act, 1982; two, invited participation of aboriginal peoples on the proposed Great Lakes guardians' council; three, opportunity for first nations participation in geographic area initiatives; and four, recognition of traditional ecological knowledge as a tool to assist in implementing the act.

● (1650)

The inclusion of a first nations annex in the Canada-Ontario agreement will strengthen the relationship between first nations, the province, and Canada, built around a common interest in protecting the Great Lakes for all peoples.

In this time of fiscal restraint and government cutbacks, engaging first nations in a respectful and cooperative way represents the best approach to the protection of the Great Lakes.

The Chair: Thank you very much Ms. Adams-Phillips.

We will move now to a seven-minute round of questions. We will begin with Mr. Woodworth from the Conservatives.

Mr. Stephen Woodworth (Kitchener Centre, CPC): Thank you very much, Mr. Chair, and my thanks to the witnesses for their evidence today.

Before I begin with the witnesses, I want to mention, Mr. Chair, that there was a comment earlier from one of the members to the effect that the government had not put any money into the budget, currently before the House, for wetlands. That comment, unfortunately, is ill-informed. I want to quote from Ducks Unlimited in relation to the budget to set the record straight. They said:

> We're pleased that the Government of Canada is continuing its investment in aquatic habitat.... Wetlands are critical habitat to many of our fish and wildlife resources and this partnership program directly supports habitat restoration and enhancement—efforts that play a critical role in supporting healthy fish stocks and waterfowl populations in Canada.

Ducks Unlimited, of course, is one of the premier conservation groups in Canada. I was pleased that they had high praise for the budget and the partnership that was mentioned in the budget. I just wanted to set the record straight on that.

Next I would like to say how much I appreciated Chief Adams-Phillips' comments. To be honest, I was very pleasantly surprised at the detail of the very exciting and hopeful optimistic collaborations that you are describing. I wish I had more time than I do, so that I could ask you about them, but I'll ask you to forgive me because Mr. Farwell is from my backyard.

The Grand River is my home, so I need to direct my questions, or many of them, to him. If I have a chance, I may come back to you, but I really did appreciate your comments.

Mr. Farwell, particularly welcome to you from the Grand River and the Kitchener-Waterloo area. I have a very high regard for your efforts and the efforts of GRCA as you know. I am very glad to have you here today to hear about them.

In particular, I'll start with some questions around the water management plan that you have referred to in your remarks. You mentioned that Environment Canada has been a strong supporter in the development of the water management plan. I wonder if you could tell us what contribution, funding, or other resources Environment Canada has made to the development of that water management plan.

● (1655)

Mr. Joe Farwell: Thank you, Mr. Chair. Through you, over the past four years Environment Canada has directly contributed $90,000 in funding to the water management plan, which was certainly appreciated. Just as appreciated was a really strong staff contribution in our steering committees and our committees' working groups to actually develop this plan. Having that federal perspective at the table, because of the impact of the Grand River on Lake Erie, has been a really important contribution from Environment Canada.

Mr. Stephen Woodworth: I also have the impression from our last witness—and you don't have to answer this if you can't—that the Government of Canada has recently put an amount of $16 million forward for the monitoring of phosphorus in Lake Erie.

Do you know anything about that at all that would relate to your work?

Mr. Joe Farwell: I don't know any specific details, but I am encouraged to hear that though.

Mr. Stephen Woodworth: I gather the water management plan that you've worked on is directed toward, in good measure, nutrient management. I'm thinking that refers to farmers and agricultural practices, and the problem of phosphorus that we have been hearing about.

Could you describe some details about how a nutrient management plan would work as developed by your agency?

Mr. Joe Farwell: Certainly. Through you, Mr. Chair, a nutrient management plan is just what it sounds like. It's a management plan that matches a crops nutrient requirements with the amount that the farmer puts on the field or applies. The intent is to leave little phosphorous to runoff and little nitrogen to soak down into the groundwater.

