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# Standing Committee on Fisheries and Oceans

EVIDENCE

**NUMBER 005**

Tuesday, February 8, 2022

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Chair: Mr. Ken McDonald





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• (1105)

[English]

**The Chair (Mr. Ken McDonald (Avalon, Lib.)):** I call this meeting to order. Welcome to meeting five of the House of Commons Standing Committee on Fisheries and Oceans.

Pursuant to Standing Order 108(2) and the motion adopted on January 18, 2022, the committee is meeting for its study of flood control and mitigation systems in British Columbia.

The meeting is taking place in a hybrid format pursuant to the House Order of November 25, 2021. The proceedings will be made available via the House of Commons website. Just so that you are aware, the webcast will show the person speaking rather than the entirety of the committee.

Interpretation services are available for this meeting. You have the choice at the bottom of your screen of either the floor, English or French. Please inform me immediately if interpretation is lost, and we'll ensure it is restored before resuming. The “raise hand” feature at the bottom of the screen can be used if you wish to speak or alert the chair. Before speaking, please wait until I recognize you by name, and for those on video conference, please click on the microphone icon to unmute yourself before speaking. When you are not speaking, your microphone should be on mute.

This is a reminder that all comments by members and witnesses should be addressed through the chair.

I would now like to welcome our witnesses for today.

From the Department of Fisheries and Oceans, we have Sarah Murdoch, senior director, Pacific salmon strategy initiative, Pacific region; and Mr. Brad Fanos, director, fish and fish habitat protection program, Pacific region.

I also want to welcome Mr. Mark Strahl from Chilliwack—Hope, and Hon. Ed Fast from Abbotsford back to the committee. They've been past members on this committee.

Welcome back, gentlemen. I'm sure everything west coast is of the utmost importance to you guys as well. I look forward to your participation today.

We will now proceed with opening remarks for five minutes.

I don't know if Brad or Sarah is doing the opening remarks.

I would like to remind members as well that, when you're asking questions, I will be as strict as possible on the time. I'll tell you how

much time you have, and hopefully you'll live within that. I don't like cutting people off, but I will if I have to.

**Mr. Serge Cormier (Acadie—Bathurst, Lib.):** Mr. Chair, I have a point of order.

**The Chair:** Go ahead, Mr. Cormier.

**Mr. Serge Cormier:** Don't worry, anybody. This is not a motion I want to put on the table or anything like that. Don't ask for a recess.

[Translation]

I'll be quick, Mr. Chair.

Last week, Mrs. Desbiens wished me a happy birthday during a committee meeting. Today, I want to turn the tables. There's a rumour going around. According to my sources, it's her birthday today. Last week, she sung me *Happy Birthday*. I won't subject her to that, seeing as I'm a terrible singer, unlike her. I do want to wish her a happy birthday, though, and as a birthday gift, we could buy her a new headset to use at the next meeting.

Happy birthday, Mrs. Desbiens.

[English]

**The Chair:** I'm sure that's from everybody to Ms. Desbiens. Happy birthday.

• (1110)

[Translation]

**Mrs. Caroline Desbiens (Beauport—Côte-de-Beaupré—Île d'Orléans—Charlevoix, BQ):** Thank you very much.

[English]

**The Chair:** Serge, I'm glad you didn't sing *Happy Birthday*, because we would probably take off our earpieces if you started singing and probably leave the meeting.

Ms. Murdoch, you have five minutes or less, please.

**Ms. Sarah Murdoch (Senior Director, Pacific Salmon Strategy Initiative, Pacific Region, Department of Fisheries and Oceans):** Thank you very much.

*Bonjour* and good afternoon, Mr. Chair and committee members.

My name is Sarah Murdoch, and I'm the senior director of the Pacific salmon strategy initiative. My colleague and I appreciate the opportunity to appear before this committee on behalf of Fisheries and Oceans Canada.

We all share a deep concern for Pacific salmon and appreciate the committee's study on the potential impacts of flood mitigation systems on this important species. This concern is rooted in the department's core mandate of fish conservation and protection.

I am accompanied today by Brad Fanos, the director of the fish and fish habitat protection program here in the Pacific region. After my opening remarks, we look forward to answering any questions you may have.

[*Translation*]

I would like to begin by providing a brief overview of the department's efforts to assess and address the impacts of November's extreme flooding on salmon and salmon habitat in British Columbia.

