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Chair

Mr. Harold Albrecht

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● (0850)

[*English*]

The Chair (Mr. Harold Albrecht (Kitchener—Conestoga, CPC)): I'd like to call to order the Standing Committee on Environment and Sustainable Development. This is meeting number 55. Today, pursuant to Standing Order 108(2), we're studying the Canada Water Act annual report.

We have a number of witnesses with us today. From the Office of the Commissioner of the Environment and Sustainable Development, we have Julie Gelfand, commissioner; and Andrew Ferguson and James McKenzie, principals. From the Department of the Environment, we have John Moffet, director general; Geneviève Béchard, director general; Carolyne Blain, executive director; and executive director Darren Goetze. Did I pronounce that correctly?

Mr. Darren Goetze (Executive Director, Water Quality Monitoring and Surveillance, Department of the Environment): It's pretty close.

The Chair: My understanding is that we'll have two opening statements, one from John Moffet, director general, legislative and regulatory affairs at Environment Canada; and then one from Julie Gelfand, commissioner. We'll begin with Mr. Moffet.

Mr. Moffet, please give your 10-minute opening statement. Then we'll have Ms. Gelfand's opening statement and proceed to questions from the members.

Welcome.

[*Translation*]

Mr. John Moffet (Director General, Legislative and Regulatory Affairs, Department of the Environment): Thank you, Mr. Chair.

Good morning to all the committee members. We are pleased to be here.

[*English*]

We're very happy to be here.

I will take you briefly through a summary of the department's water-related activities, and then of course we'd be happy to answer questions on any of the topics. Before I start I'll just explain why I'm here with a number of colleagues.

Geneviève is from the meteorological services. Among many other things, including 100% accurate weather reports, they supervise most of our water monitoring activities, because of course they are closely related to the weather cycle. Any questions on water monitoring, Geneviève would be happy to answer.

Darren is from our science and technology branch. He has been heavily involved in reforming the department's water quality monitoring activities and oversees our water science activities. Therefore, he can answer questions on water quality monitoring and science.

Carolyne manages the pollution prevention provisions in the Fisheries Act, including three of the most significant regulations we have that address water quality related to metal mining, pulp and paper, and wastewater effluent.

In moving through the deck, I'll start with a point that I'm sure you've all been told over and over again, that environmental governance in Canada is shared. That is nowhere more true than with respect to water, where the responsibilities for water quality protection, water quantity monitoring, water allocation, and watershed protection are shared among all levels of government in Canada. Provinces, including the Yukon since 2003 and the Northwest Territories since last year, are the primary managers of most aspects of water, but the federal government has some direct responsibilities and implements a number of activities jointly with the provinces and territories.

The next slide lists a number of examples that I won't go into but that I'd be happy to answer questions about. They're examples of joint initiatives that we operate with one or more provinces and, in some cases of course, with our friends to the south.

The next slide, then—

The Chair: Just for clarification, is that page 4 or page 3?

Mr. John Moffet: I'm sorry; it was page 4.

With slide 5, you'll have to excuse me. I'm trained as a lawyer, so there has to be a legal slide in every deck I present—and a complicated legal slide, of course.

This is to illustrate the simple point that even within the federal government, responsibility for water management is shared widely among departments. Of course, the Department of Transport looks after many of the impacts on water from marine transportation. Aboriginal Affairs has direct responsibility over issues in the north and issues on reserves, for example. Agriculture Canada has a number of responsibilities. The Department of Natural Resources has extensive scientific and technological activities related to various aspects of the environment, including water. Then, even within the Department of the Environment we have numerous statutes in addition to the Canada Water Act that directly or indirectly address water, and I'll touch on some of them in the presentation

Slide 6 then gives you an overview of the types of activities we undertake, either alone or in partnership. We work on water quality in terms of both monitoring, basic science, and direct protection. We do a lot of monitoring of water quantity and science. We're also involved jointly with provinces and in some cases with the U.S. in directly managing water flow for rivers that flow either from one province to another or across the border. Through the Canadian environmental sustainability indicators we provide information to Canadians about water quantity and water quality.

The remaining slides provide a little more detail on each of those activities. If you look at slide 7, we provide an example of a couple of the freshwater quality indicators that the CESI—the Canadian environmental sustainability indicators program—generates.

The main observation about water quality in Canada is that water quality is generally fair to good, but of course there are risks that which we need to pay attention to and that need to be managed on an ongoing basis. Over the last decade we've seen a clear increase in the percentage of sites we monitor that are rated good or excellent, and we've seen a decline in sites that are rated poor or marginal. This is important both for ecosystem health and, of course, human health.

In terms of impacts on water quality, there is of course a variety of natural factors and many anthropogenic factors, in terms of urban impacts, industrial impacts, and agricultural impacts, that affect the quality of water in rivers and lakes, for example by increasing concentrations of nutrients, sediments, pesticides, toxic substances, pharmaceuticals, and just basic disruption of water flow.

Of course, there are specific indicators, but the main areas of concern would be the St. Lawrence, the Lake Winnipeg basin, and the Great Lakes as a whole, which have relatively high risks of water quality impairment due to human activities.

Slide 8 illustrates that we conduct water quality monitoring at more than 500 sites in Canada. Some of these sites we operate exclusively, but many we operate jointly with the provinces, based on memoranda of understanding that we have, currently with six provinces. Of course, the data is all available, and the goal is to provide data and analysis to inform decision makers not just at the federal government but at all levels of government, and also individual Canadians.

● (0855)

The next slide is a very brief overview of some of the department's activities to manage water pollution. Again I'd emphasize that the responsibility for managing water pollution is shared with the provinces, including the municipalities. To give a few examples, the Fisheries Act, which is primarily administered by the Department of Fisheries and Oceans, includes a provision that prohibits the deposit of what are called deleterious substances in waters frequented by fish. That is a long-standing and of course very powerful pollution prevention provision.

It works the opposite of the way most environmental statutes work. There's a prohibition in place, and then the prohibition is lifted by means of regulations. Whereas in most cases, of course, when we want to restrict something we impose a regulation, in this case the regulation lifts the prohibition and establishes standards. We have, as I mentioned earlier, a number of regulations, including regulations for effluent from metal mining, pulp and paper, and wastewater facilities.

The Migratory Birds Convention Act includes a very similar and similarly old prohibition on the deposit of deleterious substances in areas frequented by migratory birds. A few years ago you would have heard about a conviction of one of the oil sands companies related to one of its tailings ponds. That was a prosecution for a violation of this prohibition, in which the water was in such a condition that the migratory birds that landed on it were damaged. That's a little-known provision that we rely on fairly regularly.

Then, under the Canadian Environmental Protection Act we have a number of provisions and activities that directly affect and manage water quality. The oceans disposal provisions prohibit the dumping of waste at sea in almost every circumstance, other than a very small list of relatively inert substances, and even then only when the proponent can demonstrate that there's no better way to dispose of the substance.

We have numerous regulations that limit the toxic content of products or of emissions from industrial and commercial activities, many of which limit water pollution.

The authority to regulate nutrient content was originally in the Canada Water Act, but when the Canadian Environmental Protection Act was created in 1988, that authority was moved to CEPA.

Then, of course, we have authority to require emergency planning —

I apologize; I've taken a little longer than expected.

● (0900)

The Chair: We'll give you one minute to wrap up.

Mr. John Moffet: We also conduct a number of extensive water quantity monitoring activities. As shown in slides 10 and 12, we have about 2,800 sites that measure water levels and stream flow. About half of those provide data in real time. The indicator on slide 10 refers to water quantity in terms of normal, which is a reflection—and I'll let Geneviève provide more detail, if you're interested—essentially, as I understand it, of average flows between 1981 and 2010. In other words, if there's a significant variation, then we would describe it as low, or if it's higher, then it's high. So there's no standard that you look for; it's more looking to see whether there is a big change.

I've referred to the boards that we operate in conjunction with the provinces and the United States—the provinces through MOUs, and the United States through the Boundary Waters Treaty, which is the foundation statute for the International Joint Commission. The IJC boards are illustrated on slide 15, and we can provide more detail on those, if you're interested.

The final point I'll make is the one on slide 17, that all of this work is underpinned by an extensive research program that is undertaken at Environment Canada but also undertaken collaboratively with the academic community and with provinces and territories and with colleagues in the United States.

The Chair: Thank you very much, Mr. Moffet.

We'll move now to Ms. Julie Gelfand, Commissioner of the Environment and Sustainable Development.

Welcome, Julie.

[*Translation*]

Ms. Julie Gelfand (Commissioner, Office of the Commissioner of the Environment and Sustainable Development): Mr. Chair, thank you for this opportunity to contribute to your committee's review of the Canada Water Act annual report for April 2013 to March 2014. Joining me today are Jim McKenzie and Andrew Ferguson, principals with our office.

