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Chair

Mr. Scott Simms

Standing Committee on Fisheries and Oceans

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● (1540)

[*English*]

The Vice-Chair (Mr. Robert Sopuck (Dauphin—Swan River—Neepawa, CPC)): I call the meeting to order.

Welcome, colleagues. As you can see, our regular chair isn't here. I have the honour of being the chair today for our discussion of new investments in science and assignments for new scientists.

We have four staff members here from the Department of Fisheries and Oceans. I gather that Dr. Arran McPherson will be giving the testimony before we move to questions afterwards.

Could you kindly start, Dr. McPherson? Please introduce all of your colleagues.

Dr. Arran McPherson (Director General, Ecosystem Science Directorate, Department of Fisheries and Oceans): My pleasure. Thank you very much.

I'll begin by thanking all of you, honourable committee members, for providing this opportunity for Fisheries and Oceans Canada to discuss the important work being done by the science sector, and in particular to present additional details about the recently announced new investments in DFO science.

I am Arran McPherson, the director general of DFO ecosystem science, based here in the NCR, the national capital region. I'm joined by Dr. Jay Parsons, director of aquaculture, biotechnology, and aquatic animal health science; Dr. Blair Greenan, a research scientist who focuses on oceanography and ocean climate, and who works at the Bedford Institute of Oceanography in Dartmouth, Nova Scotia; and Dr. Daniel Duplisea, a research scientist specializing in fishery stock assessments, who is joining us by video conference from Mont-Joli, Quebec.

We're here representing the more than 1,500 DFO science staff working aboard Canadian Coast Guard vessels, in coastal and freshwater research stations, and in laboratories and offices in the seven regions of DFO across the country.

The knowledge and expertise of DFO's science sector is fundamental to operational decision-making and policy development that supports DFO's mandate and the priorities of the Government of Canada. In addition to informing domestic management decisions and policies, the work done by DFO helps fulfill Canada's international commitments, and it supports collaboration through participation in such groups as the Intergovernmental Oceanographic Commission. DFO scientists collect and analyze information that is essential for evidence-based decisions on such things as sustainable fisheries quotas, species at risk recovery, and aquaculture. The work conducted by DFO science is also critical to advancing Canada's knowledge about the state of its oceans and to ensuring safe and accessible waterways.

Budget 2016 included a financial investment of $197.1 million over five years for DFO's ocean science and monitoring programs. This investment includes $1.5 million per year for freshwater research, including additional funding for the Experimental Lakes Area in northwestern Ontario. This funding will enable new and expanded research activities that will support evidence-based decision-making and policy development to conserve our oceans, coasts, waterways, and fisheries to ensure they're healthy and sustainable for future generations.

Specifically, with these new resources DFO will do more research and monitoring to support healthy fish stocks. We will collect more oceanographic data to better predict future ocean trends and do more research on the impacts of such environmental stressors as ocean noise pollution and microplastics. We'll conduct more research to support sustainable aquaculture and increase our diagnostic testing for pathogens and disease. We'll do more research on freshwater ecosystems, specifically in the Great Lakes, Lake Winnipeg, and the St. Lawrence River, and we'll provide additional funding to undertake work at the Experimental Lakes Area.

To accomplish this work, DFO will hire 135 new scientists, biologists, oceanographers, and technical staff across the country and in each of DFO's regions to enhance our skills and expertise. A national recruitment campaign was launched in May to attract these new employees.

We'll also be investing in new technologies for use in the field and in our labs. These new technologies will increase our data collection and analytical capabilities, reduce operating costs, and invite innovation.

Finally, we'll provide new opportunities for partnership and collaboration between DFO and universities, environmental organizations, indigenous groups, and other stakeholders, both in Canada and internationally.

We wish to thank you for allowing us to come here today. On behalf of DFO's science sector, we look forward to working to achieve this mandate and to continue to produce high-quality, credible results for Canadians.

We welcome any questions.

The Vice-Chair (Mr. Robert Sopuck): Thank you very much.

Our first speaker will be Mr. Morrissey from the Liberal Party.

If you have a specific question for a specific witness, please address it to that particular witness. If not, address it to Ms. McPherson, who can then determine the best person to answer it.

Mr. Morrissey, you have seven minutes.

● (1545)

Mr. Robert Morrissey (Egmont, Lib.): Thank you, Mr. Chair.

Ms. McPherson, with regard to the amount of money, the $197.1 million, could you give me the breakdown again of the new positions for the scientists you plan on hiring? Did you use that number in your statement?

Dr. Arran McPherson: I did. I'm sorry, but would you mind giving me a little bit more precision around what you're looking for? I have a lot of detail that I can share.

Mr. Robert Morrissey: Well, I'm looking for detail.

How many new positions will be hired, by region?

Dr. Arran McPherson: In the Pacific region there will be 28 full-time equivalents, FTEs. In the central and Arctic region there will be 23. In the national capital region, Ottawa, there will be 17 FTEs. In the region of Quebec there will be 15 new FTEs. In the region of the Maritimes there will be 25.5 FTEs. In the gulf region there will be nine FTEs, and in Newfoundland and Labrador region there will be 17.5.

Mr. Robert Morrissey: Could you distinguish between the Maritimes and the gulf region?

Dr. Arran McPherson: Absolutely.

The parts of Nova Scotia and New Brunswick that have their rivers drain into the Scotian Shelf or the Bay of Fundy make up part of the Maritimes region, so those FTEs would be based largely at the Bedford Institute of Oceanography in Dartmouth, Nova Scotia, as well as at the St. Andrews Biological Station.

The gulf region is those parts of Nova Scotia and Cape Breton as well as P.E.I. and the parts of New Brunswick in which rivers drain into the Gulf of St. Lawrence. Those FTEs would be based largely in P.E.I. as well as in Moncton, New Brunswick.

Mr. Robert Morrissey: What would the 17 be doing in Ottawa?

Dr. Arran McPherson: I'll just talk off the top of my head instead of giving you the exact details.

Across the regions and the NCR, we've made investments for existing programs in fisheries, in oceanography, in ecosystem stressors, and in aquaculture in fresh water. In addition to that, we've also changed how we're doing things.

As I said, for example, we're creating a new partnership organization. There will be one FTE in headquarters who will be responsible for managing and delivering new partnership dollars to external parties.

We'll also be doing more stock assessments. Commensurate with the number of FTEs going out to regions, which is about 85%, we have 15% in each of these different themes of work that will be in the NCR.

Mr. Robert Morrissey: I'm still not clear on what the 17 would be doing in the national capital region.

Dr. Arran McPherson: They will be integrating different—

Mr. Robert Morrissey: We're talking about scientists here.

Dr. Arran McPherson: Those FTEs that I talked about will be biologists, scientists. There will be technicians and physical scientists, so there will be a range of different categories. The folks who are in the NCR will have national coordination roles.

For example, some species span more than one geographic region, so there is a centre point and headquarters in Ottawa that takes the information from each DFO region and synthesizes it to create a national perspective.

Mr. Robert Morrissey: I asked that question because between 2008 and 2014, over 1,780 federal public service jobs were eliminated in Atlantic Canada. A significant number of these were in Fisheries and Oceans. During the exact same time frame, federal public service jobs in the Ottawa area increased by 1,835.

Fisheries and Oceans would seem to be one of the areas that should be decentralized outside of the capital region, so when we have an opportunity to create new positions, why would they not all be dispersed amongst the regions? That's the basis of my question.

