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## **Standing Committee on Fisheries and Oceans**

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**EVIDENCE**

**Thursday, May 4, 2017**

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**Chair**

**Mr. Scott Simms**



## Standing Committee on Fisheries and Oceans

Thursday, May 4, 2017

• (0845)

[English]

**The Chair (Mr. Scott Simms (Coast of Bays—Central—Notre Dame, Lib.)):** Good morning, everyone.

My name is Scott Simms. I represent central Newfoundland. You may remember me from some episodes of past studies. Just for the benefit of the people in the room, I've been away on another committee assignment for a while. I've since returned, for good or bad or what have you.

We're in the midst of doing a study on marine protected areas; however, today we are going to take a break from it.

I'll just say what we're doing today. It was agreed that the committee invite officials from the Department of Fisheries and Oceans to appear before the committee in the month of May to provide an update on the government's response to the 75 recommendations of the Cohen Commission of Inquiry into the Decline of the Sockeye Salmon in the Fraser River.

We have a couple of things to deal with first, folks, before we get into it.

Mr. Sopuck, I think you wanted some time.

**Mr. Robert Sopuck (Dauphin—Swan River—Neepawa, CPC):** Yes.

As you'll recall, colleagues, a few weeks ago we had Sir Edward Mountain from the Scottish Parliament here. I happened to be in the chair at the time. He sent a very nice note back and asked me to read it to you:

Dear Robert,

Thank you so much for allowing me to join in the discussion this morning on aquaculture. It is clear that the Standing Committee on Fisheries and... Oceans and the Scottish Parliamentary Committee on Rural Economy and Connectivity look at similar issues. It did seem strange that I was sitting facing the Committee, a new experience, which you and your fellow members made enjoyable. I would be very grateful if you could pass on my thanks to... [the members of the committee] for allowing me the privilege to meet them. Thank you also for the kind gift and I will look forward to wearing it and doing so with pride.

Yours [truly],

Edward

**The Chair:** What was the gift again?

**A voice:** It was a tie clip.

**Mr. Robert Sopuck:** I think it was appropriate to read that.

**The Chair:** Thank you, Mr. Sopuck, and we thank Mr. Mountain for visiting us. I'm sure it was entertaining as well as thoughtful.

**An hon. member:** It was interesting.

**The Chair:** Yes, it was very much so, I hear. I had the pleasure of meeting him as well. He's a very nice man.

Before we get to the formal part, I want to welcome Ms. Pam Goldsmith-Jones, who comes to us from West Vancouver—Sunshine Coast—Sea to Sky Country. It's a beautiful name, but it nevertheless always competes with mine, as it is long. Mine used to be Bonavista—Gander—Grand Falls—Windsor, so I used to have this competition.

**Ms. Pam Goldsmith-Jones (West Vancouver—Sunshine Coast—Sea to Sky Country, Lib.):** Thank you.

**The Chair:** Nevertheless, it's good to see you. I'm sure, given where you're from, this is an issue you know quite a bit about.

Now let's go to our guests. As we mentioned, we wanted to bring officials from the Department of Fisheries and Oceans.

Sylvie Lapointe is with us, and Rebecca Reid as well.

• (0850)

I keep saying this every time, Trevor, when I introduce you. I say, “a man who needs no introduction”. This time I'm going to say, “a man who needs no name plate”, because we know you so well. Trevor Swerdfager, of course, is from DFO. He is senior assistant deputy minister, ecosystems and oceans science and oceans protection plan—a new part of your title. That's new to us now.

Please go ahead for 10 minutes.

**Mr. Trevor Swerdfager (Senior Assistant Deputy Minister, Ecosystems and Oceans Science and Oceans Protection Plan, Department of Fisheries and Oceans):** Thanks very much, Mr. Chair. As you pointed out, my title now rivals the names of some ridings. It has challenged our business card production, particularly in French.

**Voices:** Oh, oh!

**Mr. Trevor Swerdfager:** I'd like to start out by saying thank you very much for inviting the department to be here today.

My colleague Rebecca Reid has had a little delay down in security, so she'll be joining us fairly shortly.

We have a number of introductory remarks to make, and as you've already pointed out, Sylvie Lapointe, who is the assistant deputy minister for fisheries management is with us as well.

It is, as I say, quite a pleasure for us to be here. As you know, the Cohen commission took more than three years to develop quite a comprehensive report into the causes of the decline of Fraser River sockeye salmon, back in 2009. As you know, it found that, despite the presence of smoked salmon, there's no smoking gun with respect to the causes of the decline. A number of factors have in fact been identified as contributing to the potential decline of sockeye salmon.

In response to the complex picture that emerged after reviewing thousands of documents and hearing from nearly 200 witnesses and experts, Justice Cohen made 75 recommendations, which covered quite a broad range of issues, as you know. He particularly touched on science, aquaculture, fisheries management, habitat protection, and then, of course, wild salmon policy.

[Translation]

Most of the recommendations pertained to Fisheries and Oceans Canada, but about 15 of them pertained to other departments or to the Government of British Columbia.

Since the Cohen commission report was released in 2012, these recommendations have in large measure guided our activities and interactions on matters related to the management of the Fraser River salmon.

[English]

Since it was released in 2012, we've been working on implementing the elements of the report in an integrated manner. In this way, we're able to cut across the organization and ensure that the right staff are involved and included. While ensuring attention to Fraser River sockeye salmon stocks, we've also broadened our response to look at all wild Pacific salmon.

In August of last year, the honourable Minister LeBlanc announced that Fisheries and Oceans Canada had implemented over 30 of the report's recommendations in collaboration with the Government of British Columbia, Environment and Climate Change Canada, indigenous people, and a variety of interest groups.

[Translation]

Today I would like to highlight some of the department's current activities as well as our plans to implement other measures. To leave committee members enough time for questions, I will focus on the progress made on a number of the key themes addressed in the Cohen commission report, rather than going through the 75 recommendations one by one.

[English]

Of the 75 recommendations contained in the final report, 39 are being delivered by our science branch, which I am part of. The Cohen recommendations that fall in this theme relate to fish health, stock assessment, climate change, and a variety of other science topics. Science is very much a core component of the department, and it is an integral component of sustainably managing Pacific salmon and, for that matter, all of our fishery.

As members of this committee will know, \$41.5 million annually for over five years has been recently invested in aquatic sciences, as announced in budget 2016. It's truly an historic investment. It's the largest investment in ocean science and freshwater aquatic biology in a generation. These resources are allowing the department's ocean

and freshwater science capacity to grow substantially. We've now hired approximately 135 new scientists. I spoke to the committee about these people coming when I was here about a year ago; now they're here. Oceanographers and other highly skilled scientific staff are being hired right across the country. Approximately 29 of those are located in British Columbia, and a couple are in Yukon.

These new resources will increase the science capacity to address quite a number of the Cohen recommendations. For example, to respond to recommendations on Pacific salmon fish health, key action already under way is scientific research about whether farms are impacting wild salmon.

● (0855)

We've launched scientific studies to fill knowledge gaps, to inform standards and operational requirements, and to guide a variety of practices at hatcheries, as well as adjusting requirements on where salmon farms can be located.

Many of you will know that the Prime Minister, in November of last year, announced a \$1.5-billion oceans protection plan, which has now, as you've pointed out, been added to my title, which is also good. It is being used to support the preservation and restoration of vulnerable marine ecosystems, many of which are in British Columbia and will be a target of support from the oceans protection plan.

Funding will be used to establish coastal zone management plans and to identify coastal restoration priorities. Restoration projects will engage indigenous people and communities, as well as a variety of environmental organizations and others with an interest in habitat conservation.

The Cohen report also makes a number of recommendations related specifically to habitat protection. When my minister, the Honourable Minister Leblanc, appeared at this committee to discuss main estimates a few weeks ago, he spoke of the urgency to make rapid progress on the review of the Fisheries Act.

A response to the recommendations made by this committee in your report, "Review of Changes made in 2012 to the Fisheries Act", must be provided no later than June 30, and we're working to provide that response as quickly as possible.