Fresh water is essential to the health of ecosystems, and in turn, to the well-being of Canadians, who count on fresh water for just about every aspect of their lives. Fresh water also plays an important role in economic and industrial activities in Canada, from the production of goods and services, to recreation and tourism.

But Canada faces water management challenges. The quality and quantity of its water resources are under pressure from a range of sources, including urban runoff and sewage, agriculture, and industrial activities. Other long-term threats include population growth, economic development, climate change and scarce supplies of fresh water in certain parts of the country.

In 2010, we examined Environment Canada's management of national programs to monitor water quality and quantity—some of the programs underlying the report being considered by this committee. At that time, we found that Environment Canada was not adequately monitoring Canada's surface water resources. We have not assessed the progress the department has made since 2010 and so cannot comment on any development or improvements in Environment Canada's fresh water monitoring program that may have occurred since our audit.

In 2010, we found that Environment Canada had not defined the extent of its water monitoring responsibilities, particularly on federal lands such as First Nations reserves, Canadian Forces bases, national parks and national wildlife areas.

We also found that the department had not located its monitoring stations based on an assessment of risks to water quality and quantity. In its 2012-13 Canada Water Act annual report, Environment Canada did indicate that it had implemented a risk-based approach in response to our recommendations. However, we are not able to provide assurance to the committee, as we have not done a follow-up audit on this topic.

We also found that from 2004 to 2009, Environment Canada had not submitted annual reports to Parliament as required under the Canada Water Act. We note that in the past few years, this reporting has improved.

● (0905)

[*English*]

I would now like to discuss the recent findings from our fall 2014 audit of the joint Canada-Alberta implementation plan for oil sands monitoring, another topic that's covered in the 2013-14 Canada Water Act annual report.

ln 2010 and 2011, the governments of Canada and Alberta commissioned independent reviews of the adequacy of oil sands monitoring, prompted by growing concerns about the environmental impacts of the oil sands. The reviews identified significant shortcomings in oil sands monitoring, including the monitoring of water quality. ln early 2012, the governments of Canada and Alberta committed to establishing a joint monitoring program for the oil sands and released the joint Canada-Alberta implementation plan for oil sands monitoring what many people call the JOSM.

ln the audit we reported on in the fall of 2014, we examined whether Environment Canada had implemented its responsibilities under the joint plan according to established timelines and budgets and the objectives and approaches set out in the plan. At that time we found that 60% of Environment Canada's expenditures were allocated for water monitoring projects under the joint plan. The work plans related to monitoring of air, water, and biodiversity identified Environment Canada's responsibilities and included budgets and timelines for deliverables. This is important.

ln light of the complexity and costs associated with establishing a comprehensive monitoring program for the oil sands, concrete work plans make it more likely that the program will achieve its objectives. At that time, we examined nine monitoring projects in detail, including three water monitoring projects led by Environment Canada, and found that most were being implemented according to schedule.

Integrating the information resulting from the separate monitoring of activities across air, water, and biodiversity is also important for ensuring the most complete picture of environmental effects possible. We found that Environment Canada was taking initial steps to integrate the results of monitoring information for two substances: polycyclic aromatic hydrocarbons and mercury. We also found, however, that further efforts were needed to meet commitments to engage stakeholders, including first nations and Métis, and to incorporate traditional ecological knowledge into Environment Canada's monitoring activities. We also found that the department's role in oil sands monitoring post-March 2015 was unclear.

ln my view, these findings from our work on oil sands monitoring highlight the importance of well-designed water monitoring systems. ln a 2011 study report, we examined some of the key characteristics of good environmental monitoring systems and noted some questions that the members of this committee may wish to consider and pose to the other witnesses. The questions include the following.

What monitoring is required to determine whether environmental legislation is working as intended? Is that monitoring in place? What environmental components or geographic regions are not being monitored now? What are the consequences of these gaps? What steps have been taken to ensure accountability, independence, and the continuity of funding for monitoring systems? Finally, how does Environment Canada know if the monitoring data is meeting user needs?

Mr. Chair, this concludes my opening remarks. We would be pleased to answer any questions the committee may have.

Thank you. Merci.

● (0910)

The Chair: Thank you very much, Ms. Gelfand.

We'll move now to our opening round of questions, and I would ask our committee members to please identify who you are asking your question of, and I will facilitate timely responses.

We'll begin with Mr. Carrie for seven minutes.

Mr. Colin Carrie (Oshawa, CPC): Thank you very much, Mr. Chair.

I think I'll start off with Mr. Moffet and take up on what the environment commissioner mentioned about current legislation.

How has the implementation of the Canada Water Act assisted the Department of the Environment in responding to pressing ecological concerns and in being more proactive in targeting potential future issues?

My secondary question is, are there any gaps in the current legislation that may need to be addressed in the future to further allow the department to deal effectively with those challenges that are not addressed by the Canada Water Act?

The Chair: Mr. Moffet, feel free to direct the question to one of your officials if that's helpful.

Mr. John Moffet: Well, I'll provide a preliminary answer, and if my colleagues want to jump in or kick me, I'm sure we'll find out.

Let me just step back a bit and explain that the Canada Water Act provides us with broad authority to undertake research and monitoring, either on our own or—and importantly, jointly—with the provinces, both on water quality and on water monitoring.

So I think I would answer the question by going to the final slide that I presented. That is to say that all of our work on water is underpinned by research and monitoring. Perhaps more importantly, the research and monitoring that we do is intended not just to inform interventions by the Government of Canada but to inform decision making by all levels of government. The Canada Water Act provides us with legislative authority that we need in order to generate real-time data and trend data with respect to water quality and water monitoring.

It, together with the Canadian Environmental Protection Act and the Department of the Environment Act, provides us with broad authority to undertake a wide range of research; to improve our ability to undertake monitoring; to improve our ability to understand what's happening in the water; and to share that information with our regulatory colleagues within the department, but also with decision-makers at other levels of government who intervene in protecting and making decisions about water flow and water quality.

That's a broad answer, hopefully on point with respect to the authorities under the Canada Water Act.

Your question about legislative authority is a much broader question. I would assert that we have extensive authority to undertake scientific activities and monitoring on a range of water-related activities. The more difficult question has to do with the allocation of responsibilities for directly intervening in managing water quality. For water quantity, clearly the federal government's authority is restricted to transboundary waters, and so we have a number of statutes that address transboundary waters and give us transboundary authorities.

Water quality is a matter that is of course not written in the Constitution, but for which we have very broad authority under the Fisheries Act and under the Canadian Environmental Protection Act to intervene at a national level with respect to significant water pollution-related activities. Then similarly, provinces have extensive authority to address water pollution as well.

Notwithstanding that I'm a lawyer and love to talk about law reform, I think the real issue has to do with the way in which the relevant jurisdictions interact and the way the composite of various authorities at all levels interacts to protect water quantity and water quality.

● (0915)

The Chair: All right.

Does anybody else want to add to that?

Ms. Geneviève Béchard (Director General, Monitoring and Data Services Directorate, Department of the Environment): Let me add, maybe simply to illustrate, that the act was passed in 1970, and in 1975 we signed agreements with the provinces to create the national hydrometric program, which we're working together in to blend the 2,800 monitoring sites. It's a concrete result of the Canada Water Act's being passed.

Mr. Colin Carrie: All right.

Maybe I can ask a couple of questions on the ground as well.

Mr. Moffet, you're a lawyer and you like to talk about legislation. I'm a politician and I like to talk about things that people bring up to me.

About the water quantity, the Great Lakes in the last few years have frozen over quite significantly, and there have been reports that water levels are higher than they've been in a while. Is this something that you're observing? Are the water levels coming back to historic levels? If you're starting to see this, are there any challenges with that change?

Ms. Geneviève Béchard: The short answer is that we are looking at the trends. We started monitoring in 1908. The trends have varied. It is a bit different, as you walk through the Great Lakes, but we actually hit a record low in 2013, if you remember January 2013 in Michigan-Huron, and that has rebounded. When looking at the Great Lakes, we work closely, through the IJC, with the U.S. in monitoring; we do it together. The models are being used to look at trends.

The biggest significant factor for water levels is precipitation. The amount of rain and snow that we get is what most affects the actual water levels. What the trends are I think depends on where you are in the Great Lakes. Right now, in the last two years, there has been a lot of snow and rain, so the water levels have gone up in Michigan-Huron, but they are lower in the southern part. So it varies over time.

Mr. Colin Carrie: Another question I get from my constituents, coming from Oshawa—we're right on the lake—

The Chair: I'm sorry, Mr. Carrie, you may have to wait for your next round for that question.

Mr. Colin Carrie: All right.

The Chair: I'm sorry about that.

We'll move now to Ms. Leslie for seven minutes.

Ms. Megan Leslie (Halifax, NDP): Thank you, Mr. Chair, and thanks to all the witnesses. It's nice to see you here. We're pleased to be able to take on this two-day study.