[*English*]

The flooding is likely to have impacted several riverine fish species and populations. This includes Pacific salmon eggs and juvenile salmon in rivers and streams across portions of Vancouver Island, the Squamish River watershed, the lower Fraser River watershed and the Thompson and Nicola rivers near Merritt, British Columbia. In some cases, eggs have been washed away or covered with sediment. In others, scour and erosion from high water flows have likely altered or removed salmon spawning and rearing habitats.

Currently, the department is working hard to assess and better understand the potential impacts to salmon and other species from the flood events. Following the spring freshet, which is when snow and ice melt into rivers and raise water levels and flows in early spring, the impacts will become more evident. That said, it may take several years to understand the full impact of the flooding to some specific salmon stocks given their two- to five-year life cycle.

Over the next few months, DFO will be continuing its stock assessment work while also prioritizing activities and actions to mitigate impacts and support restoration of fish and fish habitat. This will include working with the Province of British Columbia, indigenous groups, local governments, environmental NGOs, local stewardship partners and others to assess the impacts and determine what would be effective short-, medium- and long-term actions to promote recovery.

As well, DFO will continue to provide strategic support regarding salmon habitat restoration opportunities for impacted habitat related to both natural river processes and longer-term infrastructure rebuilding. The department has established an internal flood response task team that is responsible for coordinating input from subject matter experts across our program areas to support the broader inter-agency flood response and planning that's under way.

We are also re-evaluating current restoration techniques and priorities to help ensure that, going forward, salmon habitat restoration work in the future is able to withstand extreme weather and will support fish populations that may be vulnerable to climate impacts.

Going forward, DFO expects to be engaged in both local and regional flood infrastructure decisions in either a planning or project review capacity. For example, in our regulatory role, we review project proposals to assess the potential impacts to fish and fish habitat as well as provide advice to support mitigation and avoidance of impacts.

The recent flooding highlights the many challenges facing Pacific salmon and the need for DFO to take action. As committee members know, up to 50 populations of southern chinook and sockeye populations here in British Columbia are slated for COSEWIC consideration in the coming years. Many indigenous communities have been unable to meet their basic food, social and ceremonial fishery needs. Both commercial and recreational harvesters have been restricted in recent years to help protect the stocks of concern.

The \$647-million Pacific salmon strategy initiative will guide and support our efforts, going forward, to conserve and rebuild salmon populations. That includes two key pillars—conservation and stewardship, and integration and collaboration that apply to the work here regarding the flood response.

Under the conservation and stewardship pillar, DFO will be focused on improving habitat monitoring and assessment, integrated planning for salmon ecosystems and strategic support for habitat restoration. On this last point, we are creating a salmon habitat restoration centre of expertise, which will complement existing programming and partnerships by providing technical experts to external groups undertaking salmon habitat restoration work.

As you know, the initiative also includes a commitment to double the federal contribution to the jointly governed and managed B.C.-DFO B.C. salmon restoration and innovation fund, which we call BCSRF, to support the salmon stewardship and restoration work led by external partners across British Columbia, which complements the efforts of the department.

Under the integration and collaboration pillar of the PSSI, DFO will be continuing to strengthen our partnerships with the governments of British Columbia and Yukon as well as first nations. As you know, with regard to salmon habitat, there is shared jurisdiction, so it's imperative that we continue our efforts to work closely with each other. At a more local level, DFO will also be undertaking collaborative integrated planning to identify strategic actions to mitigate and adapt to the impacts of climate change and enable better outcomes for our salmon populations.

The impacts of the recent flooding on B.C. have been devastating for many communities. As we continue to better understand the impacts of the floods on salmon and other species, we'll be continuing to work with our partners in a strategic and coordinated way. Through the PSSI and other programs, we'll be working to bring together the expertise required both inside and outside of DFO to ensure that salmon habitat restoration work will be most effective, which includes taking into account future extreme weather impacts.

I'd like to thank the committee for conducting this study and providing us the opportunity to discuss the impacts with you today.

Thank you, Mr. Chair.

• (1115)

**The Chair:** Thank you for that, Ms. Murdoch.

Before we go to the questioning I just want to remind the members of the committee that for the purposes of interpretation, please speak slowly and clearly. It's a great benefit as well if you identify whom you're actually asking the question of, instead of just leaving it wide open for either witness to answer. If you know who you want it to go to, please include that in your question as well.