The recommendations made by this committee are highly relevant in refining how we respond to those made by Justice Cohen.

Given the imminent timing of the release of the response to your broader report, I'd like to suggest that the committee might wish to hold discussion of the Cohen habitat recommendations until you also have our response to your report, if that meets your indulgence, as it will allow for a more comprehensive discussion of those aspects of the Cohen report.

An important theme in the Cohen report relates to the implementation of Canada's policy for the conservation of wild Pacific salmon. Last August, the minister announced that more work on a detailed wild salmon policy implementation plan would begin, starting with consultations with first nations, key stakeholders, and the general public in the fall of 2016.

I am pleased to say that over the last several months the team leading this work under Rebecca's leadership has travelled across B. C., as well as to Whitehorse, to meet with first nations and to hold public open houses to solicit input and feedback on the process and the content that should be included in the development of a detailed five-year wild Pacific salmon implementation plan. There was lots of interest in these consultations, and we received a large amount of quite significant feedback.

As a next step, we will be working with key partners, particularly but not only indigenous groups, to develop a first draft of an evergreen implementation plan that's aligned with departmental programs; is pragmatic in terms of costs and time frames; is clear about DFO's commitments and accountabilities; and is focused on better collaboration with first nations, with partners, and with stakeholders more generally to implement the policy. The intent is to have an initial draft of this implementation plan ready to embark on further broad consultations throughout the fall of 2017.

Much as Justice Cohen did not find a smoking gun to explain the two-decade decline in salmon returns, our response to his recommendations can't be defined in a single response. I think we all would like a nice, easy, simple solution where we just do one thing and the salmon recovers. That's simply not possible.

Instead, our approach has been formulated in a much more integrated manner that includes more science, better fisheries management and habitat protection decisions, and improved relations with indigenous communities, industry, conservation groups, and a variety of other players in wild salmon protection and recovery.

Another key point that has been made clear during our recent consultations is that the work has not been done, nor can it be done, by the department alone. In some cases, Justice Cohen has directed or specifically referred to other agencies in his recommendations, such as, of course, critically, the Province of British Columbia, as well as our colleagues in Environment and Climate Change Canada, and the suite of other stakeholders that I've mentioned before.

Clearly this must be truly *un projet associé*. We must work together to drive this process. Successful implementation of the policy will only be achieved if we do so together.

While not all the commission's recommendations were directed at Fisheries and Oceans Canada, as I've mentioned, we're certainly committed to working with our partners in a variety of contexts.

I would reiterate the department's commitment to sustaining and restoring Pacific salmon—Fraser River sockeye certainly, but Pacific salmon species more generally. It's not just about any one particular component or species of that broad suite. It's a long-term but necessary investment in renewing our marine natural capital and supporting conservation of ecosystems in a truly balanced way.

● (0900)

To support and track this effort, and in the spirit of transparency, we will be publishing another status report on these plans as we move forward, particularly highlighting the work that's been done with respect to each of the recommendations and the implementation of the policy more generally.

I focused these remarks on several of the significant recommendations. By all means, we're more than happy to take questions on any or all of them at any level of detail you may wish to go to.

We would like to just thank you once more for the time for being here today.

Rebecca, do you want to add anything?

**Ms. Rebecca Reid (Regional Director General, Pacific Region, Department of Fisheries and Oceans):** Thank you, Mr. Chair.

First I would just like to sincerely apologize for my late arrival. I was actually 45 minutes early to the wrong place. I do want to assure you that I take my appearance here very seriously, and I'm extremely sorry for missing the opportunity to provide those opening remarks.

I am the regional director general for the Pacific region. I have responsibility for implementation of the programs in B.C. and in the Yukon. I'm more than happy to speak to the committee about any questions you have.

Thank you.

**The Chair:** Ms. Lapointe do you want to say anything? Okay, that'll be during questions and comments.

Ms. Reid, it's not a problem. That happens quite a bit around here. Some would say I've made a career of showing up at the wrong place at the right time, but I digress.

I want to thank all of you for coming here, this of course being about the Fraser River. Being from Newfoundland and Labrador, I always like to say I'm from the beginning of the country. However, today I'm surrounded by a lot of British Columbians, so I'll have to say I'm from the end of the country.

Mr. Doherty, Mr. Arnold, Mr. Donnelly, Mr. Hardie, Ms. Goldsmith-Jones are here, and I forget to mention that Mr. Beech is with us as well, the parliamentary secretary. His riding is Burnaby North—Seymour.

We're opening up to questions. We're going to go to Mr. Hardie to start.

You have seven minutes, sir.

**Mr. Ken Hardie (Fleetwood—Port Kells, Lib.):** We'll start with Ms. Goldsmith-Jones.

**The Chair:** Correction: Ms. Goldsmith-Jones, you have seven minutes, please.

**Ms. Pam Goldsmith-Jones (West Vancouver—Sunshine Coast—Sea to Sky Country, Lib.):** Thank you very much for including me today.

It's nice to see you, Rebecca. Thank you, Trevor, for that introduction.

The Cohen commission is really significant to those of us who live on the Pacific coast, so I appreciate that you've included me. I would like to start with aspects of the oceans protection plan that will help restore the wild Pacific salmon habitat—or will they?

Could you comment on that?

**Mr. Trevor Swerdfager:** I guess from our point of view, the answer in terms of how the oceans protection plan unfolds is really in two parts. If I may, I'll just be parochial for a minute. There's a substantial involvement of Transport Canada in the oceans protection plan, which will do a whole series of things with respect to conservation and stewardship of the shipping industry and marine safety. I won't touch on those elements here just now.

As to efforts that will lift, if you will, our implementation of the Cohen commission, I've been searching for quite a number of years for a good and easy way to say the opposite of “death by a thousand cuts”. Whatever is “success by a thousand somethings”, a large part of what we're doing in the oceans protection plan is of that nature. We will not see in the oceans protection plan implementation something that specifically targets wild salmon in the Fraser River estuary or system, but instead there are substantial investments in ocean science. We are creating a new coastal habitat restoration fund. There will be quite a series of investments in regional response planning for oil spill preparedness. The Canadian Coast Guard is going to substantially invest in marine safety. It's going to improve its infrastructure right up and down the coast. Together all of those activities, we would submit, will have a very substantial positive impact on salmon conservation and restoration, whilst you might not see a line item in the plan called “Fraser River sockeye implementation of Cohen commission” type of thing.

**Ms. Pam Goldsmith-Jones:** Another significant piece of legislation, of course, is the update to the wild salmon policy. Could you comment on how that will help give effect to the Cohen recommendations?

• (0905)

**Ms. Rebecca Reid:** When you look at the Cohen recommendations, you see that a number of the recommendations that Justice Cohen made related to the wild salmon policy and its implementation, and he strongly recommended the full implementation of that policy.

Last August when Minister LeBlanc made his announcement about the update to our response to the recommendations from the

Cohen report, he spoke about the launch of consultations on the implementation of the wild salmon policy. The policy has been around for a number of years, but we felt it was time to review the implementation aspects of it. So over the winter we have been consulting with indigenous groups and commercial, recreational, and environmental groups to talk about their views and their role in the implementation of that policy. The intent now is that we've received a lot of good input. We're revising and updating the implementation plan, and our intention is to go back in the fall to consult further on the implementation of that plan and get final feedback. So it really is the moving forward of the wild salmon policy that's going to be a fundamental part of how we respond to Cohen.

**Ms. Pam Goldsmith-Jones:** One thing that Justice Cohen stated is:

that the potential harm posed to Fraser River sockeye salmon from salmon farms is serious.... Disease transfer occurs between wild and farmed fish, and I am satisfied that salmon farms along the sockeye migration route have the potential to introduce exotic diseases and to exacerbate endemic diseases...

I'm interested in your comments on his statement.

**Mr. Trevor Swerdfager:** I would turn first to the comment at the beginning, that he didn't, in the report, identify any single smoking gun that is causing these things. I think the phrasing of the excerpt you raised is very carefully chosen. What has been identified in here is clearly that there is a potential.