Dr. Arran McPherson: As I've said—and I agree with you that DFO is highly decentralized—

Mr. Robert Morrissey: It's highly decentralized?

Dr. Arran McPherson: It is. We have 85% of our FTEs outside of NCR. Out of a department of about 10,000, approximately 8,500 are in DFO's regions, so the observation I was trying to make was that the approximate distribution of FTEs in this exercise matches the existing footprint of DFO, more or less.

Mr. Robert Morrissey: But that footprint is shrinking in the regions and growing in the national capital region.

How much time do I have?

The Vice-Chair (Mr. Robert Sopuck): You have a little over two minutes.

Mr. Robert Morrissey: There was a reference to water temperature and research. One of the concerns with the highly lucrative lobster industry on the east coast of Canada is the impact of climate change and the rising water temperatures. There's also some alarm being raised along the northeastern U.S. coast.

Is that an area on which we're doing specific research, and if we are not, why are we not, and will it be enhanced or begin to be developed with this particular initiative? This is probably one of the most lucrative fisheries within Canada.

● (1550)

Dr. Arran McPherson: I'll ask my colleague Blair to address that. If I have any additional comments, I'll make them if there is time.

Dr. Blair Greenan (Head, Oceanography and Climate Section (Maritimes Region), Department of Fisheries and Oceans): In my research group based in Dartmouth, research scientist Nancy Shackell published a paper in 2014 that looked at all of the fish species in the Maritimes region, looked at how sensitive they would be to changes in bottom temperature and the temperature in the water column, and estimated what we think it would be by the middle of this coming century, in 2050 or 2060. In the results published in a journal paper, some species were identified as being sensitive to changes in what we call "thermal habitat", or the temperature of their habitat. Lobster actually would benefit. Snow crab would actually decline, because snow crab is at the southern extent of its current range with temperature.

In summary, if the Scotian Shelf area warms up a bit, the snow crab will probably decline in that area, but lobster will actually benefit.

The Vice-Chair (Mr. Robert Sopuck): That's time.

Go ahead, Mr. Strahl, for seven minutes.

Mr. Mark Strahl (Chilliwack—Hope, CPC): Thank you very much, Mr. Chair.

You mentioned 28 FTEs in the Pacific region. We also, of course, have had the Cohen commission deal with issues of the Fraser River sockeye salmon in my neck of the woods. Can you tell me what those 28 FTEs will be focused on? Will any of them be directed by the recommendations of the Cohen commission, or can you directly relate them to any of the recommendations that were made by Justice Cohen?

Dr. Arran McPherson: Thank you for your question.

I'll start by saying that in addition to the work we're already doing at DFO to advance some of the Cohen commission recommendations as they relate to the science elements, absolutely the work of some of these FTEs will contribute to advancing the Cohen recommendations. This is particularly in the area of fisheries monitoring, in the area of understanding ecosystem stressors, in the area of wild salmon and aquaculture salmon interactions, and also in diagnostic testing capabilities.

As it's early days, I'm not able to parse out at this point the proportion of what each of those 28 FTEs will be doing as it relates to those specific recommendations.

Mr. Mark Strahl: Thank you.

Mr. Parsons, can you advise on whether an aquaculture operation has ever been authorized by DFO and then been set up on the west coast where the science has not supported that placement? Has a minister ever overridden the scientific advice he received in regard to siting of aquaculture operations, or has the science always been followed in terms of siting decisions, licensing, and that sort of thing?

Dr. Jay Parsons (Director, Aquaculture, Biotechnology and Aquatic Animal Health Science Branch, Department of Fisheries and Oceans): Thank you.

I'm certainly not aware of any particular instance of that occurring.

As part of the decision-making, a number of pieces of information are considered by management and the minister in making siting decisions for giving aquaculture leases. I should also note, of course, that the provincial government does have a role in leasing, whereas the department has the responsibility for licensing aquaculture proponents.

Mr. Mark Strahl: Do you feel that your ability to independently evaluate, on a scientific basis, aquaculture operations specifically in British Columbia has ever been affected by the fact that DFO is both the enforcer of the Fisheries Act, essentially, and the promoter of farmed salmon? Has that dual role ever compromised, as far as you're aware, DFO's ability to independently evaluate the scientific risks, or lack thereof, for aquaculture in British Columbia?

● (1555)

Dr. Jay Parsons: I'm not quite sure I would characterize the department's role as a promoter of aquaculture. Certainly they have a regulatory role, and in some respects an enabling role, but maybe that's getting into semantics.

Certainly within the department there is quite a clear distinction between management's role and science's role. We're here today from the science sector. It's part of our mandate and our roles and responsibilities to undertake scientific studies and to investigate a number of questions related to aquatic resource management. As well, we have quite a formal peer review system within DFO that we use to provide science advice to management. That advice is published. It's put on the website. The research documents and the research information supporting them are published and put on the website as well.

In that regard, I would suggest that we have a fairly independent, robust, and transparent system in terms of the type of science advice we provide in all the domains we're involved with.

Mr. Mark Strahl: I want to ask specifically about HSMI and PRV. Is there current ongoing science on that at DFO? Some people have made the case that there's a causal link. Others have said "not so fast", that the science doesn't support that. Can you give us DFO's view on those two, on HSMI as it relates to PRV, and on what work needs to be done there to provide assurance to Canadians?

Dr. Jay Parsons: Yes, certainly. You're in part probably referring to the recent news release from the department noting some of the ongoing work we have in terms of the potential finding of HSMI in B.C.

There have been several studies under way for a number of years that are related to both PRV and HSMI. The news release spoke in particular to one of the fairly large collaborative studies we have within the department, the strategic salmon health initiative, which is a jointly funded initiative with Genome BC, the Pacific Salmon Foundation, and DFO, whereby we released some preliminary findings looking at the potential occurrence of HSMI in B.C.

You've also questioned the state of knowledge around the cause of HSMI. We really don't know the cause of HSMI. Work has been done in Norway and a few other countries, and there is some work being done here in Canada. None of this work has been able to find a causal link, to find what causes HSMI, including the work we have under way in B.C.

A number of studies have pointed to an association between HSMI and PRV, but that does not necessarily mean that it's the causal link. The scientific story is more complex than that, and some of the work that's under way, both within the department and elsewhere, is further trying to define that link.

The Vice-Chair (Mr. Robert Sopuck): Thank you. That's seven minutes.

Go ahead, Mr. Donnelly, for seven minutes.

Mr. Fin Donnelly (Port Moody—Coquitlam, NDP): Thank you, Mr. Chair.

I'd like to thank all our witnesses for being here today.

Ms. McPherson, if you would, please thank your department of scientists, researchers, and technicians just to let them know that we appreciate the good work they do for the country and the department.

I'll start with how, during the last Parliament, DFO closed the habitat protection field offices. With this new announcement, will any of those offices that were shut down or moved be reopened with these new resources or any other budgetary resources.

● (1600)

Dr. Arran McPherson: The $197.1 million over five years is really largely targeted to ocean science and monitoring. Only a small part of it—as I said, $1.5 million per year—is directed to freshwater science. Of that $1.5 million, a contribution will be made to the Experimental Lakes Area, so the remaining freshwater resources for DFO science obviously will be less than that. At this juncture, we don't expect that we'll be reopening any offices to use as resources in places where we don't currently have staff.