My first question is for the representatives of Environment Canada. As you probably know, we recently passed a motion in the House of Commons concerning microbeads. As the member of Parliament for Halifax, I'm often asked what the situation is in the Halifax Harbour. I've looked for reports. I've seen reports about the west coast, the Great Lakes, and the St. Lawrence Seaway, but I haven't found anything about the east coast or about Halifax Harbour.

Is Environment Canada monitoring pollution by microbeads? If you are, where exactly are you monitoring, and what are you seeing?

Mr. John Moffet: I can provide you with a preliminary answer. If you want more detail, we'd be happy to follow up. We can give you a written submission, if you want, describing the precise parameters of the study.

The brief answer is that under the chemicals management plan, Environment Canada jointly with Health Canada has initiated a scientific review to assess the effects on the environment of microbeads in consumer products. We will also be discussing the issue of microbeads with the Canadian Council of Ministers of the Environment this summer to initiate broader joint work on microbeads. We've also done some literature review so that we understand the various sources of microbeads, which include land-based sources and marine sources. Then, of course, we've had to look at the various jurisdictional authorities that could be used, if needed, to control microbeads in the future.

Again, in terms of more precise parameters we'd have to get back to you, and we'd be happy to do that.

● (0920)

Ms. Megan Leslie: That would be wonderful. Thanks very much.

Madame Gelfand, thank you so much for the helpful list of questions to think about. It's very useful, because we're not experts here. In theory, this is the House of Commons, the house of the common people, so I appreciate your spelling this out.

Before I get to these questions, though, in paragraph 14 of your written comments you talk about the importance of well-designed water monitoring systems.

Can you help us understand whether in your work you've seen best practices? When you're talking about well-designed water monitoring systems, what should we be looking for? What kinds of systems have worked or what specific designs help with this?

Ms. Julie Gelfand: I'm going to ask Andrew to respond.

Mr. Andrew Ferguson (Principal, Office of the Commissioner of the Environment and Sustainable Development): It's been a while since we've looked at this, but my recollection is that in 2010, when we did look at it, we saw recognized standards from the World Meteorological Organization for well-designed water monitoring systems. I guess they look at the parameters, but they look at the geography and the parameters that need to be monitored and give guidelines for coverage and so on.

So there are standards. I think there are some at the United States Geological Survey as well. They have a sort of model too.

Ms. Megan Leslie: The standards are from the World Meteorological...?

Mr. Andrew Ferguson: Organization.

Ms. Megan Leslie: Thanks.

My question is for Environment Canada, then, on these standards from the World Meteorological Organization. Which of these standards, if any, are being used to guide the joint project on oil sands water monitoring? Have these standards been taken into account when designing the oil sands water-monitoring project?

Mr. Darren Goetze: I'd have to say that when we looked at the design for the JOSM water monitoring with the Province of Alberta and when that system was designed, we looked at a number of international standards. We also consulted with an international panel of scientific experts on the design, and we are in fact conducting an independent review of the implementation of the JOSM three-year plan right now. I'm not sure which exact standards are being referred to, but I can assure you that we did look at a range of standards at that time.

Ms. Megan Leslie: So you've looked broadly across the world for best practices?

Mr. Darren Goetze: Yes.

The Chair: Mr. Moffet.

Mr. John Moffet: I suspect that the WMO standards Mr. Ferguson was referring to primarily had to do with water quantity monitoring standards that would be adhered to by the program Ms. Béchard supervises. It's important to adhere to those kinds of standards.

Canada is a significant contributor to the scientific and standard development at the WMO. In fact, Canada is currently the president of the WMO, for a second term.

Water quality obviously has to adhere to generically similar kinds of considerations in order to ensure robustness and continuity over time, but the precise standards would be quite different, because we're looking at quality instead of quantity.

The Chair: Very quickly, Ms. Gelfand.

Ms. Julie Gelfand: What I was going to suggest, Megan, is that we can get back to you as well on the results of the 2011 study that we did. We did publish it. Unfortunately, this request to come today was on very short notice and I wasn't able to review that in great detail.

Some of the questions we suggested to you, though, such as accountability, independence, systematic funding over time, meeting user needs, making sure that the information will be able to inform legislation, and gaps, are some of those criteria that you would be looking for. We can get back to you in greater detail with the results of our 2011 study.

Ms. Megan Leslie: Thanks.

The Chair: You have 10 seconds. Go for it. You can do it.

● (0925)

Ms. Megan Leslie: What happens if more than 60% of the money is spent? What's going to happen? What happens beyond 2015?

The Chair: A quick response, please, Mr. Goetze.

Mr. Darren Goetze: We are continuing our work with the Province of Alberta to monitor the oil sands region right now. We can talk about the proportions if you'd like, but monitoring is continuing, and I can assure you that I have teams in the field doing water monitoring as we speak.

Ms. Megan Leslie: Thanks.

The Chair: Thanks for that quick response.

Mr. Woodworth, please.

Mr. Stephen Woodworth (Kitchener Centre, CPC): Thank you, Mr. Chair.

[*Translation*]

I would like to thank all the witnesses.

[*English*]

It's very good of you to come today. It's a very important subject and one with a lot of meat in it. Quite frankly, speaking as a fellow lawyer, I'm frustrated today, as I often am, that I have seven minutes to delve into all of these very detailed issues.

That said, I'll begin with the issue of water quality. I'll direct my questions to Mr. Moffet, who can can hand them off if he wishes to do so.

I'll begin with the fact that over the past 10 years there has been an increase in the categories of “good” or “excellent” water quality in the monitoring that you've conducted. I'd like to get some insight from you as to why that is—a poser, right off the bat.

Voices: Oh, oh!

The Chair: Mr. Goetze.

Mr. Darren Goetze: First of all, I'd like to point out very quickly that the data we're looking at and the graphs you saw on page 7 actually represent 16 carefully selected sub-drainage basins across the country that are under particular pressure from human activities, from a range of things. Mr. Moffet alluded to those in his presentation.

These actually represent areas where you would expect water quality to be at greater risk. The fact that water quality is improving gradually over time would suggest that prudent water management decisions are being made that are resulting in better water quality over time.

That's the short version of the answer.

Mr. Stephen Woodworth: Are you able to provide any detail for me about the role that the Government of Canada has played in those prudent water management decisions that are resulting in the increase of excellent or good water quality in those stressed locations?

Mr. Darren Goetze: Well, certainly there has been a range of investments by the government over time, including things like the Great Lakes nutrients initiative and other investments. The Lake Winnipeg basin initiative was certainly another one.

Given the range of water basins that we're looking at, I think a gradual improvement in water would probably reflect actions by a range of government actors and, in fact, by our U.S. and state actors on the other side of the border as well. It's very much a cooperative effort for us to achieve better water quality.

Mr. Stephen Woodworth: I'm glad to hear it, because we often, around this table, get various people who are full of doom and gloom, and this is a good news story.

I would like to ask you about the water quality monitoring that you do. I don't know if it was in Mr. Moffet's comments or in the report itself, but I saw that there were over 500 water quality monitoring sites. Am I correctly stating that?

Mr. Darren Goetze: Yes.

Mr. Stephen Woodworth: Are those 500 operated by the Government of Canada?

Mr. Darren Goetze: In fact, if you look at the picture on page 8, you'll see a collection of the sites there, and you'll see that they're a mix of federal, federal-provincial, water boards, and other activities that we're engaged in.

Mr. Stephen Woodworth: Has there been a change in number of water quality monitoring sites over the 10-year time period that is addressed in some of these comments?

● (0930)

Mr. Darren Goetze: There have been relatively small changes over time in water quality monitoring sites.

We are currently at a point in our implementation of a risk-based approach such that we may actually make adjustments to water quality monitoring in accordance with the risk assessments we've done. We have made small changes in frequency monitoring. We've reinitiated different types of monitoring in parts of the country, based on our risk assessment.

It's very much a dynamic and adaptive system that we have at this point. We're making small changes over time as we go, as the data indicates that the changes are warranted.

Mr. Stephen Woodworth: In fact, I noticed in the report, under the heading "Freshwater Quality Monitoring Program", that there was a reference to risk-based basin analysis. I don't know if a basin analysis is different from what you're talking about when you talk about risk-based analysis.

Mr. Darren Goetze: The risk-based basin analysis is one of the tools that we use in a broad-based, risk-based adaptive management approach that we're now using in the water quality monitoring program. Basically, we take geo-referenced information from a range of factors that can lead to water quality impairment. They include all of the factors that Ms. Gelfand mentioned earlier, such as run-off, agriculture, industrial activity of all kinds, population, waste water treatment plants, economic development, and climate change. We layer them onto a map and we come up with, on a basin basis across the country, a map of risk to water quality impairment in Canada.

Mr. Stephen Woodworth: Excellent.

Mr. Darren Goetze: That guides our implementation of our program so that we are addressing the biggest risks to water quality impairment across the country while not ignoring areas where the risks to water quality are low.

Mr. Stephen Woodworth: I'd like to get a temporal dimension on that, because I understand from Ms. Gelfand that this approach was in response to her recommendation in 2010 or 2011. Can you tell me how far you've gone in implementing in this risk-based approach and how much further you have to go?