What the department has done, and is continuing to do, is invest quite substantially in the disease monitoring and surveillance program. We're working very hard to understand the mechanisms of disease in both a wild population and farm populations, and in the interactions. It is an extremely complex field and area of endeavour. There's often a desire to say simply, “Oh, there's complete consensus”, on any one side of this issue. We have not detected consensus and unanimity in the science community on any of these issues.

We are working very hard to ensure that our siting guidelines, our licensing provisions, and our regulatory activities with respect to the farms, our tracking of disease, and our working with the Canadian Food Inspection Agency are all aligned in such a way as to very much address this question and make sure that we continue to expand our understanding of how disease transmission and interaction works, and where necessary, take steps to make sure that, either from a regulatory point of view or an operation we're siting, we minimize any risk from disease.

**Ms. Pam Goldsmith-Jones:** Finally, can you describe how budget 2017 will further help the recommendations in Cohen?

**Mr. Trevor Swerdfager:** As you probably know, a large part of budget 2017 is back in the oceans protection plan. There is going to be quite a substantial investment, particularly in science, resource management, and a number of things in the Coast Guard domain. I would also draw attention to investments that are going to be made in the areas of aquatic invasive species. We are advancing our work on marine protected areas and conservation in the marine space.

You'll detect a bit of a theme in our commentary today. We believe quite strongly that an awful lot of our programs broadly will positively affect salmon, and salmon habitat more generally, without having a line item on each one of them. With the budget 2017 initiatives in those areas, as well as some of our ongoing research on climate change, which Justice Cohen has also touched on, we'll have quite a positive contribution in all of these areas.

The only other point I would make is that, insofar as the new investments are concerned, there is quite a bit of innovative programming in there, particularly in the coastal restoration fund area, that we really think is going to allow us to much more explicitly target salmon habitat issues and needs in a way that we really haven't been able to do before. That alone is going to have quite a substantial....

It's not going to be revolutionary. I don't want to overstate it, but it really is going to change our game a little.

**Ms. Pam Goldsmith-Jones:** Thank you.

**The Chair:** Mr. Sopuck, you have seven minutes, please.

**Mr. Robert Sopuck:** On the timing of the Cohen commission, when did his work start, and when did it finish? I know the report was put out in 2012, but did his actual investigations end in 2009?

**Ms. Rebecca Reid:** The terms of reference for Justice Cohen related to the returns of sockeye from the 2009 season. He took three years to undertake the investigation, and in 2012, he delivered the report.

• (0910)

**Mr. Robert Sopuck:** He looked at 2009.

It was interesting, however, that the year after that, 2010, there was a record sockeye salmon run, and in 2014, there was an even larger run. That implies to me that the system is capable of producing large numbers of fish, based on those two very large runs. Is that a fair conclusion?

**Ms. Rebecca Reid:** Yes, I think the conclusion you can draw is that there is incredible variability in the returns, and the reason for that is the point of the investigation.

**Mr. Robert Sopuck:** Well, of course, but sockeye has always been variable in the four-year cycle. Can we predict that the 2018 run is going to be fairly large, based on the size of the 2014 run?

**Ms. Rebecca Reid:** Yes, that's what we would expect from a forecast perspective.

**Mr. Robert Sopuck:** Again, we have a system that's inherently variable. We've had in 2010 a record run; in 2014, it was even bigger; and in 2018, we anticipate a decent-sized run. Would you consider these to be natural fluctuations that have been going on since time immemorial?

**Ms. Rebecca Reid:** If you look at the history of sockeye returns in the Fraser River, you can see that there have been certain environmental effects that have caused considerable reduction. For example, the slide in Hell's Gate in the early 1900s had a devastating impact on the overall returns of sockeye, and so you will see cyclical differences between the populations.

As you have noted, the sockeye come back every four years. Every one of those years in between is a different population, and there will be different strengths, so you're going to see differences between one year and the next because you're looking at different populations of sockeye.

**Mr. Robert Sopuck:** Okay. It's obvious that year-class strength varies with environmental conditions. With walleye, for example, the higher the water, the better the survival, so we have natural fluctuations. I think these are important points because it's important to zero in on exactly what the problem is.

What is the problem with the Fraser River sockeye, then? What are some of the factors that have caused the decline in the low years, keeping in mind that we have these massive runs every four years? Is it international overfishing? Is it habitat loss? What is it?

**Ms. Rebecca Reid:** Those questions are exactly what Justice Cohen investigated. He looked at a range of issues.

We can categorize the types of impacts in different ways. There are impacts on habitat, there are impacts upon fishing pressure, there is climate change and variability. There are a number of environmental and anthropogenic reasons for changes in the returns.

You need to look at these things in their entirety. As he said, the "no smoking gun" point really is valid; you have to look at the whole. You can't say there's one individual feature.

**Mr. Robert Sopuck:** Right, but you can turn that argument around and say that there are a number of features that came together in 2010 and 2014 to create those massive runs. You can flip that argument. I know the tendency in government is that everything is bad, we need more money, we need more research, and so on and so forth, but the fact that 2010 and 2014 occurred is reason for great optimism, isn't it?

**Ms. Rebecca Reid:** I think it shows the inherent variability. There are a number of reasons for that strong year class. It has a lot to do with the survival in the marine environment as well, and so you need to look at things overall.

**Mr. Robert Sopuck:** Right.

I assume the sockeye end up in international waters at some point during their four years at sea. Is there an issue with illegal international fishing in international waters?

**Ms. Rebecca Reid:** There certainly are some conventions against those types of activities, which are monitored and enforced. You could consider that as one of the inputs into the overall impacts on fishing.

**Mr. Robert Sopuck:** I know. I mentioned to the committee at our last meeting that there was an article in the *New York Times* on April 27 that talked about the Chinese fishing fleet, 2,600-strong, of big, modern vessels, all subsidized by the government, going around the globe—I'll try to be judicious with my words—fishing very heavily all over the world with no regulations whatsoever.

When these sockeye are in the open ocean, are they vulnerable to that kind of fishing?

• (0915)

**Ms. Rebecca Reid:** There would be an impact.

Do you want to add to that information, Sylvie?

**Ms. Sylvie Lapointe (Acting Assistant Deputy Minister, Ecosystems and Fisheries Management, Department of Fisheries and Oceans):** Certainly, as you mentioned, the Chinese fleet has expanded significantly, and that is a concern for a number of species across the Pacific.

As Rebecca mentioned, there is a convention in the north Pacific that bans drift netting for salmon, and we've had some good success in stopping some illegal fishing in that regard with our air surveillance.

**Mr. Robert Sopuck:** I don't have much time, but here is one quick question. What's the proportion of sockeye taken by commercial fishing, FSC fisheries, and the recreational fishery?

**Ms. Rebecca Reid:** We have a salmon allocation policy that defines essentially that question. The first element—

**Mr. Todd Doherty (Cariboo—Prince George, CPC):** —a policy?

I'm sorry. Go ahead.

**Mr. Robert Sopuck:** I want the actual harvest, not what the allocation is. What's the actual harvest of the three fisheries?

**Ms. Rebecca Reid:** It's going to vary by year, and so—

**Mr. Robert Sopuck:** Give it roughly, or a percentage.

**Ms. Rebecca Reid:** I'll have to get back to you on the exact numbers.

**Mr. Robert Sopuck:** Okay, thank you.

**The Chair:** Mr. Donnelly is next, for seven minutes, please.

**Mr. Fin Donnelly (Port Moody—Coquitlam, NDP):** Thank you, Mr. Chair, and thank you to our departmental officials for being here today to answer our questions on this important topic, on Cohen.

I have just one question. I think you may have mentioned it, but I'm not sure I caught it. When was the last progress report updated?

**Ms. Rebecca Reid:** Minister Leblanc provided an update on Cohen in August 2016.

**Mr. Fin Donnelly:** One of the recommendations Justice Cohen talked about was separating the department's mandate from protecting wild salmon and promoting aquaculture. How has the department reacted to that, and where are we on that recommendation?