Mr. Fin Donnelly: In terms of the state of the oceans, you talked about more science for determining what that state is. What do you see as the biggest threats? For instance, we have climate change, acidification, and issues on food in terms of the fishery.

Second, will you be working with universities such as the University of Victoria, for instance, or Dalhousie, and some of the Ocean Networks Canada collaborators and other collaborators?

Dr. Arran McPherson: Thank you for the question.

When the science sector in DFO was challenged to think about the things that are most in need of DFO science investment, we looked at the mandate letter of our minister and at the priorities of the management sectors of our organization that inform sustainable fisheries management and the like.

We also looked at the emerging things that science needs to be on top of and that we need to look at in the future in order to be ready when questions come up. You can't launch a research program that takes five years to answer a question that someone wants an answer to now. You need to be ready with that answer.

You've hit on a couple of things already, with ocean acidification and climate change, but as I mentioned, there's the impact of noise pollution. That's not something that we've typically spent a lot of effort on.

On marine mammals, we haven't done nearly enough work on the population levels and what the threats are for those species.

I'll also talk briefly about microplastics. Internationally, that's a huge issue in terms of the impacts on aquatic species of those tiny bits of plastic that are degrading.

These are all things that we identified as part of that exercise to set priorities.

Coming to your question about academic partners, we absolutely will be working with universities. I'm just thinking about Dalhousie and the team and how we've been working with them on our ocean acidification program over the past five years.

This new money isn't going to change what we do. It's going to change how we do it.

One of the things we're really going to focus on is partnerships. A large swath of the $40 million or so per year will be money that we'll use in working with university academics, such as ONC, as you've mentioned, but we'll also work with non-traditional partners, such as other levels of government, ENGOs, and whoever is the best researcher in the field that we need to engage with.

Mr. Fin Donnelly: Mr. Parsons, according to some, the Government of Canada is ignoring published scientific evidence that infectious salmon anemia virus, or ISAV, an internationally reportable fish virus, is present in B.C. farmed salmon. Do you have any comment on that?

Dr. Jay Parsons: There certainly has been one recent study that has been published, but—

Mr. Fin Donnelly: Which one? Is that the Routledge one?

Dr. Jay Parsons: Right. That has really been the only recent research publication on that virus.

From a regulatory perspective, in terms of the presence of potential diseases in our water, it's the Canadian Food Inspection Agency that has the responsibility for investigating the presence of diseases and for declaring whether the diseases are present in a certain area or not.

The CFIA certainly has had a fairly extensive program under way over the last number of years, a surveillance program through which they've taken a number of samples and specifically looked for that disease, as well as a number of other diseases, and they have not been able to confirm the presence of that disease on the west coast.

In addition, if there's ever any reported suspicion or presence of a reportable disease, it would be the responsibility of the Canadian Food Inspection Agency to confirm the presence of such a disease. To date, they've not been able to confirm the presence of ISAV on the west coast of B.C.

Mr. Fin Donnelly: Will they be putting in any new resources or receiving resources under this funding?

Dr. Jay Parsons: Under the new funding, the CFIA does not receive any new money, but within DFO.... As I mentioned, the CFIA has the regulatory responsibility for regulating aquatic animal diseases. DFO has the responsibility for undertaking research, as well as providing diagnostic testing in support of CFIA's mandate, and we did get some new resources to be able to increase our capacity to provide that diagnostic service to CFIA with this new money.

● (1605)

Mr. Fin Donnelly: Can you talk about the work Dr. Kristi Miller is doing in relation to salmon aquaculture and wild salmon?

Dr. Jay Parsons: Sure. I didn't mention her by name, but on the question from Mr. Strahl and the strategic salmon health initiative project I was referring to, Dr. Miller-Saunders is the departmental lead on that particular project.

As I mentioned, it's a fairly large collaborative project between DFO and Genome BC and the Pacific Salmon Foundation. That project is investigating the potential presence of a number of microbes that may occur on the west coast, in both farmed and wild fish, and it's also partly designed to be looking, if some of those microbes are present and if some of those are potential disease-causing microbes, at what the interactions might be among wild and cultured fish.

That's a fairly large study that has been under way for a number of years. It's in part 2b of the project right now, and I believe it's intended that there be three or four parts to that project.

The Vice-Chair (Mr. Robert Sopuck): That's seven minutes.

Thank you very much.

Ms. Jordan, you have seven minutes.

Mrs. Bernadette Jordan (South Shore—St. Margarets, Lib.): Thank you, Mr. Chair. Thank you, panellists.

Dr. McPherson, I guess my first question would be to you.

We're going now to the east coast. With the 25.5 positions in the Maritimes, the nine in the gulf, and the 17 in Newfoundland and Labrador, what are some of the specific areas they will be studying?

Dr. Arran McPherson: Thank you for the question.

I'd just like to correct that to say it's 10 in the gulf. I apologize.

Mrs. Bernadette Jordan: Okay, sorry.

Dr. Arran McPherson: I may have said it, or perhaps you did, but it's 17.5 in Newfoundland and Labrador.

Just to dive into a little bit more detail, the first basket of activities, as I said, focuses on ensuring that we have productive fish stocks. By that I mean ecosystem research and more frequent and comprehensive stock assessments for our key species across Canada. There will also be an investment in marine mammals, looking at more frequent and comprehensive marine mammal surveys on our three coasts, as well as a targeted investment in diadromous species and in Atlantic and Pacific salmon.

The second swath of activity is about ocean observations and making sure we know how temperature is changing and how some of our key oceanographic parameters are changing over time so that we can track and anticipate warming conditions or cooling conditions. In addition to that, we also have the work on ecosystem stressors, as I mentioned earlier.

For the third piece, of relevance in particular for the Maritimes region because it has an active aquaculture industry, there's the work Dr. Parsons has been talking about. It's more research on the impacts of wild salmon and farmed salmon interactions, as well as coastal monitoring with regard to the impacts of aquaculture in some of these areas.

That's an overview of the type of work that would be done in that area.

Mrs. Bernadette Jordan: The next part of my question goes to that. When there were cuts to DFO in the last few years, a number of projects were shelved. Will any of those projects be brought back? I'm speaking specifically about Atlantic whitefish. I don't know if it's on the endangered list or not.

That study was being done, and there was work being done in that area. They closed the habitat and basically just walked away. This is a species very close to where I am, and I'd really like to know if there are any plans to bring back the work that was started and never finished.

Dr. Arran McPherson: There aren't any plans to bring back the hatchery, but what we do have is a focused program emphasis on diadromous species, which would capture Atlantic whitefish and Atlantic salmon in that area.

There aren't any plans to bring back Mersey, if that's what you're talking about, but at the same time there will be more money available for the key research priorities in that location in diadromous species, which include Atlantic whitefish.

Mrs. Bernadette Jordan: I would also like to give one minute of my time to Mr. Eyking. I have one other question, and then we can move to Mr. Eyking.

The Vice-Chair (Mr. Robert Sopuck): That's fine. You have the floor.

Mrs. Bernadette Jordan: My final question is about marine protected areas.

As you said, you've looked at the mandate letters to the minister. You know we have to increase the number of marine protected areas by 2020 from 1%, I believe, to 10%. It's a huge project.

● (1610)

Dr. Arran McPherson: It is.

Mrs. Bernadette Jordan: Are any of these scientists dedicated to marine protected areas specifically, and if so, where are they?