Mr. Darren Goetze: The short answer is that we have actually done everything that was recommended in the report and more.

We have done a review of our mandate. We have done site-specific risk assessments. We have done this basin level risk assessment. We have developed a new leading-edge statistical power analysis tool to optimize frequency of monitoring. We are integrating a biomonitoring tool so that we can look at aquatic ecosystem health. We have implemented a quality assurance framework.

We are now in the process of integrating our network design with the risk-based results and data coming out of the system so that we have comprehensive work plans that are data driven and adjusted for risk every single year.

Mr. Stephen Woodworth: What's the timeframe for that integration of design with the data you have?

Mr. Darren Goetze: The tool's development was basically from the period after the audit came out, starting in about 2011. We completed the tool's development in 2014 with the second, enhanced version of the risk-based basin assessment. We are now in the process of integrating and finalizing this tool.

It is a dynamic system. We call it a "plan-do-check-improve" model. It doesn't actually finish. We go back to the beginning and start over again so that we are constantly at the leading edge.

Mr. Stephen Woodworth: Just to put it—

The Chair: Thank you, Mr. Woodworth. I understand your frustration in only having seven minutes, as a lawyer, but with at least three lawyers in the room, we may have to deal with rising levels of frustration.

We'll move on to Mr. McKay for seven minutes.

Hon. John McKay (Scarborough—Guildwood, Lib.): For another rising level of frustration. That has been happening for the last six years, actually.

Voices: Oh, oh!

Hon. John McKay: Like Mr. Woodworth, I am a recovering lawyer. Looking at this petri dish or soup of a jurisdictional exercise, you could take this and layer over the provincial, then layer over the municipal, and then presumably layer over the aboriginal. It seems to me that you would have a whole bunch of people running around and you would not necessarily get some serious monitoring.

I want to direct my first question to you, Mr. Moffet, with respect to the issue of fracking. It's largely a water issue but also an air issue. New York has taken the position that fracking is banned until the industry can prove that it is not of health concern. I don't know the basis for Quebec's ban, but I think it's still in place. New Brunswick is dealing with it. I'm not quite sure where New Brunswick will land on it. You probably know better than I the state of other jurisdictions.

The big issue with fracking seems to be this chemical soup that gets injected into the shale and the process itself. Whether it's the soup or whether it's the emissions or whether it's the discharges, you get all kinds of contradictory evidence going one way or another as to whether this is or is not a safe process. The evidence seems to be growing that this is less and less of a safe process. I'd be interested to know Environment Canada's level of jurisdiction and whether in fact Environment Canada sets up a monitoring site at each fracking site, each wellhead site.

Could you enlighten the committee on those issues, Mr. Moffet?

● (0935)

Mr. John Moffet: I'll start, and I think perhaps both of my colleagues might be able to add more detail.

The primary jurisdiction over fracking is provincial. Environment Canada could have jurisdiction if, for example, there were evidence that substances that had been assessed as toxic and added to schedule 1 of the Canadian Environmental Protection Act were being created or released in a way that created risk to the environment or to human health. Our science colleagues are remaining abreast of the scientific developments with respect to the toxic impact of fracking.

Other than that, it's the result of a local industrial activity that may have some geological impacts. It may have impacts on the water table. We don't have jurisdiction with respect to that. Of course, under the Fisheries Act we have jurisdiction over water that's frequented by fish.

So in terms of jurisdictional impacts, at the moment, as I say, unless we concluded that there was release of substances considered to be toxic, we would not have jurisdiction, but—

Hon. John McKay: How would you know if you're not monitoring the site?

Mr. John Moffet: I'm going to let Darren talk about the current scientific work that we're doing in this area.

Mr. Darren Goetze: Fracking has been an emerging issue and, obviously, there has been more and more attention given to the issue.

We initiated a study—what we would call a surveillance activity—four years ago. We are looking at a water quality baseline in an area of heavy fracking activity, the Horn River basin in northeastern British Columbia. That work is currently under way, and we expect to be publishing the results shortly.

Hon. John McKay: Will you be able to find out what the chemical soup is that's going into these fracking sites?

Mr. Darren Goetze: What we're looking for are chemicals that are indicative of fracking activity in surface water quality.

Hon. John McKay: You're kind of getting it out the back door instead of going in the front door.

I'm assuming—correct me if I'm wrong—that you're not monitoring what the company is shooting down the hole; you are only getting the results of what's coming back up through the fissures and the discharge of the water.

Is that correct?

Mr. Darren Goetze: We're looking for evidence of fracking fluid, fracking chemicals, in the surface water.

Hon. John McKay: It's backdoor stuff as opposed to front door. That's fair. At least I hope it's fair.

I'd be interested in the environment commissioner's views on these matters.

In my view, this is a really emerging issue, and it would be helpful if we got ahead of this rather than being too far behind it.

Ms. Julie Gelfand: I'll pass it to Andrew.

In 2012, before I become commissioner, we did do a study on fracking. Andrew and Doreen, one of our directors, both led that study, so they're best positioned to respond.

Mr. Andrew Ferguson: We did a short study on it in response to three environmental petitions that the office had received in the previous few years.

Environment Canada committed to undertaking a review of the national pollutant release inventory to determine whether fracking operations should be compelled to report their releases to the government under this inventory. We understand that more recently the review has been completed and the government has decided not to require fracking operations to report their releases.

There were some built-in exemptions for small operations, which —

Hon. John McKay: Let me just hear that again: “not...report their releases”. What does that mean? Can you compare that to something else?

If I'm conducting a regular oil and gas operation, and I have a release, do I have to report it?

● (0940)

Mr. Andrew Ferguson: Some oil and gas operations are exempt from reporting. Others.... I think Environment Canada would be in a better position to respond to that.

Fracking operations have been exempted because, generally, I think, the size of the operations are very small. There has to be some threshold above which reporting is required, and below that threshold it's not required. If your operation has, I think it's 10,000 person years of employment, there's a benchmark below which you don't have to report.

Hon. John McKay: But in your case—

The Chair: I know you're going to be pointed, Mr. McKay, but your time is up. We can maybe pursue that afterwards.

We'll move to Mr. Choquette for five minutes.

[*Translation*]

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

A lot of questions come to mind in this study. We could have easily had four meetings on water management. I think we would have had enough questions for that.

Ms. Gelfand, I would like to ask you about your risk-based approach. You mentioned that the 2010 report contained questions about the fact that the approach was not risk-based. You said that some adjustments had been made in the 2012-13 report.

What actual adjustments have been made to this risk-based approach? What do you think about it? Are you satisfied? Have enough changes been made?

We're talking about risks, but are the observations well situated geographically? Of course, there are risks like climate change, in particular. Could you please tell us a little about how things have developed and whether you think it is satisfactory?

Ms. Julie Gelfand: I can't tell you whether it is satisfactory or not because I did not do another audit, which we call a follow-up. What we did in 2010 was make a recommendation that Environment Canada should use a risk-based approach to develop its water management monitoring system. Mr. Goetze just said that they have looked at all of our recommendations. I am pleased to hear that, but I can't say whether or not it is satisfactory. All I can tell you is that we made recommendations and that the department responded to them, which is a very good thing. But, unlike the way things are usually done, I can't give you any assurance.

Mr. François Choquette: Do you intend to do an audit in the coming years?

Ms. Julie Gelfand: I have a seven-year mandate, and I have just finished my first year. So I have six years left. I do five chapters per year.

There is a whole range of topics that we could look at. When our office did the risk analysis, the quality and quantity of water came to the surface. It's a possibility that we can't confirm at this point.

Mr. François Choquette: Right.

Mr. Goetze, what aspect of the environment or what geographic region, as Ms. Gelfand is wondering, is escaping monitoring and should be given more attention in the future?

[*English*]

Mr. Darren Goetze: We don't actually base our assessments of the network design on geographic considerations. What we're looking at are the risks of water quality impairment. As I mentioned, the range of factors that we consider, we consider them from a geospatial consideration. Then as we understand the risks of water quality impairment, that's where we direct our monitoring.

For example, in the Great Lakes we know there are certain risks to water quality that are larger than those in other areas of the country. This extends into some parts of the St. Lawrence, where we work very closely with the Province of Quebec, for example on the St. Lawrence action plan, which has been a multi-year effort that's received investment from both the Government of Quebec and the Government of Canada.

We also know, for example, that areas of industrial development can pose risk hazards to water quality. So we are adjusting our monitoring accordingly.

● (0945)

[*Translation*]

Mr. François Choquette: Thank you.

I will come back to the commissioner's report. Page 19 of the fall 2010 report mentions a case study on oil sands development activities. It refers to Wood Buffalo National Park, and it states, “The report recommended expanding the monitoring parameters to include pollutants related to oil sands development”.

Has that been done?