To start off, for six minutes or less, we'll go to Mr. Arnold.

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

Thank you for your opening presentation. It is certainly important to everyone on the west coast how we're going to respond to these floods and how the salmon are going to respond to the actions taken.

I have one key question. You've identified the Pacific salmon strategy initiative and how that is going to be used in guiding and supporting the efforts. The PSSI was announced prior to the floods. What PSSI allocations or funds will be reassigned due to the floods?

**Ms. Sarah Murdoch:** Mr. Chair, at this point we are not looking to necessarily reallocate resources from the Pacific salmon strategy initiative, PSSI. What I tried to highlight in my opening remarks is that there are some very obvious and clear areas of alignment.

One obvious place may be the applicability of flood response efforts under BCSRIF, which we will be jointly delivering the expansion of with the Province of B.C. Moreover, the centre of expertise for habitat restoration, which we are in the process of setting up, is very much aligned with the types of work that will be done or will be needed, particularly over the medium to long term, for salmon habitat restoration.

Similarly, there's work we are looking to do with the province and other partners on the ground on a more integrated ecosystem planning that takes climate adaptation into account. Under PSSI we will have more capacity to participate in processes like that.

Thanks.

**Mr. Mel Arnold:** Thank you, Ms. Murdoch.

You mentioned the salmon habitat restoration centre of expertise just now. I take it that you've initiated that? When can we expect

that to be up and running and available to organizations that want to make use of it?

**Ms. Sarah Murdoch:** We are looking to have that stood up in this next fiscal year. We have a director in place now for our new stewardship directorate and the centre of expertise will be a key component of that.

I would say that we do have capacity now through our resource restoration unit. It's a smaller group, but we will be expanding that over the next fiscal year.

**Mr. Mel Arnold:** You mentioned also that there are up to 50 southern chinook and sockeye populations slated for COSEWIC consideration over the coming few years. How many stock assessments were complete for these stocks affected by the flood prior to the flood, and how many are complete for this year?

• (1120)

**Ms. Sarah Murdoch:** I'm going to see if my colleague, Mr. Fanos, has an answer. I am not familiar with our annual stock assessment program sufficiently enough to answer your question. We could certainly do so in writing.

We do have quite a robust regular stock assessment program, and under our species at risk program, we also obviously do additional work as populations go through that regulatory process. But I believe that many of those species or stocks would be picked up and covered off in our—

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

If we could we get that information in writing to the committee, please, that would be great.

**Ms. Sarah Murdoch:** Right.

**Mr. Mel Arnold:** Can you also tell me how many Thompson River and Nicola River chinook—pardon me, interior Fraser River steelhead—may have been in the rivers that have been affected at this time? How many spawning pairs may have been in the rivers affected, and how were they affected by the floods. That is the interior Fraser River steelhead, both the Thompson River and the Chilcotin River.

**Ms. Sarah Murdoch:** We will have to get back to you with that in writing, if that's all right, Mr. Chair.

**Mr. Mel Arnold:** Okay, thank you.

I also noted in your speaking points that some of the terms from the department were quite vague, such as that there would “likely” be effects and “likely” be effects on spawning channels. Is there any reason the department can't be more definitive in this?

**Ms. Sarah Murdoch:** I'm going to ask my colleague Mr. Fanos, who will do a better job at responding to your question.

**Mr. Brad Fanos (Director, Fish and Fish Habitat Protection Program, Pacific Region, Department of Fisheries and Oceans):** Do you mind repeating the question? I think it was related to the restoration impacts of DFO types of facilities.

**Mr. Mel Arnold:** No, the question was whether DFO has estimates on the number of adult interior Fraser steelhead that may have been impacted by the floods.

**Mr. Brad Fanos:** On that particular item, I think Sarah's accurate. We should be following up with the appropriate authorities. B.C. has management responsibilities for steelhead, in particular, so we'd be coordinating with B.C. to get that information.

**Mr. Mel Arnold:** The other question was regarding the rather vague statements in here. One is that "The flooding is likely to have impacted several riverine fish species". Is there a reason the department can't be more definitive?

**Mr. Brad Fanos:** Clearly, rivers are dynamic systems that go through these types of fluctuating water flows. This is a particularly severe event that occurred in the fall, so the impacts are anticipated to be much greater. We can see as much in some of the systems that we've seen, particularly in the Nicola, Chilliwack and Lower Mainland systems.