Dr. Arran McPherson: Thank you for the question. In general, these researchers are going to be focused on the types of information we'll need in order to select good marine protected areas in the future. However, because we don't know exactly where those areas are going to be, at this point we can't allocate any of these new people to specific locations.

Mrs. Bernadette Jordan: You need more people.

Dr. Arran McPherson: Thank you.

Mrs. Bernadette Jordan: I'd like to give the rest of my time to Mr. Eyking.

Hon. Mark Eyking (Sydney—Victoria, Lib.): How much time do I have, Mr. Chair?

The Vice-Chair (Mr. Robert Sopuck): You have two minutes.

Hon. Mark Eyking: That's pretty good.

Thank you. It's great to be on this committee.

I'm from Cape Breton, and their biggest source of GDP is the fisheries in Cape Breton. We have a Veronika Brzeski. She does a lot of work with the area LFA27 MB and with the fishers. They've done work on eco-certification of lobsters under the Marine Stewardship Council. They're also looking at different uses of bait and handling of the lobsters. They're also doing some monitoring and activity around St. Ann's Bay, the new MPA dealing with halibut and other species.

They're doing a lot of work, but they were getting funding through fisher groups and also probably through ACOA. ACOA says that this is not really in its mandate and that they're doing such good work—and I think they're doing the work in conjunction with you guys, and you're using their data—that the funding should be coming from DFO.

I was pretty excited with our new budget and all this new money for research. I think it's good money spent by our federal government to have these independent groups getting the data, working with fisher groups, and bringing it together.

I know there's a lot of new research money and that it's focused on DFO employees, but is there going to be a chunk of that, or can you get a chunk of that, to get these independent groups to help you get your data and bring it to you for future analysis? It also gives the fishers in that area a sense that they're part of the solution and not part of the problem, I guess.

Dr. Arran McPherson: Thank you.

I'm aware of that work, and you're right; it's been really useful in terms of this work on St. Anns Bank and organizing the different members of that LFA. Absolutely, when I talked about partnerships, that's exactly what I was referring to.

There is a chunk of money identified in this $40-or-so million envelope that will focus on working with industry and working with academics. We want to work with the people we need to work with to get the type of information we need. We have a good track record of working with industry in this area as well as others across the country, and I think you are right: it does help to build confidence in the outcomes of that science when you see the work that goes into it.

Because it's in the Maritimes region and Blair is from the Maritimes, I'm going to ask if he has anything to add.

Dr. Blair Greenan: We've actually had a long-standing relationship on the science side with the Fishermen Scientists Research Society, and they have collected temperature data over a number of years that goes into our databases. There is an existing relationship there already, but I do agree that there are certainly opportunities for partnership with NGOs and the industry itself for collecting additional data.

There are some types of data that require the technical expertise that we have that we'll have to do ourselves. One key thing is if we're going to use data from external sources, we have to ensure that the data is of good quality. There needs to be an interaction between scientists within the department and these external partners to make sure that the data they are providing will be of good quality that we can use going forward.

The Vice-Chair (Mr. Robert Sopuck): That's time. Thank you.

Hon. Mark Eyking: Thank you, Chair.

The Vice-Chair (Mr. Robert Sopuck): Go ahead, Mr. Arnold, for five minutes.

Mr. Mel Arnold (North Okanagan—Shuswap, CPC): Thank you, Mr. Chair.

Thank you all for being here. It's great to get some insight on what's going to be taking place.

Ms. McPherson, could you perhaps give us a bit of a breakdown on how you see these new positions being divided up between interior habitat issues on all coasts versus the marine survival issues? I think we have differing aspects in all regions between the three oceans.

I am wondering if you have any idea of the breakdown of where these positions might be fitting in.

Dr. Arran McPherson: Thank you for your question.

To make sure I understand, you're interested in the breakdown of freshwater-oriented positions versus ocean-oriented positions.

● (1615)

Mr. Mel Arnold: Right.

Dr. Arran McPherson: Of the 135 positions, five will be oriented toward fresh water and 130 to the ocean type of research, to reflect the fact that we have $1.5-million envelope for fresh water and approximately a $40-million envelope for ocean science.

Mr. Mel Arnold: Okay. That's a rather significant difference.

Is that based on a belief that inland habitat is not as big an issue for river temperatures and so on? What is the basis for that split, basically?

Dr. Arran McPherson: How I would characterize it is that there is a lot of work that could be done on fresh water, absolutely, and $1.5 million isn't going to address every freshwater issue across the country. Recognizing that we received that envelope of funding, we tried to be strategic and think about the key areas we wanted to focus on, which were the Great Lakes, Lake Winnipeg, and the St. Lawrence estuary, because we have existing partnerships with provinces and the U.S. government in those locations.

We're hopeful that we can draw from the results of the work we do there and apply it elsewhere, but we took the decision to focus in those locations as opposed to providing a very thin layer across the whole country, because we recognize that wouldn't be sufficient.

Mr. Mel Arnold: For Mr. Duplisea, on ocean tracking and survival, can you give us any indication of where this might be moving forward? It seems to be a big question.

I spent a couple of days last week at the BC Seafood Expo, and that was one of the things that came up. Rather than trying to figure out why fish die when they go out to sea, they've kind of changed their thoughts around to why they survive. It would be interesting to know how much of this new science, or how many of these new positions, might be going into tracking ocean survival.

Dr. Daniel Duplisea (Research Scientist, Stock assessment and Ecosystem Approach (Québec Region), Department of Fisheries and Oceans): I think I could talk a little bit about the ocean tracking or some tagging programs, but I couldn't tell you about the allocation of positions to that area, the research area.

Arran, do you have something to say about that?

Dr. Arran McPherson: I suggest that you give a little bit of an overview of the type of work that we're doing and planning in that regard, and then, if there's time, I'd offer some comments.

Mr. Mel Arnold: Okay.

Dr. Daniel Duplisea: Okay.

I know, for instance, that we have counting fences that have been set up. They're primarily in the Maritimes region. There are several species that have been tagged. Every time one of these tagged species passes by one of the counting fences, it gives off a ping, and this is noted, and we can track the movements of fish. This work has certainly has been done on cod from the northern Gulf of St. Lawrence, but I think there has been a program in the Miramichi on striped bass. Perhaps there has been a program on salmon in the Miramichi.

There are several species that have been used as study species for the ocean tracking network. I know that the network is expanding, so there are fences, for instance, at the Strait of Belle Isle. There are fences at the Cabot Strait. There's a fence at the Halifax Line. In this way we can track these large-scale movements of fish, and they are giving insights into some of the behavioural responses of fish and what happens to them as their populations change in size. For instance, when they're at very high density, are they more likely to spread out, or if they're in lower density, do they stay in a more local area because they don't have to search for food?

There are a lot of ecological questions that can be addressed through these ocean tracking network and tagging studies, especially these live tagging studies. You don't have to kill fish and only observe them once. Instead, they get pinged by this fence multiple times.

That's really a growing area of research. For instance, one species that is very interesting and is going to be expanding that program is Atlantic halibut. That's both the population of the Scotian Shelf and the southern Newfoundland area one, as well as the other stock that we consider to be the Gulf of St. Lawrence—

● (1620)

The Vice-Chair (Mr. Robert Sopuck): I'm afraid time's up. Sorry.

Dr. Daniel Duplisea: Okay.

The Vice-Chair (Mr. Robert Sopuck): I could listen to that for a long time, but we did go an extra minute there.

Go ahead, Mr. Hardie, for five minutes.