The plan really starts with soil tests to understand the amount of nutrient in the soil, examination of how much nutrient a crop needs, and then really some precision application. Farming has become a very precision profession and the tools are available to really precisely apply the right amount of nutrients to the right portions of the field. It's really about getting the nutrients where they need to be, when they need to be there.

Mr. Stephen Woodworth: I understand that this reduces the runoff into the ground and therefore ultimately into Lake Erie.

Mr. Joe Farwell: Absolutely. That's correct.

Mr. Stephen Woodworth: Do you have the opportunity, by the way, to share those kinds of expertise and practices with our American cousins? We were told that the Maumee River, in particular, is also a problem area for phosphorous runoff.

Mr. Joe Farwell: Thank you.

Certainly, we just recently had some seats on some of the annex committees—the Grand River Conservation Authority directly and Conservation Ontario under the Great Lakes agreement—to actually participate with some of the larger initiatives around the Great Lakes Basin. I'm not familiar with all of the committee structure yet, but we're at the table, finally.

Mr. Stephen Woodworth: Very good. I appreciate that.

I also want to ask you a little bit about the issue of nuisance weed growth, because I don't really understand the implications of it. I don't know how far along the lake that occurs, and I don't know how it relates to your water management plan. I wondered if you could give us more detail about that.

Mr. Joe Farwell: Certainly. It's estimated that the Grand has the potential to create a plume that runs about 12 kilometres along the shoreline. Depending on which way the wind is blowing and how the drift is going along the shoreline, it can go east or west, but it's a fairly extensive plume. It's really in the nearshore area. Once it's into the deep water, the weeds don't necessarily have the sunshine and the warmth to proliferate. It's really in that nearshore zone. The high weed growth is a result of the high nutrient levels in that plume.

Mr. Stephen Woodworth: What does that do to the water quality or the health of the lake?

Mr. Joe Farwell: The weeds consume oxygen at certain times of the day and reduce the oxygen levels. Certainly, it changes the whole aquatic ecosystem in and around that area. Less available oxygen always results in a different system.

The Chair: We'll have to come back to that in another round, perhaps, if we have time.

We're going to move now to Monsieur Choquette.

[*Translation*]

Mr. François Choquette: Thank you, Mr. Chair.

I want to thank the witnesses for joining us today. My questions will be for Chief Adams-Phillips.

Our research has shown us that mercury in fish is a problem. That is also one of your concerns.

What measures do you think the government could take to remedy this situation and ensure that the mercury issue is handled?

● (1700)

[*English*]

The Chair: Madam Phillips or...?

Mr. Jim Ransom (Director, Tehotiiennawakon, Mohawk Council of Akwesasne, and Representative, Chiefs of Ontario): If I may, I'll answer that for her. The mercury levels in our area are from historical discharges, mainly from a Domtar pulp and paper mill that has since closed.

What we're seeing is that the mercury levels immediately adjacent to our community are dropping over time, but it also seems that the sediment is resuspending and moving further downriver into the Quebec portion towards Montreal. We don't know how much of it is redepositing further downstream versus, in our area, being covered up by other, cleaner sediments. In our remarks, we said that one of the things that would be helpful is to do a follow-up study of contaminant levels in fish, sediments, and plants.

[*Translation*]

Mr. François Choquette: Thank you very much.

Let's continue in the same vein. As you know, we have an agreement between Canada and the United States. The agreement between Canada and Ontario is currently being negotiated. Do you think first nations are well represented in those negotiations? Are their demands and needs being taken into account?

Earlier, you talked about fishing and first nations. You said that assistance for fishing was no longer being provided. Do you think your presence is being respected in agreements such as the one concluded between Canada and the United States concerning the Great Lakes or the agreement between Canada and Ontario, which is being negotiated? Do you feel that you are being listened to and that your recommendations are being taken into consideration?

[*English*]

Mr. Jim Ransom: Yes, historically it's been a problem in regard to first nations participation, whether it's been through the Great Lakes Water Quality Agreement, or in particular, with the Canada-Ontario agreement. We think that collectively we're making some headway in getting more representation throughout both initiatives.