**Mr. Trevor Swerdfager:** As far as changing the mandate of the department is concerned, we are not on that track right now. Essentially the way the department has approached this is that if you

embrace the concept of sustainability, as distinct from the traditional economy-environment trade-off, a big part of what we're about in regulating and managing this industry and the fishery overall is to play quite heavily on regulatory provisions. We don't see a fundamental conflict in our engagement on aquaculture right now.

**Mr. Fin Donnelly:** Recommendation 6 talks about the Government of Canada providing funding for DFO to carry out its wild salmon policy implementation. Has there been any funding in any budgets to implement this recommendation?

**Ms. Rebecca Reid:** I can respond to that. The way we deliver on the wild salmon policy is, as Mr. Swerdfager said, in a very integrated way. When looking at the budget supporting the wild salmon policy implementation, you need to look at the various inputs to it—for example, science, and we spoke about some of the capacity areas: fisheries management, conservation and protection, and habitat. Each of those elements and staff and programs is used to support wild salmon policy. You're thus not going to see a single line item that says “wild salmon policy”; what you're going to see is a number of inputs supporting the overall recommendations of the report.

**Mr. Fin Donnelly:** Have you been putting money toward this wild salmon policy, then?

**Ms. Rebecca Reid:** Absolutely we have. We're doing that, since the report was developed, by responding to the specific recommendations, and so you can see the progress being made.

**Mr. Fin Donnelly:** I first ran in 2009 in a by-election, and during my campaign I called for a judicial inquiry. That summer we had one of the worst returns, and I was very happy when then-prime minister Harper announced the Cohen inquiry that year. However, since 2012 I'm not sure we're really any further ahead in determining and addressing the threats to the health of Fraser River sockeye.

Here is a general comment, because there have been comments about the 2010 run being a record year. I don't believe it was a record year; it was a high return. Over the past century, while there have been a few good returns of sockeye, I believe the overall trend of the Fraser River fishery has been downward.

I'd like to ask whether you feel the department is making progress in determining the decline of the Fraser River sockeye.

• (0920)

**Ms. Rebecca Reid:** Is the question about determining the decline?

**Mr. Fin Donnelly:** Yes, it's about whether you're making progress. If you look at this century—and you alluded to it, Rebecca, as well—in the past there were returns of 100 million. Now we think that 20 million or 30 million is a “record run”; I have heard that referred to. It's definitely a high run. Now, when we look at a million returning, when you do the overall trend from pre-1950 to now it's obviously not as strong as it was.

Are we making any progress at determining why that is?

**Ms. Rebecca Reid:** The report has a graph that illustrates your point exactly, showing the change from the early 1900s to now. The question of the causes for the decline is exactly what we've been talking about: what those causes are and how we address them.

Are we getting any closer to understanding it? It's a complex question. We have a good sense of the reasons for the decline. For example, a lot has to do with marine survival and those types of aspects that are obviously hard to control. I think, however, that the system we have for managing salmon is a good one. We have good information. We worked well with our stakeholders and first nations groups to come up with an integrated plan to manage the returns that we do have.

**Mr. Fin Donnelly:** You mention marine survival, and that's fair enough. A hundred years ago, were the marine conditions fundamentally different? Can we point to that as an obvious major factor? Can we point to the last century of industrial activity or human activity as having affected salmon returns?

**Ms. Rebecca Reid:** There are factors that we can point to. One element we particularly care about these days is the impacts of climate change as it affects temperature and flows in the river. You have marine issues around the types of feed available for the salmon. You also have the impacts on the rivers as the salmon return. It is thus a complex issue. It's one that requires more science to really understand, and those are some of the investments we're making in the species.

**Mr. Fin Donnelly:** I heard there was a record investment in science, so I'm hoping that we are going to get a lot closer to determining—

I'm sorry, is that not the case, that it was a record investment?

**Mr. Trevor Swerdfager:** No, I was just saying to Rebecca that I can offer a quick comment on that before Mr. Simms beeps you—or me, rather.

Essentially what we're trying to do through the new investments is substantially increase our understanding of what's happening in the ocean. One of the big challenges in salmon science is that once they leave a particular periphery of the coast, so to speak, we don't actually know where they go, who's eating them, what's doing good, bad, or whatever to them. What we're trying to do is increase our ability to monitor change in the ocean. Our oceanography, which we don't talk about an awful lot in the context of salmon conservation, is really critical to understanding the changes in the system.

We are seeing changes in temperature, pH, and salinity over time. Can we crosswalk that back into specific salmon population responses? We can't yet, but that's a fair bit of what we're trying to figure out. With some of the new investments, particularly in budget 2016 but even more substantially in budget 2017, our ability to monitor the ocean is increased, in particular with substantial new investments in ocean monitoring technology.

We put \$12 million into technology last year, the biggest technology buy we've made in our history, to put gear in the water to understand what's happening in the ocean, because what we want to better understand, when these animals go there, what the nature of their environment is. We will not have an immediate answer to that question, but the activity there is high.

• (0925)

**The Chair:** Mr. Hardie, take seven minutes, please.

**Mr. Ken Hardie:** Thank you all for being here this morning.

One recommendation, which I want to start off with, and then we'll do a quick tick box of some of the recommendations that have been in the report, said that the Department of Fisheries and Oceans should immediately create a new position in the Pacific region at the associate regional director general level, with responsibility for developing and implementing the wild salmon policy.

Ms. Reid, is that you?

**Ms. Rebecca Reid:** No, it's not me. I'm the regional director general. The suggestion had been that we would create an additional associate regional director general focused entirely on the wild salmon policy.

**Mr. Ken Hardie:** Will that happen?

**Ms. Rebecca Reid:** We do not intend to create a new position to do it, but we have responded in a way that we think meets the intent of that recommendation, which I can explain, if you like.

**Mr. Ken Hardie:** It's the same, only different, in other words.

**Ms. Rebecca Reid:** In fact, I think the response that we've provided is better than what had been suggested.

**Mr. Ken Hardie:** All right.

The Cohen recommendations did something rather curious, I thought. They said that the implementation of the wild salmon policy had to wait until the federal government specifically allocated funds for it. As I say, it's curious that we would have to wait for something like that. Knowing what you know today, what kind of money we are talking about to properly implement the wild salmon policy?

**Ms. Rebecca Reid:** First of all, I want to make the point that we didn't wait for implementation. We have been implementing.

Was the question with regard to the cost for Cohen or for wild salmon policy?

**Mr. Ken Hardie:** I mean for the wild salmon policy.

**Ms. Rebecca Reid:** That's a hard question to answer specifically. There's no end to the amount of work you could do in habitat monitoring or in stock assessment information. We could have more fishery officers on the ground.

Concerning our response to the wild salmon policy, the consultation process we're going through right now really is about engaging with our partners, indigenous groups, to come up with a plan that says: this is what DFO has before us, and this is our program capability; how can we work with others to fully implement it? I don't think the department can do it by itself.

Once we have that plan set out, we'll be able to do additional costing to get a better sense of where, if we were to receive more investments, would be the best place to put it. That's going to take some time.

**Mr. Ken Hardie:** Based on some of the comments we've heard in other studies, it's actually a very positive sign to see that DFO is going to reach out to include more of the community—more, if you like, of the outside expertise and on-the-ground energy—to deal with this.

Among the so-called out-of-date recommendations was recommendation 41, which was all about habitat policy. That was deemed out of date because of the changes that the previous government made in 2012.

Did you in fact down tools on the habitat issues? Is recommendation 41 back on the table of recommendations supported in principle?

**Mr. Trevor Swerdfager:** First of all, I would say concerning the habitat recommendation and the activities recommended, no, we didn't ever down tools. As Rebecca mentioned, the sequencing was not one whereby we just sat and waited for the recommendations to come in, then figured out what to do, and then started. We were working quite extensively on habitat all the way through.

As I said in our opening remarks, as part of what we'll be doing as the government itself and as the department contemplates its response to what the government's direction is on Fisheries Act changes, we may come back, not specifically on the content of recommendation 41 per se, but on the changes to the Fisheries Act overall.