Mr. Ken Hardie (Fleetwood—Port Kells, Lib.): Thank you, Mr. Chair, and I'll be sharing my time with Mr. Finnigan.

I'm sitting here looking at a picture of a big bin full of books that used to be in the Maurice Lamontagne Institute Library in Mont-Joli. At the same time, the library in the University of Manitoba, the Eric Marshall Library, was dismantled. The idea at the time was about saving money and consolidating the information. I guess the question is, was the information saved? Was it digitized? Even with the increased resources, are we operating at a disadvantage? In the case of the freshwater Experimental Lakes, we lost about 100 years' worth of records. They were just thrown away over the last 10 years, so are we trying to regain some ground there?

Dr. Arran McPherson: In terms of the information that was available at the library in Mont-Joli that you referred to, my understanding is that the information has all been digitized. It is now available electronically.

I will say that with the new investments, we are looking at future skill sets. What are the future technologies? What are the things we're going to need for the future? We did not take the decision to go back and reinvest in every location where reductions were made in previous years, so there are no plans to resurrect libraries that have been closed.

Mr. Ken Hardie: Continuity, of course, is kind of important, especially in science, as you monitor and track issues over time. In some respects, decisions that were made lost us some ground. I don't expect you to comment on that.

I want to talk about something that we've run into quite a few times in my discussions, either with witnesses here or with the folks on the west coast, which is that nobody trusts anybody's science any more. It seems that we've gone through a period of time in which DFO, perhaps because of its inability to speak and contribute at symposiums and conferences around the world, has been put at a disadvantage. You lost traction, it seems, and perhaps some credibility along the way. Will this development help restore the stature that DFO used to have?

Dr. Arran McPherson: I think it will make us more present. I think that with more people and more resources, we'll have the ability to physically be in places where we were challenged to be in the past, be that domestically in terms of participating in advisory committee meetings or with the fishing industry, or internationally in terms of major scientific conferences.

I think one of the keys to maintaining credibility, as you say, is really our peer review process, which Dr. Parsons spoke about, and how we publish our results and the advice we give online. We make it available for everyone, all Canadians, to see.

I also think a key component is open data. There's a commitment, obviously, in government to making data, paid for by public dollars, available to Canadians. I talked about technology. As one part of our investment, data management and making data available is a huge priority for us.

I think once Canadians see the data and can manipulate it as they like and see the results and the advice we've given based on that data, it will go a long way toward ensuring that the credibility the department has is maintained.

Mr. Ken Hardie: Thank you.

Mr. Pat Finnigan (Miramichi—Grand Lake, Lib.): Thanks. Thank you, Mr. Chair.

Being from Miramichi—Grand Lake, of course my questions will be around Atlantic salmon.

Part of the question we have regarding solving the million-dollar question of the diminishing numbers is around the data we don't have once the salmon leave the Miramichi River and go on their migration route. Could you tell me what kind of investment you will have in gathering that data, and also how we'll use it to make our policy?

I know I don't have much time here, but we had Mr. Irving in a couple of weeks ago. The private sector is ready, along with others, to invest heavily in this science. What is DFO's policy on private funds?

● (1625)

Dr. Arran McPherson: In general—I recognize we're probably short on time here—our policy is that we want to work with anyone to help advance shared research goals. I'm familiar with the project you're referring to and I know we've had some productive discussions recently about how we can work better together.

In terms of what we're going to do to solve the million-dollar question on Atlantic salmon, one key element, going back to a question that I think was asked earlier, is investing in tagging work for Atlantic salmon to look at how we're going to address marine mortality. I can't give you the dollar figure today, but certainly that's something we've identified as a project we need to invest in with these new resources.

Mr. Pat Finnigan: Okay.

The Vice-Chair (Mr. Robert Sopuck): I'm afraid that's time.

Mr. Strahl, you have five minutes.

Mr. Mark Strahl: Thank you.

Ms. McPherson, you mentioned a few things, including ocean noise pollution research and the importance of partnerships. Do you have a research relationship or partner with Vancouver Aquarium or with Marineland in Ontario?

Dr. Arran McPherson: We have in the past, through the national contaminants advisory group, given a small contract to work with Vancouver Aquarium on a specific research topic. I don't think I could relate off the top of my head what the title of that research topic was.

We want to work with researchers. They do have some key and renowned scientists at Vancouver Aquarium, so that is a partner we would be open and willing to collaborate with.

Mr. Mark Strahl: Right. I know they are doing important noise pollution research with beluga whales. If you don't have a partnership with them, I guess it's more difficult to discuss it, but perhaps you can talk about the importance of doing research in a controlled environment versus simply doing it in the ocean. I know that some, including some senators, would like to basically end research at those types of facilities. I'm just wondering if you believe science and research is advanced at places like Vancouver Aquarium and whether it should be maintained.

Dr. Arran McPherson: I'm certainly not a cetacean noise expert, so I can't talk about the specifics, but in general I think you'd find that most scientists would agree that it makes sense for there to be a field and laboratory component to research. Depending on the specific question, you might need both, or one might be better. It would really depend on the specific question being posed.

I don't know if my colleagues, who are practising scientists right now, have anything they want to add to that.

Mr. Mark Strahl: No one's jumping in.

Dr. Arran McPherson: Okay. Perfect.

Mr. Mark Strahl: With the ocean tracking network, all of the examples given—Newfoundland and Labrador, for example—came from the Maritimes. Are there any ocean tracking activities taking place on the Pacific side, and if not, why not?

Dr. Arran McPherson: I'll admit that the folks you have in front of you tend to have more of an east coast emphasis, just by virtue of the geography of the scientists we're here with today, but that's not to say that we don't have a significant investment in new research dollars going to B.C. I can't commit to the details at this moment, but that's a question that I'd be happy to follow up on if there is a request.

Mr. Mark Strahl: Okay.

I've seen that there have been some concerns raised by some fishermen regarding turbines in the Bay of Fundy. Can anyone on this panel speak to the scientific work that has been done and assure fishing groups that this will not have a negative impact on fish habitat in that area?

Dr. Arran McPherson: That's a very specific project question, so I'll ask Blair, just because he happens to be from the Maritimes region, if he has any information he could share with us on that.

Dr. Blair Greenan: That's not my area of expertise. There was a CSAS report released recently on assessment of the turbines in the Minas Passage, and the recommendations from that report are public, but again, it's not my area of expertise, so I really don't want to comment.

Mr. Mark Strahl: That's all I have.

The Vice-Chair (Mr. Robert Sopuck): Go ahead, Mr. McDonald, for five minutes.

Mr. Ken McDonald (Avalon, Lib.): Thank you, Mr. Chair, and welcome to the presenters here today. It's great to see you here at the meeting.

First off, it's great to see that some of these new scientists are going to be involved in a bigger way in doing stock assessments, especially as I'm from Newfoundland and Labrador.

My first question would be whether, even with the new stock assessments that are going to be done, we are still going to take into account the people involved in the industry, the fishermen. I go back to the closure of the northern cod fishery in the late eighties and early nineties. The fishermen kept telling government officials and kept telling DFO that the stock was in trouble, but nobody paid attention, and eventually, instead of lowering the quotas that were being taken, in some cases they actually were increased.

Of course, we all know what happened. They eventually closed down the fishery.

● (1630)

Dr. Arran McPherson: Thank you for the question. By no means are we—DFO science—planning to replace the valuable contribution that industry is making around the table in project design and implementation and the results of research in stock assessments. A key difference will be that there will be more of us that you're able to talk to.