[*English*]

Mr. Darren Goetze: The joint oil sands monitoring program includes a component of what we call the extended geographic area, the EGA. That area is actually quite far north. It includes Wood Buffalo National Park and actually beyond it, as far as Great Slave Lake.

I would encourage members, if you're interested in knowing more about where we're doing monitoring, to please visit the website. I'm plugging it because I designed it. It is at jointoilsandsmonitoring.ca. It will show you all the information about how we're doing the monitoring, including the geographic area. There's an interactive map that we're actually quite proud of. It will show you not only where we're doing the monitoring but also what types of monitoring we're doing at individual sites. All of the data we have produced is available on that website.

The Chair: Thank you very much.

Thank you, Mr. Choquette.

Mrs. Ambler, go ahead please.

Mrs. Stella Ambler (Mississauga South, CPC): Thank you, Mr. Chair.

Thank you to all of our witnesses for being here today and for talking to us about this important report.

The focus of my questions will be on the Great Lakes area, as my picturesque riding of Mississauga South is situated on Lake Ontario.

My first question is with regard to the Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health. My understanding, from page 20 of the report, is that this agreement came about in order to meet the commitments made in the 2012 Canada-U.S. Great Lakes Water Quality Agreement.

This report, which is about a year old I think, mentions that the Canada-Ontario agreement was expected to be finalized and posted for public comment by 2014-15. I'm wondering if that's happened and if the implementation has begun in any way. I know it covers a broad range of issues. I was wondering whether you could tell us what the issues are in terms of restoring and protecting water quality in the Great Lakes.

My question is for Mr. Goetze.

Mr. Darren Goetze: Yes, I'm pleased to confirm that the Canada-Ontario agreement is in place now. It is an integral part of meeting the Canadian commitments under the Canada-U.S. agreement, which was renewed in 2012.

As a general comment, it's important context, I think, to understand that federal governments on both sides of the border, and provinces and states have worked very hard on the environment, particularly on the water environment of the Great Lakes, over the past 40 years. I think we can say unambiguously that water quality has improved—I personally would say dramatically improved—in that period. There are, however, emerging risks across the Great Lakes on things that we continue to need to pay careful attention to.

You may recall from the past year that there were problems with algae blooms in Lake Erie. Toledo was quite impacted by those. They had to shut their municipal water system. We are working very hard with our partners in Ontario and on the U.S. side of the border to address those things. We're looking at nutrients in the Great Lakes. We are gathering the data and creating models so that we can set targets and understand how those targets will improve water quality for citizens on both sides of the border.

We're also looking at a range of what we would call "legacy" contaminants in the Great Lakes. These are things that were chemicals in the past. There's a large range of these types of chemicals. PCBs, I guess, are among the more famous ones. We've monitored PCBs in the Great Lakes since the late 1970s. We continue to keep tabs on those legacy chemicals as well. We are, with our partners in the U.S., looking at new and emerging chemicals that require our attention.

So there's a comprehensive effort on water quality across the Great Lakes. This is an ongoing and intensive effort involving all the partners around the Great Lakes.

● (0950)

Mrs. Stella Ambler: Thank you very much.

You were talking about emerging risks and legacy contaminants. Would you say that in urban areas the water quality is often affected by high levels of development? In Mississauga, for example, my understanding is that one of the reasons for the need to dredge and to clean the water by the shoreline is that for years the Credit River has been taking the silt and other waste products from the constant building and the residential areas. Those end up being deposited in places where wildlife and fish habitat are affected.

Would this be one of the top concerns for water quality management?

Mr. Darren Goetze: Obviously, with population intensity on both sides of the Great Lakes, ringing the Great Lakes, particularly Lakes Huron and Ontario and Erie in our case, all aspects of development —from building close to rivers, to power development, to waste-water treatment plants and effluent of all kinds, including from cottage country in Lake Simcoe, for example—all such activities will have an impact on water quality. The best way to approach these is to understand what the impacts of developments will be before we get the development under way.

The Chair: Thank you, Mrs. Ambler.

Madame Morin.

[*Translation*]

Ms. Isabelle Morin (Notre-Dame-de-Grâce—Lachine, NDP): Good morning. Thank you for being here.

One of the issues I'm quite interested in is the St. Lawrence action plan. Mr. Moffet, you mentioned that there were great risks of altering the quality of the water in the St. Lawrence because of human activity.

In my riding, the Montreal airport's activities are of particular concern to us. A small stream runs from the Montreal airport and flows into the St. Lawrence River. Unfortunately, there are fairly huge quantities of ethylene glycol in the stream, which does not freeze in the winter. It's quite worrying. All of this ends up in the St. Lawrence River near Lake Saint-Louis, which has plant life and an ecosystem that are fairly diverse. The St. Lawrence action plan is responsible for monitoring all this.

I would like to know what can be done. What is your department doing with situations like this one? I have tried to navigate through all of this for three years to see what I could do for my community. Several people have submitted petitions. Many people are concerned about this stream. What exactly do you do in cases like this one? I have had discussions with the representatives of the Montreal airport. They have a recovery system for ethylene glycol. It's going well. But this substance is still in the St. Lawrence River.

So what can be done?

[*English*]

Mr. Darren Goetze: As you mentioned, the responsibility for de-icing fluids like those being used at the airport in Montreal, in fact, rests with Transport Canada. It is the authority that regulates all airport activities, including de-icing and the recovery of de-icing fluids.

I'm not aware of data indicating particularly high levels of de-icing fluid in the river, but certainly we could go back and have a look to see what the data actually indicates.

It is one of the things that we would turn to our colleagues at Transport Canada for, to alert us that they have a problem with their de-icing collection and recovery system. Again, we would have to look at the data specifically.

[*Translation*]

Ms. Isabelle Morin: You are saying that there aren't necessarily data indicating that there is too much ethylene glycol at present. Are data taken at the source to assess the environmental impact of that substance? Does Environment Canada have collection sources to verify that?

[*English*]

Mr. Darren Goetze: In fact, I would have to come back to you. I don't know if we are specifically collecting data around the airport. We have a very close cooperation with the Province of Quebec in terms of water quality sample collection. It may be that it's actually the Province of Quebec that is collecting in that area, and we'd need to consult with it on what its data is indicating. I could undertake to come back to you on that.

[*Translation*]

Ms. Isabelle Morin: I would appreciate it if you could get back to us on that.

I'm not a regular member of this committee, so I will refer to the questions that have been suggested to us. As my colleague said, we are representatives, not experts.

Mr. Moffet, what steps have been taken to ensure the continuity of funding for monitoring systems, accountability and independence?

● (0955)

[*English*]

Mr. John Moffet: There are two issues there. One is funding. I believe the minister is going to be appearing in front of this committee within the next couple of weeks to address estimates. Questions on the government's decisions around overall funding are best addressed to the minister, I might say.

In terms of independence, some of the work that we support is, in fact, undertaken through independent bodies, but much of it, of course, we undertake ourselves or jointly with partners. In those cases I think the important features are the actual design of the monitoring—the water quality or water monitoring activities—so they adhere to standards that have been established within the scientific community to ensure that they're robust, that the results are transferable over time, and that they can stand up to external scrutiny. I think both of my colleagues can speak to the standards that the different monitoring activities are designed to adhere to.

The Chair: We're out of time, but if you want to respond, Geneviève, please do so very quickly.

[*Translation*]

Ms. Geneviève Béchard: We work with the World Meteorological Organization to establish international standards. As for steps related to water levels and things like that, we work with our American colleagues, and we use similar approaches. We also sit on our federal-provincial-territorial committee to use similar approaches across Canada. Essentially, we are ensuring that there is independence in using recognized scientific tools.

[*English*]

The Chair: Thank you very much.

Mr. Toet, go ahead please.

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

My colleague, Mrs. Ambler, was talking about the Great Lakes. Being from Manitoba, I am obviously concerned generally about all issues of water quality, but I would like to direct some of my questions to the Lake Winnipeg initiative and some of the work being done there.

I'm not sure, Ms. Béchard or Mr. Goetze, whether that falls under your purview. I was hoping you could give us an update on the scope of the initiative in the context both of the nature of the monitoring and also of the geographical area that's being monitored in the Lake Winnipeg initiative.

Mr. Darren Goetze: The scope, frankly, is enormous. Lake Winnipeg, of course, as I'm sure you are well aware, is a drainage basin that encompasses much of central Canada, from Lake of the Woods to the east, the Red River to the south, and the Saskatchewan rivers to the west. We are actively engaged in monitoring all of those major river systems in that basin to understand what is flowing into Lake Winnipeg. We work quite closely with the Province of Manitoba in monitoring the situation in Lake Winnipeg.

The key thing that we're working on in the lake, as you may be aware, is the issue of nutrients. We're also worried about algal blooms in Lake Winnipeg. We are contributing data on nutrients flowing into the lake from all of the various tributaries across the basin. We're also working to undertake research on the nature of the algal blooms and to understand through modelling efforts how we can mitigate nutrient levels in the lake to restore a healthy ecosystem.