For sure, though, we have continued quite aggressively with our work to protect, conserve, and restore habitat. As I mentioned earlier in response to one of the other questions, under the oceans protection plan our new coastal habitat restoration fund is going to target, in operational as opposed to legislative terms, these sorts of issues very specifically.

**Mr. Ken Hardie:** With the investment in new science, have a number of the new scientists been specifically allocated to working on Cohen recommendation material?

• (0930)

**Mr. Trevor Swerdfager:** They've been specifically allocated to working on salmon biology and research; you would find no one in the department.... We have, for example, approximately five people—new people, I'm talking about—in addition to the 10 or 12, or actually more than that, whom we've already had working on salmon biology. There is no one whose job title will say, “implement recommendation X”, and so on, as you can well appreciate. But the new salmon biologists, the research community who are coming on, are focusing on many of the issues addressed in the report.

It's always important to keep in mind that the recommendations are just that, but one of the great services the Cohen commission did for the science community was to assemble a very deep literature record. The report itself is in multiple volumes. There's an awful lot that we learned from it, which again is influencing—not in a direct, linear, one-to-one way, but quite substantially—the research we're doing and the people we're bringing on.

**Mr. Ken Hardie:** What areas of the wild salmon policy are up for review and refreshment, if you will, in the work you're doing now, Ms. Reid?

**Ms. Rebecca Reid:** I think it's important to explain that, the way the wild salmon policy is created, you have your overall policy with goals and objectives and strategies, and then you have actions and the implementation piece.

The substance of the policy is sound; there is no need to change it. But as time passes, we need to make sure that our actions are up to date and current, given new information and new inputs to the department and the enhanced role of our partners and indigenous groups. It's really questions around the implementation of the strategies that we're interested in.

For example, there are strategies around collecting information about the stock status of the various sockeye populations. There's information about the habitat status. There's an aspect around how we manage in an integrated way. Each of these strategies has actions associated with it, all of which require engagement by first nations and stakeholders. That's the aspect we're looking at—renewing and refreshing now and into the future.

**The Chair:** Thank you.

Mr. Arnold is next, for five minutes, please.

**Mr. Mel Arnold (North Okanagan—Shuswap, CPC):** I want to thank you from the department for being here today to talk to us about this.

Mr. Swerdfager, I want to recognize the habitat work that has begun, in part with our previous government, with the recreational fishery conservation partnerships program. I hope to see that program continue.

As members of Parliament we are ultimately responsible, but we have to look at our departments and hold them accountable. One thing that has really been of concern to me since I've come here.... I want to go back to the commissioner of the environment and sustainable development and her report referring to the integrated fisheries management plans. Those plans were first committed to in 1995. There was a recommitment in 2009. Now the latest response from the department concerning the reason those plans aren't implemented is that your department is now going to develop a plan to develop those plans. We're getting into decades later and we still haven't implemented plans.

That leads to the wild salmon policy. That policy was developed years ago, yet now the response is that we will continue to implement the policy incrementally and that work is under way to develop an updated wild salmon policy implementation plan. You're making a plan to implement a plan.

The buck stops somewhere. Where do we stop this, so that we get actual plans in place and active?

**Ms. Rebecca Reid:** I can speak specifically to salmon. Perhaps Sylvie will speak more generally to your question about ISMPs.

There is a salmon integrated fisheries management plan. In fact there are a number of them that have been completed every year for a long time.

That is a very thorough process whereby we work with our partners to develop and then implement the plan. The way the wild salmon policy fits into that is that it provides the policy framework by which we manage fisheries in a sustainable way. This isn't a plan for a plan; it is actually delivering on the work of managing these fisheries.

● (0935)

**Mr. Mel Arnold:** If you read through the responses, it's a plan for a plan. I think the public is growing a little anxious about when these plans are actually going to be implemented.

I'll move on to the next question and I'll go back to Mr. Sopuck's question.

Does the department have actual numbers on the harvest of commercial, on the food, social, and ceremonial and now, as we hear, cultural fishery by first nations, and on the public fishery? Do you actually have hard numbers on all of those categories?

**Ms. Rebecca Reid:** Yes, we do. I'm sorry I wasn't able to run them off the top of my head, but I can certainly provide those numbers to you, absolutely.

**Mr. Mel Arnold:** Thank you.

Sockeye salmon are somewhat unique in their four-year cycle. They rely on one year of actual circulation in inland lakes as part of their life cycle and I have become aware of the actual requirements in those lakes of a four-year cycle so that they can replenish themselves with the nutrients. They can't sustain a high level year after year. That's part of the reason for the four-year dominant run, subdominant runs, and so on.

In the trends, has there been a higher impact in the subdominant run years? I'm wondering whether there's any correlation or whether you're working on correlations among these impacts. We hear, about predator swamping, that with the huge runs the predators don't have as much impact.

Have there been greater impacts in the subdominant years than in the dominant years?

**Mr. Trevor Swerdfager:** Mr. Chairman, I will apologize for what seems like an evasive answer. Please don't take it that way.

For sure, we are looking into these issues; I can say that quite categorically. I'd like to be able to say to you: "We've identified the following impacts in the subdominant years" or "We have identified predator swamping as the cause." I can't give you that kind of answer.

What we're finding is that first of all, there is far more variability than we expected from system to system. I know the conversation today is focused mostly on the Fraser, but if you started walking up the coast and looked at some of the comparative work in the Skeena and the Fraser, truthfully, sir, part of our answer is that we're scratching our heads. We're finding results that are quite confounding. Part of what we're trying to do is tease out what the various factors at play are here, and we're trying to compare across systems a little bit.

What we are finding is that there is not an enormous difference between what we've described as broad-based impacts in the

dominant years and those in the subdominant ones. You can't say that in a particular year this stochastic or one-time event occurred and you can see a response. The inquiry is quite deep and broad. It is not yielding, at this point, the kind of definitive "here's what we're seeing" answer. It's a matter of saying that the work is ongoing, we don't have definitive answers, but we are actively pursuing it.

**Mr. Mel Arnold:** Is there any indication of heavier impact on the

—

**The Chair:** I'm sorry, I'll have to cut you off there. I've been rather generous, but...

Mr. Swerdfager, there is no need to apologize. I don't think there's any institution on Parliament Hill that is a stranger to evasion.

We're now going to Ms. Goldsmith-Jones.

I believe you're sharing your time with Mr. Hardie, is that correct?

**Ms. Pam Goldsmith-Jones:** I don't know whether...

**Mr. Ken Hardie:** Go ahead. If you feel like sharing...

**The Chair:** I'll tell you what, Ms. Goldsmith-Jones. I'll give you five minutes, and in Mr. Hardie's words, if you feel like sharing, feel free.

**Ms. Pam Goldsmith-Jones:** I think one of the most exciting new directions is a really robust partnership with first nations in British Columbia. It's very important.

Could you be more specific about some of the work you're doing in partnership with first nations?

**Ms. Rebecca Reid:** The Department of Fisheries and Oceans has a very long history of working collaboratively with first nations and funding activities. We have annual agreements whereby first nations and the department work together on collecting data—for example, stock assessment information and catch monitoring information. Those inputs are very important to our knowing the situation of salmon more generally out in the rivers and streams to support our ability to assess the numbers returned and the strength of the stocks.

Those are a couple of examples of the way we work with first nations. More than that, first nations are involved at every level of the management of this very important stock. They're involved at the international table, they're involved at the advisory tables, and they're involved in the planning processes. At every level, we work very effectively with these nations.

● (0940)

**Ms. Pam Goldsmith-Jones:** Cohen was limited to looking at the Fraser River sockeye run, as we know, but I think he believed that all species on the coast mattered. It's very exciting to see the department reinvesting in the Moncton lab and the lab in West Vancouver and to see the engagement with the general public. The public has kept Cohen alive in some years when it wasn't front and centre. The public has kept wild salmon policy alive and is obviously fully behind the resources that the department has today. As a result, I think these questions are going to keep coming.

Could you comment on your expectations for the reinvestment in the lab on the waterfront in West Vancouver?

**Mr. Trevor Swerdfager:** The lab being referred to in West Vancouver has been there, as you know, for a very long time. It's one that is somewhat underutilized, as a nice way to put it. We have a significant capacity there that is not being used.