When I talk to fishing industry associations, what I hear is that there used to be more scientists coming to advisory committee meetings, that there used to be somebody they could call to ask these questions of, and that they've been struggling to find the right person in this organization of 10,000, as I described. I think one of the key differences and benefits will be having more people working on fish science for industry to talk to and work with.

Mr. Ken McDonald: Thank you.

Another interesting point was the mammal survey. I presume that would include the seal herd. When that is done and your department looks at it and sees the number that are actually there, would your department be prepared to recommend an increased seal harvest to some degree, to make sure the herd is maintained at a level so that, number one, they can sustain themselves, and number 2, that seals won't have a major impact on fisheries stocks that are in place at that time?

Dr. Arran McPherson: Some of the work, as I said, that we're going to be doing on marine mammals is focused on whales. We'll be looking at how many there are, both in the north and on each of our coasts, but as you said, we'll also have more money in the future to spend on seal research to make sure we're keeping up with our assessments in a schedule that we think makes sense for the species.

The question you're asking is one that I might pose to my management colleagues if they were here, because our job as scientists is to provide the information, provide an analysis, and answer questions. We don't recommend management measures, because those have to factor in other considerations, not just science ones.

Mr. Ken McDonald: My next question would be to Mr. Parsons, because it deals with aquaculture.

Do you believe aquaculture should have its own separate act and not fall under the Fisheries Act? There seems to be some confusion. When they're trying to establish a location or whatever, it falls under fisheries, and then fisheries says no, this particular part of it falls under transportation. It's as if they get kicked from pillar to post in trying to move their development or project forward.

Dr. Jay Parsons: Again, as Arran just mentioned, that's really a question that should be directed towards our management colleagues. It's really a decision on their part as to what approach and advice we should be providing to the minister in terms of decisions in that area.

What I can say is that we work in a fairly complex jurisdictional system in Canada. It is a multi-jurisdictional regulatory system between the provinces and the federal government. There are a number of federal government departments involved in the regulation of the sector, and as well, the paradigm changes depending on whether you're dealing with the east coast, the west coast, the central provinces, or other areas.

It certainly is quite a complex question. It's one that I know the departmental management officials are working on in terms of understanding that complexity.

Mr. Ken McDonald: Time's up.

The Vice-Chair (Mr. Robert Sopuck): Mr. Donnelly, you have three minutes.

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

In terms of transparency, I want to mention that on May 19, Oceana Canada welcomed new investments in science, but indicated that the “historical lack of government transparency regarding our fish populations means it's nearly impossible to understand where things stand and where we're headed.”

How do you think DFO can improve information sharing regarding the state of fisheries in Canada, and will DFO set targets for the rebuilding of our depleted fish stocks? As well, in terms of organizing data, will that be made more consistent across the country, through the regions, and accessible to the public?

● (1635)

Dr. Arran McPherson: Thank you for your question.

Open data, making data available, absolutely is a priority. Will it be consistent across the country? Yes, it will be, but I cannot give you a date today as to when we'll achieve that goal.

Our fisheries data, our oceanographic data, and our Canadian hydrographic survey, which are our nautical chart data, are at different stages of advancement in their progress toward going online. I would say that fisheries data are slower. We're slower in being able to get all of that information posted for everyone to see.

I know we've committed to making improvements in our website. I recognize that there are some challenges in navigating through the science advice to the management decision for species to the TAC decision rules to notices to fish harvesters. We are taking steps to streamline that, to reorganize it, to share more about the information we have that can be provided. Then, recognizing that it's a longer-term process to make all of our data available publicly, it is an objective that we're going to realize.

Mr. Fin Donnelly: Harmful algal blooms are becoming more common due to climate change, but are made more toxic and significant by fish farm feces. Just as we have seen with harmful runoff in other contexts, the impacts on wild salmon and other wild aquaculture are real but hard to measure immediately.

The most affected species would be juvenile salmon, which can't swim out to the deeper water to escape the bloom, and shellfish, as the species do not move around, obviously.

We've seen how these algal blooms can devastate wild fish stocks in Chile, but we've yet to determine....

On the west coast of Canada, for instance, there was a recent outbreak with fish morts from aquaculture. Maybe, Mr. Parsons, you could comment on this. Then, essentially, is there any focus on addressing this issue?

Dr. Jay Parsons: Certainly. As you mentioned, there are certainly harmful algal blooms that have occurred. This is a phenomenon that's been known for a long time. It's not a new phenomenon by any means.

There are known triggers, such as temperature. Certain nutrient levels can also cause these types of conditions. I think there was quite a big phenomenon that occurred last year on the west coast, and a recent one.

With increasing temperatures, there are indications that we might see more frequent outbreaks of these harmful algal blooms. That does present challenges to both the fishing industry and the farming industry, whether it's finfish or shellfish. There is work to better understand these phenomena and what type of mitigation measures, if any, can be taken to address them.

The Vice-Chair (Mr. Robert Sopuck): That's time.

I was just wondering if the committee would allow the chair to ask a couple of questions.

Mr. Fin Donnelly: Are we doing another set of rounds, then?

The Vice-Chair (Mr. Robert Sopuck): The committee is the master of its own destiny. It is 4:40. We have time.

Mr. Fin Donnelly: Are we doing another seven-minute round?

The Vice-Chair (Mr. Robert Sopuck): I see heads shaking. If I ask a few questions, will that be it? Is that fair enough? Our time is pretty good. We can be generous.

Mr. Fin Donnelly: I have questions.

The Vice-Chair (Mr. Robert Sopuck): Who else wants to ask a question? There are four people, so with three-minute rounds, that's 12 minutes.

Mrs. Bernadette Jordan: And then you can still ask questions.

The Vice-Chair (Mr. Robert Sopuck): Okay, I'll wait until the end.

A Voice: I'll give you my time.

Mr. Ken McDonald: You can start.

The Vice-Chair (Mr. Robert Sopuck): Okay, thanks.

Will it be a principle of the research program that all research will eventually have a management outcome, such that if you do, let's say, habitat work or habitat research, there will be a management outcome that will enhance fish stocks?

Could give really short answers, please? I have a couple more questions.

● (1640)

Dr. Arran McPherson: If I've understood your question correctly, the majority of the research that we're doing will have a management outcome. However, sometimes that management outcome may be over a longer time scale and sometimes it will be over a shorter time scale.

The Vice-Chair (Mr. Robert Sopuck): I am a fan of basic research, but to me, basic research should be done in universities.

We had testimony in the last term from DFO officials that the recreational fishery in Canada was an $8 billion industry and the commercial fishery was at about $2 billion. Can you estimate the distribution of effort of the new research program between the recreational and the commercial fishery?

Dr. Arran McPherson: I'm sorry, but I don't have it broken down that way. I've never thought about it in the context of supporting the commercial versus the recreational fishery, because we have resources that are going to the central and Arctic region, for example, that would be responsible for recreational fishing in some ways and for supporting that. I'm sorry, but I don't have the numbers that way.

The Vice-Chair (Mr. Robert Sopuck): The Atlantic salmon fishery has become a recreational fishery. Again, I would just ask you to keep that in mind.

The other thing is that I am disappointed at how small a proportion of the funding is being devoted to freshwater areas. According to testimony during the last term, when I was on the fisheries committee, the most valuable fish species in Canada is the walleye. Do you anticipate doing any research on walleye at all?