To understand what these impacts would look like over time, we're going through a seasonal change in the hydrological graph. We're going to be looking at the spring as a bit of a trigger to see what the impacts may look like for channel morphology. The rivers change through the cycle of the year and we're probably not likely to see what these impacts are until after the spring freshet, once we can see after the spring high flows where we're looking in terms of the fish habitat and the features there.

We will and do know that the various restoration facilities and hatcheries that we're operating, in terms of the nature of the impacts at those facilities.... But with the broader systems, like the Nicola, Coldwater and Spius, for example, they would take a longer time to assess at different times in the year to understand what the nature of the impacts are.

**The Chair:** Thank you for that.

We'll now go to Mr. Hardie, for five minutes or less, please.

**Mr. Ken Hardie (Fleetwood—Port Kells, Lib.):** Thank you, Mr. Chair.

Thank you, Ms. Murdoch and Mr. Fanos, for being with us.

I'm grateful to the committee, by the way, for agreeing to do this and making it our first study as we enter this new session.

The reason I thought there was some time sensitivity to this was the fact that we were witness to damage to some of the flood control systems, particularly along the lower Fraser. This presented an opportunity to perhaps improve those systems on behalf of the salmon runs as they were being restored or rebuilt.

I don't know if Ms. Murdoch or Mr. Fanos could answer this one, but what do we know about the extent of the damage to the flood control systems along the Fraser?

• (1125)

**Ms. Sarah Murdoch:** As I mentioned, we know there were impacts to salmon, particularly to juvenile salmon. Mr. Fanos can speak more directly to what we anticipate are the immediate impacts.

Unfortunately, the actual.... My apologies, I just want to make sure if I'm still connected.

**Mr. Ken Hardie:** Yes, you are.

I was asking about the infrastructure, not the fish.

**Ms. Sarah Murdoch:** My apologies. My screen just went blank, but as long as you can hear and see me, that works.

Yes, our own DFO infrastructure had some significant issues that we were not able to assess immediately because of the emergency nature, the limit of ability and access to different sites. We are in the process of making immediate repairs there, as are others.

Mr. Fanos is responsible for the program that issues some of the regulatory permits around some of the broader emergency flooding infrastructure that is being put in place immediately. We are coordinating on those, primarily through the province of British Columbia, to ensure that the appropriate permitting is in place from a regulatory perspective around protecting fish and fish habitats regarding flooding infrastructure.

If I can pass it to Mr. Fanos, he might be able to expand on that.

**Mr. Ken Hardie:** Yes, I would appreciate that.

What do we know so far about the opportunities that exist to perhaps improve the flood control systems and make them more fish friendly?

**Mr. Brad Fanos:** We know a fair bit. Our program, the fish and fish habitat protection program, has been working quite closely with a lot of the local municipalities and regional districts during the flooding events themselves to make sure that we were supporting them and the actions they were taking during the flood events to try to mitigate and avoid some impacts to fish and fish habitat while doing that important infrastructure repair work immediately at the time.

Now we're moving into the recovery phase. We know there's quite a large area in the Sumas and Chilliwack areas where are going to need dike repairs. There are many floodgates that pass water from the Fraser River into the various systems. These are critical areas for fish passage and access issues, as I'm sure you're well aware.

There's an opportunity as we're doing these upgrade works in the coming weeks, months and years, frankly, to continue to work with those various local governments in the project review functions, as Sarah indicated, and also proactively trying to ensure the best practices. Many of these features were developed 50 years ago or longer. The design features for fish friendly aspects weren't necessarily available. There's a tremendous opportunity, and we will be working with local governments and the British Columbia government for all those opportunities as we're starting to rebuild for the fish friendly....

I should note that there's been a tremendous amount of the work by ENGOs, people like the Watershed Watch Salmon Society, for example, who have done an excellent job working with others to prioritize and understand the number of flooding infrastructure issues and where there are opportunities and priorities related to improvements for fish and fish habitat.

**Mr. Ken Hardie:** Do we expect that there will be an ask of the federal government for funding support as these systems are restored and hopefully improved?

Ms. Murdoch, perhaps that's best to you.

**Ms. Sarah Murdoch:** As Brad said, we're working closely with our provincial and local government colleagues. Obviously there has been a significant amount of federal funding provided to support the emergency response writ large. We want to make sure that funding is done in a way where DFO is participating and informing the spending of that money as much as possible.