Minister LeBlanc has decided that a key priority for him is to create something we're referring to as science enterprise centres. One of them will be at the Gulf Fisheries Centre in Moncton, the other in the West Vancouver lab in West Vancouver. We expect that there will be substantial new investments in both of those facilities.

Inside the shell of the building, where today you see DFO people exclusively, our expectation is that in West Vancouver, for example, we will probably see people from the Vancouver Aquarium, from the province, and from the University of British Columbia. Actually, UBC people are already there now. We're going to expand our presence there in a significant way and try to bring Canadians more into touch with the science they fund and to create space for people, in that community and its surrounding areas, to interact with the science that we're producing, but with scientists overall.

We think this is an innovative way of doing business generally. We're going to look at it in those two centres. We really think this is going to bring us much more directly into contact not only with people in British Columbia but to some considerable degree in both Moncton and West Vancouver. We're going to bring the science community to those two places, but we're also going to bring those two places to the science community.

**Ms. Pam Goldsmith-Jones:** Could you comment on how you will engage the public in tracking the Cohen recommendations and the way they are realized through the wild salmon policy?

**Ms. Rebecca Reid:** Last August, the minister provided an update on the status of the Cohen recommendations and in fact created a tracker, a document that showed our response. It's available on the website. It's quite a nice little infographic and easy to read. The intention is to continue to update that tracker document. My expectation is that we will provide further updates, probably this summer, on the status of our moving on the recommendations. That will be a live document; we will continue to keep it up to date.

**Ms. Pam Goldsmith-Jones:** Something that I think was a result of the initial recommendations was limiting open net fish farms in the Broughton Archipelago on the migratory routes of the Fraser River sockeye. How are you ensuring a precautionary principle with regard to that recommendation and the possible impact of open net fish farms?

**Ms. Rebecca Reid:** B.C. has a very strong regulatory system in place to ensure the sustainable management of salmon farming on the coast. Within that regulatory framework, we have of course a number of policies and guidelines. An important one that I can highlight to you is the siting guidelines, basically a document that describes how to decide where to place a fish farm. I think this is a really important piece: choosing a good location for a farm that allows for the good production of the fish while also minimizing interaction between wild and farmed salmon. That's one example.

We have a very rigorous testing program; we have enforcement personnel who review documents and who go onto the farms. We have, then, a comprehensive program to ensure that this industry is well managed and maintained.

● (0945)

**The Chair:** Thank you.

Mr. Sopuck, take five minutes, please.

**Mr. Robert Sopuck:** One thing about being a fisheries biologist, and in a past life I was one, is how much fun it is to do fisheries research. It's often so much fun that the research continues forever, with very little happening on the ground as a result of the research. I would really hope that at some point the research, even if the data are inconclusive, points you in the right direction and that you actually start doing things on the ground. That's the reason our government instituted the recreational fisheries conservation partnerships program, which funded hundreds of on-the-ground projects: habitat improvement, fish passage enhancement, and those kinds of things.

I don't have much time, so give a quick answer. Is the ultimate goal of all this research to actually do something on the ground that will enhance salmon stocks?

**Mr. Trevor Swerdfager:** Yes.

**Mr. Robert Sopuck:** Thank you.

I did a quick look here. There's a report by the fisheries committee from 2004 that looked at the sockeye salmon run. To help you out, there were about 2.7 million fish taken; 35% was by commercial fishing, 17% by FSC fishing, and astonishingly only 1% by the recreational fishery.

Interestingly, when you do an economic analysis of fishing in B.C.—this is in 2011, and the report I just cited was from 2004—the 2011 numbers are that the total value of the harvested catch off the coast of B.C. is \$2.2 billion, of which an astonishing \$936 million was for recreational fishing, or 42%. If one can relate the 1% harvest to the 42% value of the entire fishery off the west coast, will your wild salmon policy have a fisheries allocation strategy? Will you ultimately provide the recreational fishery with not only the respect that it's due, given the value, but also the number of fish that they would need to fulfill their needs?

**Ms. Rebecca Reid:** To respond to your question around the wild salmon policy, we have a salmon allocation policy that's separate from the wild salmon policy. That salmon allocation policy essentially describes, species by species, how the fish will be allocated. The reason for my earlier hesitation about the numbers is that it absolutely varies by year.

**Mr. Robert Sopuck:** That's fair enough.

**Ms. Rebecca Reid:** If it's a very low year, then the majority of the fish will be saved for conservation or for food, social, and ceremonial purposes. The numbers you're looking for, therefore, are absolutely dependent on the returns coming back.

**Mr. Robert Sopuck:** I'm very well aware of that, but the point is that over time these numbers probably smooth out. I think the 1% figure for the recreational fishery is probably real. Having fished out there myself and been subject to the ridiculous fishing regulations that the recreational fishery is subjected to, given the very few numbers of fish that the recreational fishery catches and given the outsized value of that fishery to the economy of the west coast, I think something's out of whack in fisheries allocation.

My strong recommendation would be that you do a rethink of fisheries allocation to give the recreational fishery the respect that it is due.

**Ms. Rebecca Reid:** I think it's really important to point out that the allocation policy is species specific. When you look at chinook or coho, for example, the recreational sector has a priority access to those fish, compared with the commercial sector. That's not speaking about the food, social, and ceremonial, which comes off the top. When you look at Fraser sockeye, though, the commercial sector has the priority, not when we're talking about food, social, and ceremonial but between the recreational and the commercial sectors. You need to look at it from a species-specific basis. The allocation policy doesn't set an actual amount, but it's up to 5% for those species that don't have the recreational priority.

**Mr. Robert Sopuck:** It seems to me that the purpose of a public agency is to allocate a public resource for the highest public use. I would dispute the amount of fish that the commercial fishery would get.

I also would make the point that given the very small catch the recreational fishery takes from the salmon, it is the recreational fishermen who do basically all of the conservation work, as per the recreational fisheries conservation partnerships program. This is a group of people who are fiercely dedicated to conservation, far above and beyond what they take in terms of harvest of the resource.

Thank you, Mr. Chair.

• (0950)

**The Chair:** Thank you.

Mr. Hardie and then Mr. Donnelly.

Before we get to the end, which is approaching, we're going to put in another round, because we're scheduled for 10:15. This means I'm going to be strict about the five minutes and the extra round, as you know. We'll go five, five, and five, which has been par for the course since my interregnum. At that point, I'm going to ask for—

**Mr. Robert Sopuck:** [*Inaudible—Editor*]

**The Chair:** No. It's no reflection on your chairing abilities, Mr. Sopuck. You're a wonderful chair, to the point that I'm worried constantly.

I'll need a speaker from here and here for five minutes each. We'll do that third round.

Right now, we have Mr. Hardie for five minutes.

**Mr. Ken Hardie:** In deference to Mr. Sopuck's comments, if I look at the cost per pound of fish that I have caught, it's pretty shocking.

I share a lot of the concerns of my colleague Mr. Donnelly about the impact of fish farming. I am concerned on an ongoing basis about the gap between people like Alexandra Morton, and the people who are very passionate and very invested in examining this, and the department, and about just basically what's going on there. There seems to be some irreconcilable differences, and as long as they remain unreconciled, there are going to be questions from the public. I think that effort needs to be put into managing that a bit better.

With respect to the open net salmon farming—recommendation 19—the Ministry of Fisheries and Oceans should prohibit this in the Discovery Islands. This is down as one of the things of interest; you're taking it under advisement. Will this in fact be implemented?

**Ms. Rebecca Reid:** There are a couple of answers to that.

The first is that we have not allowed any new farms into the Discovery Islands.

The second part is that there's a risk assessment going on, which Mr. Swerdfager may wish to speak to, that will answer some of the scientific questions we have about the plans for 2020, which is what the recommendations speak to.

**Mr. Trevor Swerdfager:** I can touch briefly on the risk assessment; I know you're conscious of time.

Essentially what we're trying to do is go through each of the pathogens, making our best effort to figure out how disease moves, as I said earlier, between wild and farmed. Within wild, we know there's an awful lot of endemic disease and a lot of endemic pathogens in British Columbia that have been there for we don't know how long, but for a very long time.