Dr. Arran McPherson: With these new funds, the focus of our research on freshwater areas is, as I've described, in specific locations and focused largely on ecosystem stressors and aquatic invasive species. However, we do have a partnership fund and a fund dedicated to fisheries resource and assessment, so all species in Canada would be eligible for support under those program areas.

The Vice-Chair (Mr. Robert Sopuck): To me, though, fish are for people, and I see a tendency in the scientific community toward a love of research with not a lot of emphasis on the people portion. I think Mr. McDonald was alluding to this being very much a people resource. I would urge you to focus on the fact that fish are for people and to have the socio-economic focus in your mind at all times.

My last point is that there's been a commitment to “unmuzzle” scientists. Will we at this committee have the ability to ask any scientist who's with the department, at whatever level they happen to be, to come and testify before our committee, given the government's policy of unmuzzling scientists?

Dr. Arran McPherson: As you said, the Government of Canada supports and the department's supports our scientists talking freely about the research they do. Not knowing the procedures of this committee, I would suggest that if you had questions on a specific topic, we would be happy to provide a witness.

The Vice-Chair (Mr. Robert Sopuck): Thank you. Thank you, colleagues, for letting me speak.

Now we have Mr. Finnigan for a few minutes.

Mr. Pat Finnigan: Thank you, Mr. Chair.

The first GMO salmon is going to be introduced in the Canadian market, specifically as an egg at this stage, and possibly on the shelf. I am the chair of the agriculture committee, and we're going to have to study that.

Perhaps you can help me with that by answering this question. To what extent does DFO involve itself with GMO research, and has consideration ever been given, in an effort to preserve a species that is disappearing, to introducing genetically modified or altered fish into the wild?

Dr. Jay Parsons: I can start by answering that question. I might need clarification on the latter part. I'm certainly not aware of any research under way in the department that would be genetically modifying any fish species for any purpose, whether it's aquaculture or conservation, and introducing it into the environment.

The first part of your question relates more to DFO's role. We don't have a direct regulatory role with regard to the regulation of genetically modified organisms and, in particular, aquatic organisms. However, we do support Environment Canada in their regulatory role under the Canadian Environmental Protection Act in that we provide scientific support, in particular risk assessment support, for Environment Canada's decision-making around the manufacture of genetically modified organisms and, as I said, aquatic organisms in particular.

In the recent example in 2003, when there was a submission to Environment Canada for a request to manufacture a genetically modified Atlantic salmon, it was our department's role to undertake an environmental and indirect human health risk assessment of that particular application and provide that advice to Environment Canada.

● (1645)

Mr. Pat Finnigan: I have a follow-up.

The Vice-Chair (Mr. Robert Sopuck): You have 45 seconds.

Mr. Pat Finnigan: So far no GMO has ever been introduced into the wild. Could that be done? That's going to be asked of me. Is there consideration in the future to introduce salmon that has been genetically modified into the wild?

Dr. Jay Parsons: I'm certainly not aware of any interest or application of genetically modified organisms being introduced into the aquatic environment. The particular case that we provided the risk assessment on was based solely on land-based containment that had multiple layers of biological and physical containment.

Because one of your questions related to research, I should also clarify that the department does undertake some research on genetically modified organisms, salmonids, but very much with the research focused on our ability to undertake risk assessment, i.e., understand some of the potential ecological interactions. The research is very much focused in that direction.

The Vice-Chair (Mr. Robert Sopuck): Thank you.

Mr. Pat Finnigan: Thank you very much.

The Vice-Chair (Mr. Robert Sopuck): Mr. Arnold, you have three minutes.

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

I'd like to go back to Ms. Jordan's question about the marine protected areas.

This $197 million didn't just grow on a tree. It's taxpayers' dollars and it is over a five-year plan. I think we owe it to the taxpayers to be able to explain to them how much of this $197 million will be directed toward developing these new marine protected areas over the five years. Can you please give us a bit of a breakdown on that?

Dr. Arran McPherson: I certainly can try. I thank you for your question.

Coming back to my comments a little earlier in the session, these resources will be used to gather information on species composition and locations—basic, broad oceanographic information— whereas the marine protected areas work focuses on specific locations and efficacy of management measures. We can't do that work until we have a location largely selected. We're just not there yet in the process to reach our targets in 2017 and 2020.

An announcement last week by our minister and others shared some details about the plan to achieve those targets and identified a proposed dollar figure of investment for that work to be done. Some of those resources would be used for that science work.

Mr. Mel Arnold: Some of the resources out of this $197 million would be going to that?

Dr. Arran McPherson: Some of the baseline information would definitely be used in those other processes and some of the investment that was announced last week on the proposed work plan would also be used to fund the specific measures in specific locations.

Mr. Mel Arnold: How much time do I have, Mr. Chair?

The Vice-Chair (Mr. Robert Sopuck): You have one minute.

Mr. Mel Arnold: I was at a B.C. seafood expo last week in Comox and took in a session on citizen science. It's a program they have going on in the Salish Sea, whereby a number of volunteer retired fishermen take hard data measurements to provide ocean temperatures, clarity, and so on. Are there any plans to direct some of the new resources to backing up that type of system across the country?

Dr. Arran McPherson: That's an excellent question, and an excellent suggestion, if it was a suggestion.

We're just not there yet. This is still very new. We haven't decided how all of our partnership funds will be used, but we do have an element in the ocean observation investment specifically for working with others, so that opportunity would be available.

Mr. Mel Arnold: Thank you.

I think my time's up.

The Vice-Chair (Mr. Robert Sopuck): That's pretty well time.

Go ahead, Mr. Donnelly, for three minutes.

Mr. Fin Donnelly: Thanks, Mr. Chair.

I want to go to species at risk. DFO indicated...and I have a quote here, that “We will increase research and monitoring of marine mammals, including those that are considered at risk, to better understand their population dynamics.”

Can you talk a little bit about which marine mammals you mean, and tell us which are prioritized for the department?

● (1650)

Dr. Arran McPherson: Thank you for your question.

Our marine mammal science program is delivered through a centre of expertise that brings together all the different research scientists across the country who work on marine mammals, because it's a specific research domain. This new investment will see their research budget for monitoring increase substantially, almost threefold, so there will be definitely more work done on marine mammals.

They're working on their five-year plan right now, so I can't give you the exact list of what we're going to work on after this year. I know that this year what we're doing with those resources is participating in a survey for marine mammals that's running throughout the U.S. and up the coast from the Bay of Fundy to northern Labrador. We'll be synchronizing the research survey with the U.S. such that we'll have a comprehensive assessment of all the marine mammals on the northwest Atlantic.

Mr. Fin Donnelly: I'll ask a specific question about orcas and Pacific killer whales. Will they be on the list?

Dr. Arran McPherson: Absolutely.

Mr. Fin Donnelly: Switching gears to the ELA for a second, you've already talked about the Experimental Lakes Area, but can you talk specifically about how the department will provide support for the operation?

Dr. Arran McPherson: We are already three years into an agreement with IISD, the operator of the Experimental Lakes Area, which was for a million dollars—$250,000 a year for four years—and this is year three. These new monies will be in addition to that.

We've been in discussions with the Experimental Lakes Area for the past weeks and months to finalize the work plan. Because it hasn't been finalized with them, I can't share the details today, but it will be research that's relevant to DFO's mandate, and of interest to them as well.