We've not had any specific conversations regarding specific salmon friendly projects per se other than some very preliminary conversations about the fact that this type of work would definitely be eligible under our B.C. salmon restoration and innovation fund.

Thank you.

**Mr. Ken Hardie:** We also saw flooding events in Merritt and in Princeton. If there were no flood control measures, for instance on the Coldwater River, the Nicola River or the Similkameen River, I would imagine we can expect that some would be put in place.

Do you know the status of any flood control measures that were there, or were they just basically non-existent prior to the flooding incident?

Mr. Fanos, would you know this?

**Mr. Brad Fanos:** Yes. In the various systems you've indicated, whether in the Merritt area in particular and around Similkameen and around Princeton, most of those features aren't quite the same as the Lower Mainland. We saw lots of agricultural activity and heavy diking. There are dikes in those particular areas, and we had some works that we supported through our regulatory functions to support repairs to those.

The kinds of access issues that you see in the lower Fraser are quite different when you move into the interior. The Coldwater and the Nicola are more natural systems, with some diking, but not necessary to the degree you're seeing in the Lower Mainland. There are still some opportunities there to improve dikes, to have setbacks, to allow better habitat channelization and repair and support for fish and fish habitats. Opportunities are there. They're probably different—more around channel morphology and trying to improve conditions within the stream for fish and fish habitat. The nature of opportunities you might see in the Coldwater and Merritt systems versus what you might see in the Lower Mainland are a little different.

• (1130)

**Mr. Ken Hardie:** Mr. Chair, I think I'll end here.

**The Chair:** Thank you, Mr. Hardie. You've gone a little over time.

[Translation]

Go ahead, Mrs. Desbiens. You have six minutes.

[English]

You're on mute.

[Translation]

**Mrs. Caroline Desbiens:** Mr. Chair, I don't have the proper headset, but I should be getting one any minute now. I'll have to skip my turn or switch with the NDP member.

[English]

**The Chair:** Thank you.

We'll go now to Ms. Barron.

**Ms. Lisa Marie Barron (Nanaimo—Ladysmith, NDP):** Thank you to Mr. Hardie for bringing forward the study. For me as a resident of British Columbia and one who's representing the constituents of Nanaimo—Ladysmith, it's clear this has had an important impact on British Columbia this year.

I appreciate the information that's been brought forward. I have a bunch a questions. Clearly, I won't have time to get to all of them, but the first thing I want to ask about is when we talk about solutions and building flood mitigation infrastructure, we often talk about intensifying what we've already built with human-engineered grey solutions. Alternatively, in my riding, the city of Nanaimo has done a lot of work to make sure that we consider the natural infrastructure we have around us. For example, Buttertubs Marsh Conservation Area is evaluated as being worth \$10 million to \$15 million as part of our storm surge infrastructure while providing a habitat for birds and an entire natural, vibrant ecosystem.

As we're building from this extreme flooding event, I'm wondering how the government is helping communities ensure that natural infrastructure is prioritized and enhanced as we try to balance salmon populations with the protections for our communities.

**Ms. Sarah Murdoch:** Mr. Chair, I can begin and then I'll quickly pass it to my colleague, Mr. Fanos.

I would say that it's very much aligned with DFO's role in the process and very much what we are looking to support. Where Mr. Fanos leads, we have a regulatory role around protection of fish and fish habitat, but we also are looking to engage increasingly in the local and regional levels of ecosystem and integrated planning processes to support what we call a "fish friendly" approach to infrastructure.

Obviously, a lot of the leadership needs to also come from the Government of British Columbia and local governments, so it's very nice to hear that it's supported by your local regional district or community of Nanaimo.

We've had good initial conversations with the British Columbia government and we are hoping to continue to have broader support along those lines.

Mr. Fanos, do you want to add?

**Mr. Brad Fanos:** The only thing I will add is that supporting green infrastructure and broader environmental benefits certainly complements the work DFO is doing related to fish and fish habitat.

The planning functions the department does are going to be critical because we're going to be involved and engaged and expect to be engaged in infrastructure upgrades and opportunities for fish, which will just benefit broader environmental interests, if you will.

Thank you.

**Ms. Lisa Marie Barron:** Thank you, Chair. Can I move on to the next question? I'm just making sure I'm following the process here. I'm seeing a yes. Thank you.