Mr. Lawrence Toet: My understanding is that in 2012, with the renewal of the initiative, part of that process was going to shift the emphasis from understanding and monitoring the issues to actions to address the nutrient issues and loads in the lake.

I'm wondering if you could give us some idea of any progress in the actions that are going forward at this point in time, or when these actions are going to start to be implemented.

Mr. Darren Goetze: I will confess that I'm not an expert in the range of initiatives that are being undertaken, so I think we'd need to come back to the committee with a list. I know there's an extensive list of local initiatives that have been invested in to improve water quality and contribute to the aquatic ecosystem health of the lake.

What I can say is that as we think about water quality, particularly from a risk-based approach, one of the key things we're interested in is contributing to public policy solutions. We want to contribute the science necessary to demonstrate that action should be taken. Even if we're not the ones who ultimately take the action, we want to make sure that water managers are informed with good, robust science, so they can take action when the science warrants action being taken.

● (1000)

Mr. Lawrence Toet: I'm not sure if you're familiar with this, but there was a moratorium for many years in Manitoba on hog barn expansions, and a lot of that was tied to the Lake Winnipeg concerns. Now that moratorium has been partially lifted.

Are you aware if that was based on some of the science from monitoring activities that have been undertaken through the initiative, or was that a completely independent decision provincially? Do you have any sense of whether there's been any correlation of data that has backed that?

Mr. Darren Goetze: It was a provincial decision, and I'm not aware of the factors that were taken into consideration when the province made that decision.

Mr. Lawrence Toet: The other question I have is regarding your transboundary partners.

Again, regarding the extension of the initiative, we talked about the transboundary partners. You mentioned the United States. A lot of the water is coming in from the States through the Red River. You also talked about Ontario, and I know there's work with Ontario, especially through Lake of the Woods and the water coming through there.

The other one that's not mentioned specifically in the initiative, but you did touch on it in your remarks, is Saskatchewan. We've seen a great increase in water flow from Saskatchewan through the Assiniboine basin, which will ultimately end up in Lake Winnipeg.

Is there any work being done in your assessment, your monitoring, to extend further into Saskatchewan as part of that basin and look at the water flow from there and the extent of its impact on Lake Winnipeg?

Mr. Darren Goetze: Water flow would be my colleague—

Mr. John Moffet: The department does participate in a number of water boards, which in some cases provide advisory services, but in some cases actually control water flow and participate in monitoring water quality, for example, at the point where water crosses a border.

Slide 15, for example, illustrates the Canada-U.S. boards that we participate in, including the Souris, the Red, and the Rainy-Lake of the Woods boards. Then, of course, there is also the Prairie Provinces Water Board that was formed under an agreement with Alberta, Saskatchewan, and Manitoba, which again controls flows across border, provides information on water quality at the borders, and which provides a forum for joint management of these issues more broadly.

The Chair: We'll have to move on to Mr. Choquette, for five minutes, please.

Thank you, Mr. Toet.

[*Translation*]

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

As I mentioned earlier, this discussion is really very interesting and passionate, and I think we could easily devote four meetings to it. In that respect, I will put forward the following motion:

> That the committee conduct a study on progress regarding the joint oil sands monitoring program, including hearing from witnesses from federally and provincially responsible agencies, as well as affected communities.

If my colleagues are in agreement, we could consider this motion later.

[*English*]

The Chair: Mr. Choquette, I think the position has been, and the rules suggest, that we need 48 hours' notice before motions are considered by the committee. We will consider this a notice of motion, and you're free to present it in writing.

[*Translation*]

Mr. François Choquette: Yes, this motion was tabled on Wednesday, February 5, 2014, but if Mr. Carrie agrees, we can consider it later, five minutes before the end of the meeting.

[*English*]

The Chair: Mr. Carrie.

Mr. Colin Carrie: I'm fine with that.

The Chair: Can you discuss it?

Mr. Colin Carrie: We can at the end of it.

The Chair: Do you mean at the end of our meeting?

Mr. Colin Carrie: Sure, in camera.

The Chair: We'll continue our discussion until roughly 10:30, and we'll leave some time at the end of the meeting to discuss your motion.

[*Translation*]

Mr. François Choquette: Thank you very much.

It is really important to study and analyze the joint Canada-Alberta implementation plan for oil sands monitoring.

Mr. Moffet, the commissioners report questions the importance of greater participation by stakeholders, particularly by First Nations and Métis, in monitoring activities.

Has any follow-up been done on this concern that was raised in the commissioner's report?

● (1005)

[*English*]

Mr. Darren Goetze: We definitely reviewed, commented on, and responded to the commissioner's report. We were quite pleased with their conclusions that work plans were effectively being implemented across the monitoring program. We continue to work within those work plans, and every year we try to improve the process of monitoring, and the accountability and governance of monitoring going forward.

In addition, as I mentioned earlier, we are currently in the process of organizing an independent expert review of the monitoring that took place under the joint oil sands monitoring program, which ran from 2012 to 2015. It ended in March 2015 and we are now in a new relationship with Alberta to continue the monitoring according to the same types of work plans that we've had in the past. So as I mentioned, in 2015-16 monitoring is continuing without interruption.

[*Translation*]

Mr. François Choquette: Ms. Gelfand, you spoke during your presentation about the importance of allowing stakeholders like First Nations and Métis to take part in monitoring activities.

Could you give us more details and explain your concerns in that regard?

Ms. Julie Gelfand: In our 2014 audit, we noticed in looking at the monitoring governance system that many First Nations and Métis groups were removed from the table. They were still participating in specific monitoring projects, on the ground, for which they were still at the table, but they were no longer at the big table for planning the joint Canada-Alberta implementation plan for oil sands monitoring. They were withdrawn, as were several NGOs.

We noted that one of the goals of the monitoring program was to obtain stakeholder involvement. But that isn't what we saw when we went to make observations. No, we saw that several stakeholders had been withdrawn from the table. To find out why, you'd have to ask the governments of Alberta and Canada.

So we recommended that Environment Canada — and, in fact, we can make recommendations only to that department, not to Alberta — work hard to reintegrate these stakeholders.

Mr. François Choquette: Were they reintegrated?

[*English*]

The Chair: We'll move to Mr. Braid for five minutes please.

Welcome, Mr. Braid.

Mr. Peter Braid (Kitchener—Waterloo, CPC): Thank you very much, Mr. Chair.

Thank you to our witnesses for being here this morning, and further to the comments from a couple of my colleagues, I'm not a lawyer, so I am pleased to report that I am frustration-free.

Mr. Moffet, I wanted to start with a question relating to page 10 of your presentation with respect to water quantity. I just wanted to ask if either you or one of your colleagues could just unpack the information, the data, on this slide. Could you perhaps pick one of the regions and just explain what the bar graph is telling us with respect to either a specific region or nationally or both?

Ms. Geneviève Béchard: I'll just explain a little bit about how these normals were looked at. To be able to look at the trends.... We were talking earlier about the Great Lakes and how, yes, you actually need to look over a few decades. These are over 30 years.

What we've wanted to do with these is to say that if over 30 years this is what was a normal trend for an area, then what does this year look like? When you're looking at the lows or the highs and comparing to what was the normal of the 30 years from 1980 to 2010, what does 2014 look like when we're comparing it to those 30 years?

If it's a high or a low, you may want to go in and actually look at the actual data, and then those living in that area can look at whether they need to take measures to adapt. Is the trend going to continue and, if so, do they need to take action? It's really an information tool so that you can know where you would want to start looking at specific issues.

● (1010)

Mr. Peter Braid: That's great. Then are the data on the bar graph 2014 only?

Ms. Geneviève Béchard: The data on this bar graph are from 2011.

Mr. Peter Braid: It's 2011. Okay.

In a region where we're seeing lows, normals, and highs—and there are a number—what's going on there?

Ms. Geneviève Béchard: I think for the most part the general trend is that we're looking at normals. Again, if we go to 2011, I guess I would have to come back to you for that specific year, and I don't have the data for last year to see if that actually was maintained.

This was a new tool that we were developing to actually be able to inform the public as part of the suite of sustainable environmental indicators. It was a way for folks to see how they were doing versus longer-term trends, but if you have a specific area that you're interested in, we could actually come back to you on that.

Mr. John Moffet: If I might add to that as a non-scientist, I would nonetheless repeat the caution that has been made to me many times, which is that this data provides a snapshot. On the one hand, it's comparing against a long-term trend, and then we have a snapshot.

The question is, then, is that something to worry about? It's important data. We can look into the issue. Is it something to worry about? What was the cause? Was the cause something that needs to be addressed? Was it simply a statistical variation? Is it something we need to monitor over time?

But I'd caution all readers against saying, “Okay, red means bad and means there's a problem.” It might. It means we should look at it. That's all it means.

Mr. Peter Braid: That's helpful to start with. It's a 2011 snapshot. Thank you.