Essentially, the understanding of disease transfer mechanisms is an area we're continuing to expand on. As Rebecca has mentioned, we have an active risk assessment program under way now to look at these issues. So far we have not detected anything that suggests we have a causal link between any wild salmon population health issue and aquaculture.

**Mr. Ken Hardie:** And vice versa?

**Mr. Trevor Swerdfager:** We don't have anything that suggests wild salmon are infecting farmed salmon and causing farmed salmon problems in the disease context. There are some issues associated with lice transfer from wild to farmed.

**Mr. Ken Hardie:** In one of our earlier studies on the Atlantic salmon, a few of us were taken by the strategy in Quebec of doing river-specific plans. In other words, rather than having a region-wide plan, they do it river by river. The Pacific Salmon Foundation has apparently applied this principle to the Skeena system. Is such an approach being looked at for the Fraser system?

**Ms. Rebecca Reid:** I'm sorry. Is this a question around salmon farming or just about—

• (0955)

**Mr. Ken Hardie:** No, not salmon farming. It's basically the management and assessment of health.

**Ms. Rebecca Reid:** Okay. I understand.

In the wild salmon policy, salmon stocks are defined as essentially...they're called "conservation units". Basically, units are genetically distinct. They're managed at that level—a pretty low level, a distinct level—where we can understand at the individual unit level the stock status and its health.

When we go up to managing fisheries, we need to aggregate up, because there are over 400 of them. It's way too complicated, but we do look at it from this smaller conservation unit level when we're considering the impacts for a particular stock or population. In that, we establish escapement goals on a system-by-system basis, which I think would equate to what you're describing for Quebec.

**Mr. Ken Hardie:** On the approach to obviously preserving, protecting, and enhancing the sockeye salmon population up and down the Fraser River, how broadly do you go in looking at the whole system, not just at that one stock but at the stock that feeds that stock? What strategies and what considerations are taking place to take the biosphere, if you like, into consideration in preserving the health of those salmon stocks?

**Ms. Rebecca Reid:** I think the question is really about how much of an ecosystem-based approach do we take when we're managing fisheries, correct?

**Mr. Ken Hardie:** Yes.

**Ms. Rebecca Reid:** I think that is definitely an important aspect of the work. It's complex when you try to expand out to the ecosystem in trying to understand all the various inputs that are impacting on the health of a particular stock. That is, I think, always a source of research and investigation, but we do our best to collect various inputs or variables when we develop our management plan to take those into account. That is an important aspect of the overall management of fisheries.

**The Chair:** Thank you.

Mr. Donnelly, please, for three minutes.

**Mr. Fin Donnelly:** Thank you, Mr. Chair.

I probably I won't have time to dive into a number of these responses, but I'll try to get the questions out. Maybe we could carry this over into the next round.

Ms. Reid, you talked about marine survival, in that you're putting the department's attention there. Obviously, ocean conditions, climate change, and desertification affect food for salmon, and we know that other countries probably catch our salmon, but the issues that are on our continent and under our domestic control are habitat destruction, pollution, warming waters, and flow levels in the rivers and tributaries of the Fraser. There are specific recommendations from Cohen on those: recommendation 42 for habitat destruction, recommendation 53 for pollution, and recommendation 74 for warming waters.

I want to talk a bit about those. In terms of habitat destruction in the Fraser system, we know that roughly 75% of habitat in the estuaries has been destroyed or lost. Also, much of the lake habitat in the system has been affected. For instance, the Coquitlam River and the Coquitlam Lake have been cut off for 100 years with the dam.

Recommendation 42 talks about the recommendation being out of date. I think we've talked about this previously. Once the Fisheries Act is restored—and I know that's a leap the government has to take to do that—will these actions on the habitat policy come into effect?

**Ms. Rebecca Reid:** My suggestion in answer to that question is that we do need to wait for the minister's response to this committee's report. At that point, I think you're going to get a better picture of what that looks like.

At this point, I'm not able to speculate on the types of changes or responses that we can expect.

**Mr. Fin Donnelly:** I was saying "if" they do. It was a hypothetical. If they do come back and restore those, you want to wait and see.... Okay.

On the warming water side.... Well, before I go to that one, I'm interested in recommendations 43 to 47 and 54 to 55, which talk about recommendations dealing with the Province of British Columbia. These seven Cohen commission recommendations, as well as recommendation 52, were deemed within their purview. What was the province's response on these recommendations?

**Ms. Rebecca Reid:** The province did provide a response—a few years ago now—and has responded positively in a couple of ways.

One of the recommendations was around the water act that was under review. That has been completed. Another recommendation was about the riparian areas regulation and how DFO and the province work collaboratively. That piece has moved forward as well.

On the responses the province provided, I think DFO has been working with B.C. co-operatively to integrate and respond as it fits into our responsibilities.

• (1000)

**The Chair:** Thank you.

Now we're into our overtime period, apropos the season, and I'm asking colleagues to please stick within the five minutes. I'm going to be rather strict. We promised our guests that we'd be done by 10:15, so I'm going to try to get close to that.

I understand that we're going to you, Mr. Finnigan, for five minutes, please.

**Mr. Pat Finnigan (Miramichi—Grand Lake, Lib.):** Thank you to the panel for being here with us today.

I have a question that's a bit different. We know that the Atlantic salmon and the western salmon are quite different. I think the Atlantic salmon has been referred to as a "large trout", but is there any sharing of information that can be beneficial to both coasts? If so, in what ways?

**Mr. Trevor Swerdfager:** Yes, there's a fair bit of information sharing. Some of the core biology of both Atlantic and Pacific salmon is shared, but not a lot, though, because in the Pacific case, as you know, yes, they do grow bigger, but then they die. In Atlantic Canada, they keep going back to sea.

Essentially, in a large part of the core physiology, the biology, and some of the foraging behaviour and so on, there are some similarities. There is a huge species differentiation.

In terms of some of our conservation techniques, a question was asked earlier about the business of run-by-run or river-by-river kinds of things. As you know, Mr. Finnigan, we are exploring that concept in a little more detail in New Brunswick and the northern part of Nova Scotia, so I would say that the answer to your question is "in part".

There are certainly lessons to be learned going in both directions insofar as management and definitely on some of the science. Also, on some of the technology associated with tracking and understanding these animals, for the most part that's an identical question. We're exploring an awful lot in common there and moving gear and technology expertise in both directions from an experimental design point of view.

**Mr. Pat Finnigan:** Thank you.

**The Chair:** Ms. Jordan.

**Mrs. Bernadette Jordan (South Shore—St. Margarets, Lib.):** Thank you for appearing today. I found this quite interesting. Of course, being from the east coast, it's a different area for me.

Mr. Donnelly made a comment about 20 million fish and said that was down. When I think about the Miramichi River and what we're dealing with there, 20 million fish would be great. My question is, how do you judge your stock assessments? Is it river by river? Cohen is obviously addressing the Fraser River specifically, but when I look at other rivers that are down a heck of a lot more than 20 million, I wonder how DFO prioritizes where they're going to put their resources and look at the concerns of other areas.

**Ms. Rebecca Reid:** I can start on that.

First of all, that 20 million is an aggregate number. When you think about the Fraser River, you see that there is a large number of runs, in fact, that will come back to tributaries. Aggregate-wise, you can come up with huge numbers, but it will vary system by system. As I was describing earlier, with the wild salmon policy and the identification of conservation units, there you get to a more detailed level of understanding of a particular run of fish, and we come up with goals for each of those runs. We call them "escapement goals": how many fish do we want to go back and spawn?

We've gone through an exercise in the Fraser River of defining those escapement goals. Once you have those goals, you can do an evaluation of how close we are to meeting those goals, how far away we are, and where the risks are. You do the risk assessment with the data you have, and then you can come up with a way to monitor, track, and measure the progress or the viability of the returns of those particular fish. Then you have a better sense of how the various units are doing and, to go back to managing a fishery, you can take that into account when you allow fishing to occur at certain times and

places. It is really those inputs that allow for the proper management of the fishery.