In particular, there's discussion right now for a first nations annex to the Canada-Ontario agreement that would allow for the engagement of first nations in all of the annexes within the Canada-Ontario agreement in a respectful and cooperative fashion. It's something that we've been asking for over the years, and it now appears that it's going to occur.

I can say, in terms of the International Joint Commission, we have two first nations people who have been nominated to two of the boards. Henry Lickers, who's our science officer for the Mohawk Council of Akwesasne, has been nominated to the science board, and Dean Jacobs, from Walpole Island, has been nominated to the water quality board. I think in both cases we'll have opportunities for representation.

Outside of that context, right now Ontario, and the Ontario Ministry of the Environment, has been leading the way in trying to find ways to increase first nations participation.

[*Translation*]

Mr. François Choquette: Thank you very much.

You talked a lot about the quality of fish habitat, temperature and water levels. Do you have any specific recommendations on fishing when it comes to first nations? Is first nations fishing different from commercial fishing? Do you have any recommendations on fish habitat protection?

[*English*]

Mr. Jim Ransom: Right now we think it's very important to put in place some monitoring programs, not just for first nations but throughout the Great Lakes Basin. There needs to be much improved monitoring of water temperatures around the basin to track the temperature increases as they occur, and then to start correlating those with studies to see how they're affecting fish populations. In warmer temperatures certain fish species will not be able to spawn and will die out. We need to be ahead of the game and looking out for those fish interests.

Then in terms of climate change, we need to look at areas in the United States, because their temperatures today will be Canada's temperatures tomorrow. So what can we learn from their habitats right now as they're being managed? What species can we expect to migrate north—animal, fish, and plant species?

● (1705)

[*Translation*]

Mr. François Choquette: Thank you very much.

Unfortunately, according to supplementary estimates (C) 2013-14, over $37 million will be cut from the budget for cleaning up contaminated sites. However, environmental liabilities such as those in the Great Lakes have to be handled. Therefore, I move the following motion:

> That the Committee invite the Honourable Leona Aglukkaq, Minister of the Environment, to appear before the Committee on the Supplementary Estimates (C) 2013-14 before Thursday, March 6, 2014, and that this meeting be televised.

Of course, we can choose a date that will be convenient for the minister.

[*English*]

Mr. Colin Carrie: Mr. Chair, I move that we go in camera so we can discuss committee business.

The Chair: We have a motion to move in camera to discuss committee business.

[*Translation*]

Mr. François Choquette: I call for a recorded division.

[*English*]

The Chair: A recorded vote has been requested.

(Motion agreed to: yeas 5; nays 4)

The Chair: We'll ask our witnesses and anyone else in the room who's not part of the committee to recess for, hopefully, a very short time. We hope to get back to you, considering the fact that you've come all this way to appear as witnesses.

I'm going to suspend for 30 seconds.

[*Proceedings continue in camera*]

● (1705)

(Pause)

● (1705)

[*Public proceedings resume*]

The Chair: Mr. Woodworth, you have seven minutes, please.

Mr. Stephen Woodworth: Thank you very much. I'll return to Mr. Farwell if I may and just ask a little bit about the issue of waste water treatment plants.

Some of the terminology that you use I'm not familiar with, so I'll have to ask you to slow it down a little bit for me. One of the terms that I wondered about was "optimization" of waste water treatment plants. What did you mean by that?

Mr. Joe Farwell: Optimization is really building a community of practice among actual waste water treatment plant operators. They actually tweak their systems to get them to maximize the extraction of nutrients and harmful things from the sewage stream and create a better quality of practice. What it results in is really the deferral or possibly even cancelling of major capital upgrades and just working the plants to their fullest possible capacity rather than just putting more dollars into building more capacity. So it's really a process that we work with.

There's a pilot under way in the Grand River watershed where we're working with specific treatment plant operators to improve their plants.

● (1710)

Mr. Stephen Woodworth: My recall was that the Government of Canada had put some money into the Waterloo region waste water treatment plant in either the past year or the year before and that there were upgrades being made. Are you familiar with any of that?