Mr. Goetze, you mentioned Lake Erie. As we know, there are water quality issues in Lake Erie. Could you bring us up to date with respect to what those issues are, what we're doing about that, and what we're doing jointly with the U.S.?

Mr. Darren Goetze: The principal or most prominent issue that Lake Erie is facing right at the moment is related to nutrients—phosphorus and nitrogen—that cause algal blooms that are quite prominent. Many of you may have seen pictures on the NOAA website, which takes pictures from space of these algal blooms. They are very large and very prominent.

What we're trying to do, in partnership with our colleagues on the American side, is to understand, first of all, how nutrients are coming into the lake from both sides of the river. It is a problem, I would say, and an issue that is predominantly related to the American side. The corn belt is south of Lake Erie, but there are sources of nutrients on the Canadian side as well.

We're trying to look at the tributaries. We're monitoring them and understanding what the inputs to the lake actually are. We're understanding how levels of nutrients are changing in the lake. We're studying and doing research on the nature of the algal blooms, where they occur, under what conditions they occur, how big they get, and what kinds of species are involved.

With all of the data we've collected, we're trying to set some targets for phosphorus and nitrogen reduction in Lake Erie. We are building computer models that will allow us to simulate what will happen if you reduce levels of nutrients in the lake. This will allow policy-makers to then implement measures on both sides of the border that will reduce the inputs of nutrients to the lake and hopefully address the algal problem over time.

The Chair: Thank you, Mr. Braid.

I would just remind committee members and others who may be listening that this committee just concluded an extensive study on water quality in the Great Lakes, and some of those issues were addressed in the testimony at those meetings. That may be a good resource to feed back too.

Mr. Woodworth, you have five minutes.

Mr. Stephen Woodworth: Thank you very much, Mr. Chair. I'd like to continue with some of Mr. Braid's questioning regarding the issue of water quantity. I'll begin by just confirming that there are close to 2,800 active hydrometric gauges measuring flow of waterways across Canada.

Do I have that right?

● (1015)

Ms. Geneviève Béchard: We have sites at which we take different types of measurements including gauging.

Mr. Stephen Woodworth: Of those approximately 2,800 gages measuring flow, about 2,100 are operated by the Government of Canada as I understand it. Is that correct?

Ms. Geneviève Béchard: That's correct.

Mr. Stephen Woodworth: Are you able to tell me whether the number of hydrometric gauges measuring flow in waterways across Canada has gone up or down or stayed the same over the least 10 years?

Ms. Geneviève Béchard: It's fairly stable. The way it works is that we have some stations at which we take measurements specifically for our own use, so they're designated federal stations. We do some at the request of the provinces or the territories. Then there are some that we're both interested in, so we cost-share.

We review the list each year and the agreement regarding what the specific stations are. On the federal side, it's fairly stable. The provinces and territories will adjust depending on what specific activity there is. For example, if there's a new mine, they might ask us to add a couple of stations, but that's their decision.

Mr. Stephen Woodworth: These stations have been monitoring for long enough that you've been able to determine what a 30-year normal flow is. Am I understanding that correctly?

Ms. Geneviève Béchard: It would depend on the sites. We have been operating in Canada since 1908. Some sites have very long-term data collection and some have less. In particular, I would say that at the sites for transboundary waters, we have long-term data collection.

Mr. Stephen Woodworth: Keeping in mind the answers that were given a few moments ago about the report we have today showing us a snapshot for 2011, can you tell me whether or not the department operates any comparison of water flow over a longer period of time rather than simply an annual snapshot?

Ms. Geneviève Béchard: Absolutely. This snapshot is just one product we were asked to develop so that the general population could actually analyze or see the results. The idea of a normal is so you can compare it to weather normals. It's warmer or colder than the normal. This information was meant to be sort of the same as that, but we actually do have to have authoritative data in the long term for it to help support design of dams and other types of engineering and constructions. So yes, we do have the long-term data.

Mr. Stephen Woodworth: Understanding that there are occasional idiosyncratic blips in particular geographic regions where the flow may from time to time depart significantly from normal, if I were to ask you about overall water flows in Canada in the last 10 years, would you say they had been normal compared to the 30-year norm you spoke about?

Ms. Geneviève Béchard: The suggestion is that the amount of water we have in B.C. is tending to be a little bit higher. In the prairies, it is tending to be a bit lower, and in Ontario and Quebec, which are the other two provinces I have information on, the trends are not conclusive. But again, there are trends.

Mr. Stephen Woodworth: Thank you.

A lot of your work involves the Canadian environmental sustainability indicators, CESI for short. Can you tell me when those were initiated or when they first began to be used?

Ms. Geneviève Béchard: The Canadian sustainability indicators are actually fairly new. I should go back and say that the bulk of our work is really to support a number of things. I've talked about the engineering portion. Understanding the water flows will influence the constructions that you put in the rivers. That's one piece. But the other piece is the transboundary waters work, and we're supporting how we manage water levels in order to—

Mr. Stephen Woodworth: If I can draw you back to my question, I had the notion that the Canadian environmental sustainability indicators have been a big help and a great tool in guiding policy. I'd like to know for how long they've been available. Is this an initiative that has arisen in just the last 10 years or is it of longer standing?

● (1020)

Mr. John Moffet: It's a little longer than 10 years. CESI dates back to an initiative of the national round table in about 2004. The indicators have been updated continuously since then and expanded, and are now reported under the Federal Sustainable Development Act.

But I would emphasize that Environment Canada has had the obligation to report on the state of the environment and to generate indicators at a national, regional, and local level since 1988. Prior to 1988, of course, we go back to the beginning of the Meteorological Service, which is certainly the oldest organization in Environment Canada and has been generating and publishing data for almost a century now.

Mr. Stephen Woodworth: If I have time—

The Chair: You're well beyond your time, Mr. Woodworth, in spite of any level of frustration.

We'll hear from Mr. McKay and Mrs. Ambler and then we're going to discontinue.

Hon. John McKay: Mr. Woodworth and I have something going here.

I want to go back to my front door-back door analogy here and maybe direct this to Mr. Goetze.

What if I stood on the edge of my riding of Scarborough—Guildwood, which, like Ms. Ambler's, is right on the edge of Lake Ontario but causes her some level of jealousy, because it is so beautiful—and I poured in benzene, a known carcinogen; toluene, which affects the nervous system with long-term exposure; ethylbenzene, which creates blood disorders; xylenes, which cause irritation to the nose and throat if absorbed in high levels; methanol, which causes blurred vision; naphthalene, which causes abdominal pain; and formaldehyde, which is a human carcinogen, etc.?

All of this stuff is going into fracking sites. I don't understand why. You tell me the jurisdictional reason why Environment Canada doesn't know, or doesn't monitor, or doesn't regulate that stuff, because I dare say that if I stood at the edge of my riding and poured all that stuff into Lake Ontario, you'd be all over me.

A voice: Probably.

Voices: Oh, oh!

Hon. John McKay: Exactly.

Tell me what is the intellectual or the legal distinction between my pouring all that stuff into Lake Ontario—and don't give me international jurisdictions, or water laws or jazz—but right into those fracking sites.... Why is it that you guys aren't all over that?

Mr. John Moffet: As Mr. Goetze is a poor simple physicist, I'll take that.

Voices: Oh, oh!

Hon. John McKay: Sorry. You know you're dead in the water when the lawyer answers.

Voices: Oh, oh!

Hon. John McKay: The problem is, you may be just dead.

Mr. John Moffet: I'm sure Dr. Goetze has more to elaborate on this, but the basic issue at the moment is twofold. One, there is a federal jurisdictional issue. If you put that stuff in Lake Ontario, you would be depositing deleterious substances into water frequented by fish. You would have violated a long-standing statutory prohibition and—

Hon. John McKay: So unless there are some fish swimming below the fracking site, you have no jurisdiction?

Mr. John Moffet: Or we have evidence that the substances that you're depositing are posing a risk to the environment or to human health, and that's why Dr. Goetze and his team have initiated the study that he referred to earlier.

Hon. John McKay: How much study do you actually need to know that benzene, toluene, ethylbenzene, methanol, and naphthalene actually cause risks to human health?

Mr. Darren Goetze: It's not so much that we don't understand whether these compounds pose a risk to human health; the question is whether they're occurring in surface waters as a result of the fracking activity. That's the question, frankly, that we don't know.... There have been international studies. We've looked at the range of literature that has been published on this and, frankly, the results are mixed.

Hon. John McKay: They're not entirely mixed, because in 2010 there were six or seven studies, and now in 2014 there are something like 132 studies, the overwhelming preponderance of which show negative effects on animal and human health. I would have thought that you should actually exercise the precautionary principle. The precautionary principle says that you can't put the junk in the site unless you, the fracking company, can demonstrate that it's not going to affect the watercourses.

● (1025)

Mr. Darren Goetze: Again being the simple monitoring fellow that I am, I can tell you that we're trying to figure out if fracking is resulting in contamination of surface waters.