Mr. Fin Donnelly: A research paper published in October of 2015 indicated that federal ocean policy and management have diverged substantially from marine science. Key areas where this is apparent include the failure to implement the Oceans Act, alterations to habitat protection, and lack of federal leadership on marine species at risk.

Will the new investments help address this ocean and freshwater research in managing of the network of MPAs?

Dr. Arran McPherson: This research will certainly help provide the science foundation for that work, and for species at risk as well, because this type of science information will inform the management measures that the rest of the department and others need to take.

The Vice-Chair (Mr. Robert Sopuck): We'll allow one more question.

Mr. Fin Donnelly: Thanks, Mr. Chair.

I was just going to go back to Mr. Finnigan's question about GM salmon. Maybe Mr. Parsons....

The DFO officials weren't part of that recent announcement with Health Canada and CFIA, but we had a scientist at our committee recently who reported that GM salmon, if released into the wild, would be high risk.

Now, you've said that this would never happen, that the salmon that are raised in our hatcheries in Canada or our concrete facilities.... In terms of the transportation in trucks or anything else, can you 100% guarantee that these salmon would never get out into the wild?

The Vice-Chair (Mr. Robert Sopuck): Just a short answer, please. We're running out of time.

Dr. Jay Parsons: I think the question was if there would be any intentional releases, and certainly I'm not aware of any intentional release.

In terms of the assessment we did on that particular application, we assessed it for its containment abilities, both physical and biological, and our assessment suggested that there would be very low risk of any escape, based on the several redundant physical containments throughout the whole process, whether it's the actual production, transportation, or grow-out of these systems, including biological containment as well.

The Vice-Chair (Mr. Robert Sopuck): Thank you very much. That's time.

I would like to thank our witnesses for their expert testimony. It was very interesting.

Sorry, Mr. Hardie, your name wasn't on the list. I will indulge you, because we have so much time. You have three minutes.

Mr. Ken Hardie: We've just gone through quite a dislocation in Alberta with the collapse of the oil industry, but it reminded me of the terrible dislocation in eastern Canada when the cod stocks collapsed. In deference to my colleagues from that part of the country, I wanted to talk about the recovery, or lack of recovery, in the cod stock.

Has this been a focus of ongoing DFO research, and will there perhaps be additional resources put to it? When the time comes for us to do the study, which is pretty soon, will we have people to call on who can inform our discussions in this area?

● (1655)

Dr. Blair Greenan: I could comment on the oceanography side.

In 1998, the department established a monitoring program for oceanography, including physics, chemistry, and the lower trophic level biology up to zooplankton level, because we were unable to answer questions at that time as to whether changes in the ocean environment had some responsibility in the collapse of the cod stock. We now have almost 20 years of environmental data that can provide information about the changing environment. That will be useful for future research on the cod stock.

I cannot speak specifically on the fishery side, because I am not an expert in that area, but we certainly have an ongoing collection of data in the ocean environment that can inform that.

Mr. Ken Hardie: As a result of the new funding, will additional resources be put into examining why the cod haven't come back?

Dr. Arran McPherson: There will be additional resources put into fishery science in the Newfoundland and Labrador region. Those resources will be available to help answer questions like the one you've addressed, and those questions might change. In five years from now, it might be different questions.

We do have a substantial cod program in Newfoundland and Labrador region, and these funds will only augment that.

Mr. Ken Hardie: I'll close with a quick comment.

I used the word “continuity” a little while ago. As you launch the new initiatives, the message back to government—whoever that government may be—is that once you get started, it's really hard to cut it back and lose the traction that you had, because once it's lost, it's almost impossible to gain that ground back again.

Therefore—note to self—put the money in and keep it there. Let's see if we can grow it a little, but by all means keep the continuity intact, because that's what good science is all about. Wouldn't you agree?

Of course you would.

The Vice-Chair (Mr. Robert Sopuck): On that agreeable note, we'll—

Mr. Fin Donnelly: Are we meeting on Thursday?

The Vice-Chair (Mr. Robert Sopuck): I heard no.

Mr. Fin Donnelly: I put in a motion, so I want to read out my motion.

Mr. Ken McDonald: Are we going to committee business now?

Mr. Fin Donnelly: I move:

> That the Committee instruct the analyst to prepare a summary of evidence based on testimony heard from witnesses on the Relevance of the Principle of Adjacency and the Owner-Operator and Fleet Separation Policies in the Pacific Region; that the summary be reviewed by the committee; and that the Chair write to the Minister of Fisheries and Oceans and the Canadian Coast Guard to present the summary of evidence.

The Vice-Chair (Mr. Robert Sopuck): The committee has heard the motion. Does anyone want to comment on the motion? Mr. Donnelly gave the requisite 48 hours' notice, so it is completely in order.

Mr. Ken McDonald: Do we need to detain the witnesses any longer? I'm not sure I should say “detain”.

The Vice-Chair (Mr. Robert Sopuck): I think we can excuse the witnesses.

I will suspend for a few minutes.

● (1655)

(Pause)

● (1700)

The Vice-Chair (Mr. Robert Sopuck): I call the meeting to order.

We have a motion before us. Are there any comments on the motion?

The one issue, colleagues, is the timing. If it is passed, it may not be possible to prepare it in time. It may have to be completed in September. That's the only thing I see.

Is there any discussion on the motion?

Go ahead, Mr. Donnelly.

Mr. Fin Donnelly: Thanks, Mr. Chair.

I'm not sure about why that would have to wait. Are you saying that the analyst is going on holidays or something?

The Vice-Chair (Mr. Robert Sopuck): He is away right now.

Mr. Fin Donnelly: I'm sure there's somebody who can fill in and work for him.

We did hear last week from witnesses. I think it was compelling information. I think we should at least provide the summary of what was said, the evidence that was provided, and get that to the minister. Some of the witnesses have written to the minister directly and want to get that information to him. This is a big deal in their community. They're very concerned about the impact of the closure of the cannery and that element in their community.

If we at least prepare the summary of evidence that we heard, then we can move from there right to the Minister of Fisheries, Oceans and the Canadian Coast Guard and present that summary of evidence. I think that would be a good move.

The Vice-Chair (Mr. Robert Sopuck): Mrs. Jordan.

Mrs. Bernadette Jordan: On a point of order, Mr. Chair, I believe we had agreed early on in our sessions that any committee business would be done in camera.

The Vice-Chair (Mr. Robert Sopuck): Anybody can move that.

Mrs. Bernadette Jordan: So moved.

The Vice-Chair (Mr. Robert Sopuck): Who is in favour of going in camera?

Mrs. Bernadette Jordan: We don't have to vote. Once it's requested, we have to....

An hon. member: We don't have to vote.

An hon. member: Yes, you do.

The Vice-Chair (Mr. Robert Sopuck): Yes, we do have to vote.

Mr. Mark Strahl: There's no debate, but there's still a vote.

The Vice-Chair (Mr. Robert Sopuck): There's no debate, but there is a vote.

Mr. Donnelly.

Mr. Fin Donnelly: It's a shame that we're going to close off discussion of a motion and go in camera on what should be available to the public.

I obviously am going to vote against this motion. I'm ashamed that the government side is doing this.

The Vice-Chair (Mr. Robert Sopuck): To be clear, it's been moved that we go in camera. There can be no debate, but there will be a vote. That's the rule.

(Motion agreed to)

[*Proceedings continue in camera*]