Mr. Joe Farwell: I'm not familiar with the funding arrangement but I am familiar that the Region of Waterloo has gone through and is in the middle of some very major upgrades to the treatment plants. We expect to see some significant gains in water quality in the Grand as a result.

Mr. Stephen Woodworth: Would the Region of Waterloo be one of the more populated or heavier depositors through waste water into the Grand or not?

Mr. Joe Farwell: It is the most populated municipality in the watershed. It is close to half the population of the Grand River watershed. So what the region does with their treatment plants is really important to the quality of the Grand.

Mr. Stephen Woodworth: Thank you.

I do have one other question to try to understand something from your comments, Mr. Farwell. There was a reference to the lack of connectivity in the Grand River and that was in fact a barrier to realizing the potential economic benefit of fisheries. I wondered if you could just expand on that a little bit. What do you mean by lack of connectivity? What might be done about it? How can the Government of Canada contribute?

Mr. Joe Farwell: The lack of connectivity in the Grand is a direct result of a small dam. There are a number of small dams on the Grand. These dams were put in possibly 100 to 150 years ago. Some of them are very old. Our communities are built up around them. They were used to power mills and sawmills, so they were an important part of the history of our communities. In this case there's a dam about seven kilometres upstream from the lake that is a barrier to walleye movement. There is a fishway in place and it will move certain species of fish but it's been a challenge to get walleye to move through that.

Canada has traditionally housed the experts in fishways through the Department of Fisheries and Oceans. Certainly they can help us with the science to understand how we can improve our fishway to move fish up through that system more effectively. Trout are relatively easy to get over a fishway because they can jump. Walleye actually swim through fishways, so it's a lot more difficult to get a fishway that moves walleye upstream. That's the connectivity piece.

Mr. Stephen Woodworth: Very good; thank you very much.

Chief Adams-Phillips, or perhaps Chief Ransom or whoever, I have a note—and I hope I got it right—that the Akwesasne have been actively involved in some of the remedial plans for the St. Lawrence. We often talk about these things in a vacuum around this table and I wondered if you could give me a description of one or two of the remedial plans that your community has been engaged in, what the timeframe was, and how it came out?

Mr. Jim Ransom: In regard to the remedial action plans, half of our battle was at the beginning. The St. Lawrence River is one river but you have two remedial action plans, one Canadian and one American, and it just didn't make sense to us. The fish don't recognize the border, the water doesn't recognize the border, but countries chose to recognize it. That just means you're doubling your effort in that way.

In regard to the remediation of the river, I think we've been working very closely with all parties involved. The biggest remediation activities have occurred on the American side of the river. Because of our involvement, we've helped to drive $500 million in environmental cleanups of hazardous waste sites, including removal of PCB-contaminated sediments from the river in front of industries and the cleanup of toxic waste dumps on the shorelines.

● (1715)

Mr. Stephen Woodworth: What was that amount again?

Mr. Jim Ransom: It was $500 million.

Mr. Stephen Woodworth: Who were the contributors to that $500 million? I assume it didn't all come from one pocket.

Mr. Jim Ransom: It was three plants in particular, including General Motors Central Foundry, which is now no longer there. They are currently remediating that site and have allocated $125 million to the site cleanup. It's not enough. They've discovered that the more they dig, the more contamination they find. That cleanup is going on right now.

There's also Reynolds Metals Company and Alcoa, two aluminum smelters; that's occurring. On the Canadian side, Domtar was the single biggest source of mercury. It's no longer there.

Mr. Stephen Woodworth: That $500 million, is that all private money then, or were there any government contributors?

Mr. Jim Ransom: It's all by the companies themselves, but it was mandated by U.S. federal environmental laws.

Mr. Stephen Woodworth: Are there any other kinds of remedial action plans that your community has helped to implement?

The Chair: Mr. Woodworth, I have to suspend there.

We have five minutes left, and I will now go to Mr. Bevington.

Mr. Dennis Bevington: Thank you, Mr. Chair.