• (1005)

**The Chair:** Thank you.

Mr. Arnold, for five minutes, please, very quickly.

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

I'd like to go back to the one question I had earlier on the impact of subdominant versus dominant years; I didn't quite get a clear answer to it. At this point, is there any indication of greater impact on the subdominant years?

**Mr. Trevor Swerdfager:** No.

**Mr. Mel Arnold:** Okay, so it seems there is no correlation there. Thank you.

Regarding the Alaskan fisheries catch and the impact of foreign fisheries catch on B.C. salmon stocks, has anything been identified there? A couple of years ago the Alaskan fisheries had a huge catch in our chinook fishery. Has that been correlated to the sockeye fisheries as well?

**Ms. Rebecca Reid:** We don't have good information about the impacts on sockeye in that respect, the incidental or the unintended harvest of sockeye, but we do have a Pacific salmon treaty with the United States. We're renegotiating the chapters of that right now, and one of the chapters is on sockeye.

We have a very strong working relationship with the United States, including Alaska, on the management of those stocks, because they cross boundaries. We invest in them heavily and manage them very carefully.

**Mr. Mel Arnold:** Thank you.

This one is going to get down to more specifics on the sockeye fishery or actually on the Adams River run, which I have fished in the Thompson River. That river is clear water. We can actually stand on the shore and watch the fish migrating upstream. They are two feet off the beach in clear water. We can see them coming through in groups, in schools, and sockeye are schooling fish. Sometimes you'll see a group of four or five fish. Sometimes it will be 40 or 50. Sometimes it will be 400 or 500 fish all in one group moving through, and then you can sit there for two hours and there are no fish.

Have you done anything to sample those fish to find out if they are possibly all from the same progeny of parents or the same area, the same time zone? It seems to me it would be fairly easy. Maybe I'm too much of a layman, but you could actually stand there on the beach, wait for a school to come through, throw in a drift net, sample the number of fish and find out whether or not they're all from the same genome or not to find out if those fish stay together the full time out in the marine environment, through the river and lake environment. It's an incredible opportunity to study.

**Ms. Rebecca Reid:** We certainly do sampling of the returning stocks, including some DNA analysis. Once the sockeye get back to the river though, we're pretty certain about their origin.

I think the question is really about the situation in the ocean, where there are mixes of stocks coming back, and we need to protect the weak ones and fish the strong ones, but we can't tell them apart because they all look alike. That's when timing and location are helpful to have with a DNA analysis or coded wire tags. There are other scientific techniques to understand what fish you have encountered. That work is something we do invest in. It is incredibly important.

I take your point about looking more in the rivers, but at that point, we're pretty comfortable about what fish are there.

**Mr. Mel Arnold:** Can you enlighten us a little bit about your work in conjunction with the British Columbia aquaculture program and its fish science lab in the Lower Mainland? How do you work with it? Aquaculture in B.C. is managed by the province but with DFO. How does that relationship work?

**Ms. Rebecca Reid:** Just to clarify, in fact, in British Columbia the federal government has managed aquaculture since a court case defined that as being in our jurisdiction. We do have the regulatory program within Fisheries and Oceans Canada. In fact, we do work with the province though, because it has the part of the job licensing out the locations, the farms, so we need to work very co-operatively with it.

The other way we work with it is that we have an MOU with it on the actual testing of fish. It has scientific labs that allow us to study fish health questions, and it conducts that analysis for us. There are a couple of places where we work very closely with it.

**Mr. Mel Arnold:** Thank you.

**The Chair:** Mr. Donnelly, go ahead for five minutes, please.

**Mr. Fin Donnelly:** Thank you, Mr. Chair.

I want to return to talk about habitat destruction, and then my next questions are on pollution and warming water recommendations.

Recommendation 53 talks about the department and Environment Canada co-operating on regular testing and monitoring of fresh and marine water for contaminants of emerging concern for endocrine-disrupting chemicals affecting Fraser River sockeye salmon.

Has this been done? Have there been any results so far on that?

• (1010)

**Mr. Trevor Swerdfager:** The collaborative testing program is in place. The commission talked about endocrine disruptors as a potential impact on reproductivity. The monitoring program we have in place has not detected any of the particular endocrine disruptors that were identified in the commission discussion. We are still continuing that monitoring program, because sometimes not finding anything doesn't mean it's not there but just that we haven't detected it.

That program in terms of a monitoring effort will continue. So far it has not identified a particular problem. I don't want it to sound like it has no result; it's just we haven't found it yet.

**Mr. Fin Donnelly:** Fair enough.

Recommendation 74 is that the Government of Canada champion steps that would address the causes of climate change and warming waters, and recommendation 75 is that the commissioner of the

environment and sustainable development report to the committee on the Cohen commission's recommendation implementation. Can you talk about those two recommendations and where we're at with those?

**Mr. Trevor Swerdfager:** Insofar as the activity around climate change is concerned, I'd say there are two elements. First, the Government of Canada has moved in a particular direction that I think you're very familiar with. A large part of our work is trying to understand and tease out the impacts of climate change. The recommendation particularly focuses on warming waters. One of the things the commission was plagued by, I guess, was that it was a snapshot of time. I was on the stand with the commissioner for six days myself, and I can clearly remember how the questions were very much about the previous year or the given year as opposed to a trend over time. Warming waters is a perfect example of that. What we're trying to do is understand water temperature trends over a period of time. Our ability to sample and understand the ocean is improving, going out, as I was mentioning earlier, but an awful lot of that work is continuing the research, again not tied back to specific actions.

With respect to the commissioner for the environment and sustainable development, I know she has been engaged in a number of things around climate change, but again, from the point of view of managing her program, she's had to address certain elements of it as opposed to the whole thing, as talked about in the commission recommendation.

**Mr. Fin Donnelly:** On warming waters, obviously if we find out that the waters are warming, we'll be looking at working with other departments or other agencies in the province—hydro, for instance, when we're talking about flows. Is that work happening?

**Mr. Trevor Swerdfager:** Yes.

Go ahead, Rebecca.

**Ms. Rebecca Reid:** DFO works very closely with BC Hydro. We have water use plans that describe and manage flow levels. That is an important element. In addition, we have a monitoring program that measures flows and temperatures as the salmon return. We will actually adjust our management efforts, our fishery, in response. If we find that temperatures are at critical levels, we will cut back fishing in response.

**Mr. Fin Donnelly:** Finally, how will we know when it's successful—that water use plans are working, flows are increasing, our temperatures are decreasing, and we're starting to have increased salmon productivity? How will we determine or tell the success of our monitoring?

**Ms. Rebecca Reid:** I've talked about the escapement goals as a way of measuring outputs or results. I think achieving those goals for all the different systems is a valid way of measuring results.

**Mr. Fin Donnelly:** As I think you say, it's complex, too. It's always tough to measure success, but that's obviously the goal of the department.

**Ms. Rebecca Reid:** You need to define performance measures to know if you've been successful, and this is one that you can measure, that you can understand. It has direct cause and effect. I think it's a useful measure.

**The Chair:** Thank you, Mr. Donnelly.

Thank you to our guests for coming here.

I also want to thank our special guest from the MP section. Thank you for being here as well. We appreciate that.

I have one thing to note before we go in camera.

Ms. Reid, I think there was a request from Mr. Sopuck and Mr. Arnold for sockeye harvesting numbers. Hopefully you'll be able to

provide that information to the committee through the clerk. We can distribute it as long as it's in both official languages.

●(1015)

**Ms. Rebecca Reid:** One of the issues around that question is the time series. Every year the answer will be different. We can provide a time series of a decade, let's say, if that's acceptable.

**Mr. Robert Sopuck:** That's fine.

**The Chair:** Thank you again, Ms. Reid.

Thank you, Mr. Swerdfager. It was good to see you again, sir.

Ms. Lapointe, thank you for joining us.

We'll break for a few minutes so that we can go in camera for committee business.

Thank you.

*[Proceedings continue in camera]*

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