Hon. John McKay: Has the minister ever asked you to move it up the food chain so to speak and get a handle on what this chemical soup is? I ask because I'm given to understand, and correct me if I'm wrong, that the companies claim a proprietary interest. That's more legal stuff—I was going to have a more pejorative description—

The Chair: You're running out of time so you need to give your—

Hon. John McKay: I'm into the pejorative descriptions right now.

Is there any jurisdictional reason why you as Environment Canada can't get a handle on what this chemical soup is?

Mr. John Moffet: The short answer is no.

Hon. John McKay: Thank you.

The Chair: Okay.

We have Mrs. Ambler for the last five minutes.

Ms. Megan Leslie: Sorry.

Before we begin with Ms. Ambler I just want to clarify because I thought I heard you say we would wrap up after Ms. Ambler.

The Chair: That's correct.

Ms. Megan Leslie: Okay.

We do have 15 or 20 minutes left after Ms. Ambler, and I have more questions. The issue that Mr. Choquette brought up will be pretty quick because we already know—

The Chair: Okay.

We have Mrs. Ambler and then you're on the list.

Ms. Megan Leslie: That's great.

Thanks.

The Chair: We'll proceed with that.

Mrs. Ambler.

Mrs. Stella Ambler: Thank you for the second opportunity. I was hoping the first time around to ask about the Environment Canada funding of multi-stakeholder projects to restore Great Lakes areas of concern and, in particular, about the Great Lakes sustainability fund, which funds stewardship initiatives.

Has research been done on whether we're seeing the benefits of these stewardship programs and initiatives, especially at the local level, if they're being measured and how well they're working?

I know that in my area significant efforts have been undertaken to clean up the shoreline, to restore wildlife habitat, and to protect the fish. This is an important issue for residents of the area, but I always try to make the point, I think and I hope you'll agree, that it's not just for the local residents. It's a bigger issue when the government understands the importance of these small local efforts to clean up the water in urban areas and how important it is on a larger scale.

I'm wondering if you could comment on that fund, the stewardship initiatives, and if they're working.

Mr. Darren Goetze: I'm not in a position to do that because it's delivered by Environment Canada's office in the region. It's not directly an activity at the science program.

I don't know if Mr. Moffet can comment.

Mr. John Moffet: We can give you more information, but in general I can tell you that all these large ecosystem initiatives—the ones for the Great Lakes, Lake Simcoe, the St. Lawrence action plan, the Lake Winnipeg Basin stewardship fund, the Atlantic ecosystem initiatives funding program—are long-standing programs and all have built in obligations for evaluations. Whenever the funding gets renewed, the programs have to be evaluated.

We can provide you with access to the evaluation reports.

I certainly can't assert that every initiative has been uniformly successful, but for example within the Great Lakes close to a thousand restoration projects have been completed, where ecosystem quality has been improved. This has occurred over decades with the benefit of federal funding, federal scientific input, but also, of course, with the initiative of provincial and local governments and concerned citizens.

● (1030)

Mrs. Stella Ambler: That's wonderful.

Thank you.

Just to switch gears for a moment, Mr. Goetze, you mentioned a website earlier, and I was wondering who manages the website—the one that was referred to in the report on page 28, Environment Canada's water website. I also want to know how many visits that website receives, what types of Canadians go there, and whether there a place to comment on the website, what kinds of questions are asked, what do Canadians care about when it comes to water quality, and what are they asking you on this website?

Mr. Darren Goetze: I don't have statistics for the website visits. It would have to be our corporate services branch that would have those types of statistics. I can tell you that there is a place where Canadians can ask questions about water quality. We also have a site where they can ask for data as well. We share data. We respond to hundreds of requests for data every year through our website.

We also frankly get a range of questions about water quality. It would be hard to categorize individual topics. We have had questions, for example, on the airport of Montreal come through from our website. We've had questions on the Great Lakes and contaminants. We've had questions on legacy PCBs. We've had questions on the oil sands. We've really had quite a range of questions.

Mrs. Stella Ambler: And they're mostly just average, ordinary Canadians. They're not researchers or university students doing projects?

Mr. Darren Goetze: Data requests mostly come from the academic community, I would say. Other questions are mostly from Canadians trying to get information. Sometimes they haven't had a satisfactory answer from somewhere else. So they're coming to us to see if we can supplement answers that they may have asked of their province or city hall.

Yes, we do actually get a lot of kids coming in and asking us for help with their school projects.

The Chair: Thank you, Mrs. Ambler.

Our last question, Ms. Leslie, for five minutes, please.

Ms. Megan Leslie: Thanks, Mr. Chair.

My questions are for Environment Canada and are about the joint oil sands water monitoring project. Can you tell me if David Schindler is involved with the plan right now?

Mr. Darren Goetze: I don't think Dr. Schindler is directly involved with the planning, but I'm aware he has reviewed aspects and certainly talked to some of our scientists. I'm not aware that he's directly involved at this time.

Ms. Megan Leslie: What about Dr. John O'Connor?

Mr. Darren Goetze: I'd have to look to see if Dr. O'Connor is involved. Again, I'm not personally aware.

Ms. Megan Leslie: Okay.

Can you tell me how Fort Chipewyan and Fort McKay are involved? Are there representatives from those communities involved? Or how are you working specifically with those two downstream communities?

Mr. Darren Goetze: We have, I guess, a multi-faceted relationship with both of those communities. We have an air monitoring station located in Fort McKay. We have water monitoring operations that launch from Fort McKay. We ask the band regularly if we can use, for example, their boat launch. That's a small operational thing, but folks go through the community quite often. They have allowed us to use their facilities. We also include them in the engagement activities that we're undertaking. We have regular dialogues with their representatives.

I answered Mr. Choquette's question badly, for which I apologize, but we do actually have an enhanced effort to engage first nations and Métis communities across the oil sands effort. It was one of the things that came out of the audit, and we expanded our efforts as a result of that recommendation.

In fact, we went to communities to talk to them directly, communities as diverse as Grande Prairie and Peace River. We tried to hear from communities more directly. We've also altered the governance of the program so that representatives of first nations and Métis communities have a direct input to the co-chairs and can influence the decisions that are being made under the joint oil sands monitoring program.

Ms. Megan Leslie: Thanks for that.

Continuing along that line of questioning, I'm thinking about fish health. You talked about air monitoring and using the boat launch and those kinds of examples. How are you using traditional knowledge and understanding of the health of fish in the Athabasca River?

● (1035)

Mr. Darren Goetze: We are engaging first nations—and I want to say this in the right way—to understand their traditional knowledge about changes they've observed on the landscape, in a number of different ways. It's not only Environment Canada, but it's also Alberta and organizations like the Wood Buffalo Environmental Association that are engaging with first nations to understand how it is that they see changes on the landscape or in the waterways.

We're trying to translate the concerns that they observe into scientific monitoring objectives so that we can go back to them and say, "You told us you saw these changes that you were concerned about. As a result, we initiated this particular monitoring and here's the result of that monitoring."

You asked about Fort Chipewyan. One of the ways we feed back is through a process called the Peace-Athabasca Delta Environmental Monitoring Program, or PADEMP. They have an annual meeting where they bring the first nations from that region together, to Fort Chipewyan. We have extensively participated in that process to present our results from various types of monitoring and to hear their further concerns about what they're seeing in their local environment.

It's very much a dialogue.

Ms. Megan Leslie: Thinking about the changes that people are seeing brings me to a question about the baseline. I know when this project was first announced there were concerns about what the heck are we using for a baseline?

How have baselines been developed?

Mr. Darren Goetze: Baselines are developed in a number of ways.

We do actually have monitoring data from the region that goes back a number of decades in some cases, particularly from Wood Buffalo National Park. It is a national park in a federal jurisdiction, so we do have some information from decades past that we've published on the oil sands portal.

We also have a range of data from other sources and monitoring programs that were done in years past. What we've tried to do is to collect this data and try to analyze it for equivalency so that we can establish what the baselines looked like, at least in the early days of the development of the oil sands resource.

Ms. Megan Leslie: In addition to criticism about where the baselines are coming from, when this project was first announced there was quite a bit of criticism about RAMP, the regional aquatics monitoring program, including that it was funded by industry.

How have you addressed those concerns?

Mr. Darren Goetze: What we have now, as opposed to what the RAMP program was criticized for, is a comprehensive water quality monitoring program that looks at both the tributaries to the Athabasca River and the main stem of the Athabasca River. It extends from south of Fort McMurray, where there's no development activity, to way beyond what we call the "extended geographical area", meaning way beyond the Peace-Athabasca Delta. We also look at the Peace River. We are looking more frequently for more substances at more monitoring sites than the RAMP ever did.

The Chair: All right.

I want to thank you, Ms. Leslie.

I want to thank our witnesses for being here today. Thank you for your time and your input.

Thank you to our committee members.

With that, we're going to suspend the meeting for two minutes.

[*Proceedings continue in camera*]