Thank you to the witnesses.

I want to look just briefly at the Grand River. I've been looking at pictures of it. It's not a really large river. What's the rate of flow?

Mr. Joe Farwell: Mr. Chair, the annual flow is about 25 cubic metres per second. It ranges from a low of 10 to 12 through the Kitchener-Waterloo area, to an average of 60 sometimes in the springtime. But it's a relatively small river of about 25 to 35 cubic metres per second.

Mr. Dennis Bevington: So the winter low point is 10.

Mr. Joe Farwell: It will be around that right now, yes.

Mr. Dennis Bevington: Is there a significant difference there in the winter? Does it get covered with ice, and do you get this biological oxygen demand problem for your fish?

Mr. Joe Farwell: Right now the river is covered with ice. It does tend to create an ammonia problem as it moves downstream. The city of Brantford takes its water from the Grand River, and when it's entirely covered with ice it tends to cause an ammonia problem that requires changes in how they treat their drinking water.

I'm not a drinking water specialist, but I know that the ice cover does actually not allow the ammonia to escape and volatilize, or go off into the atmosphere. It does tend to be a bit of a problem in the winter.

Mr. Dennis Bevington: Do you measure for oxygen demand in a system?

Mr. Joe Farwell: We don't measure for oxygen demand. We measure oxygen, pH of the water, and temperature, but not specifically oxygen demand. That would be one of the things that municipalities would do through their sewage treatment plant upgrade studies.

Mr. Dennis Bevington: Historically, has the river flow rate increased, decreased, or remained constant?

Mr. Joe Farwell: It's been relatively constant over the last several decades. That's mostly as a result of the large dams in the watershed. The Grand is a very controlled river. It has three major reservoirs and four minor reservoirs that control the majority of the flow, so—

The Chair: The bells have started to ring. Do we have unanimous consent to allow Mr. Bevington to continue with the last two minutes of his questions, or do you want to adjourn?

Some hon. members: Agreed.

The Chair: Go ahead.

Mr. Joe Farwell: The Grand is a highly controlled river. The reservoirs actually are used to collect the spring runoff and discharge it over the summer so that there is sufficient water to dilute the effluent from the sewage treatment plants.

Mr. Dennis Bevington: Is the sediment loading that is behind these dams significant?

Mr. Joe Farwell: It's not particularly significant. We do actually open them up in the fall and discharge an awful lot from the bottom of the reservoirs. A lot of the sediment can pass through the system the way it naturally would.

Mr. Dennis Bevington: And in the spring you're holding the water back.

Mr. Joe Farwell: That's correct.

Mr. Dennis Bevington: So your spring freshet, is it not available for some of the wetlands in the region? That's usually a problem with control systems on rivers.

Mr. Joe Farwell: Yes, the spring freshet...certainly the reservoirs are used to control flooding, so some of the traditional flood plain areas that would have been spawning areas are no longer flooded every spring the way they would have been 200 years ago. I would say that the spring freshet is not as volatile. The reservoirs are used to control flooding so we don't flood as much of the flood plain each year.

● (1720)

Mr. Dennis Bevington: So the control mechanisms are not ecologically driven. In other words, you're not looking at impacts on the natural environment, you're looking at them as useful for man's environment. Is that correct?

Mr. Joe Farwell: That's been the traditional approach but we are starting to actually look at ecological flows through our water management plan and some of the things—

Mr. Dennis Bevington: How much resistance would there be to that type of approach?

Mr. Joe Farwell: We're not prepared to get into flooding out communities, but it's a conversation that we're having.

Mr. Dennis Bevington: Okay, thanks.

The Chair: We also had an agreement at our last meeting to go into some committee business at the end of our meeting but considering the bells are ringing and we have a number of witnesses lined up for the next number of meetings, I'm going to suggest that we postpone that committee business to finalize our witness list to Thursday.

Are all agreed?

Some hon. members: Agreed.

The Chair: Okay, meeting is adjourned.

Thank you very much to our witnesses for appearing today.