Building on the question I previously asked—and thank you for that response—I'm seeing a lot of fragmentation in the processes. We talk a lot about having a whole ecosystem approach, but I'm seeing a fragmented approach as we're spending dollars in this recovery.

It's clear that habitat and species recovery, green infrastructure, climate change, adaptation and reconciliation can all be achieved through investments in the right projects. I'm wondering how we can see more of an alignment of priorities as we build back from this flooding.

**Ms. Sarah Murdoch:** Thanks very much for the question.

Mr. Chair, I just have a brief response. I wholeheartedly agree. We do need an integrated approach. One thing we are looking to do within the department under PSSI is now to have a Pacific salmon secretariat that makes sure we aren't siloing even within our own departmental response.

As mentioned, we also have a task team for flood response that brings in the subject matter experts from across our various program areas. Obviously, though, that's just within DFO. In our department, we are also engaged and looking to engage further—over the medium to long term, not just the immediate response—in an inter-agency approach. We expect that will be led by the B.C. government, but there will also be tables and opportunities to engage at that subregional or watershed level as well going forward.

I wholeheartedly agree that we need a coordinated approach that's more holistic in nature.

As Mr. Fanos mentioned, if we can do things in a way that is fish friendly or friendly for salmon, it will tend to have broader positive environmental effects as well.

• (1135)

**Ms. Lisa Marie Barron:** Thank you.

I just want to see if I have time for one more question in here.

There is one last thing I wanted to ask about in the short period of time that we have. We saw some really courageous stories of Sumas and Stó:lo first nations community members working incredibly hard to save endangered salmon. We know that first nations have been at the forefront of standing up for and protecting salmon populations.

I know you touched on first nations, but how is DFO working in partnership with first nations to ensure they have a voice in this conversation at the table?

Thank you.

**Ms. Sarah Murdoch:** Mr. Chair, I would say that at all levels we are working closely with first nations partners. Our minister, Minister Murray, was sitting I think yesterday on a committee of federal-provincial ministers, as well as leadership from the B.C. first nations.

As well, at my level and Brad's, we are also meeting regularly with first nations partners, again, like those you mentioned who are working specifically in the lower Fraser Valley in the watershed level. We are also, under the Pacific salmon strategy initiative, looking to build governance in collaborative mechanisms to work with first nations provincially as well on salmon rebuilding and restoration in particular. That will be something that we're looking to build together, with a focus on salmon recovery and rebuilding in the coming year.

Thank you.

**Ms. Lisa Marie Barron:** Thank you.

Note to self: I will time myself moving forward.

I'm assuming I'm out of time?

**The Chair:** You are pretty close. Sorry. You have about 10 seconds left. You won't get in much in that length of time.

**Ms. Lisa Marie Barron:** I don't think there's going to be enough time.

Thank you.

**The Chair:** We'll get back to you again later.

[Translation]

Mrs. Desbiens, you have six minutes.

**Mrs. Caroline Desbiens:** Thank you, Mr. Chair.

I'd like to thank the clerk and the whole team for their understanding.

Thank you to the witnesses for being here.

My birthday gift came quickly. How wonderful.

I have a question about recommendation 14 in the committee's fifth report. The recommendation reads as follows:

That the Government of Canada recognize that the situation in British Columbia facing fish harvesters is urgent, and that relief will be necessary to support commercial, recreational, and Indigenous harvesters as these communities rebuild the fisheries.

The recommendation addresses the emergency supports that commercial, recreational and indigenous fish harvesters need.

Do you have an assessment plan in place?

Are the supports targeted?

Have you been able to provide specific and effective support in a targeted manner?



[English]

**Ms. Sarah Murdoch:** I will just jump right in, if that's all right, Mr. Chair.

Yes, with regard to the closures announced last year, particularly for the commercial harvesters, as well as the ones going forward and anticipated over the longer term, we are currently meeting with commercial harvesters on the west coast—salmon fishermen—and talking to them both about what we think those longer-term closures will need to look like for the next one, two or three cycles of salmon in order to rebuild and restore those populations to a sustainable level, and also how we can help mitigate the real impacts on them. A key component of that will be a licence retirement program. We are just consulting right now with fishers on that in looking to have it launched prior to the start of this fishing season.

Thank you.

[Translation]

**Mrs. Caroline Desbiens:** Thank you.

Have you put a figure on the economic impacts, as well as the effects on Pacific salmon markets outside British Columbia? Did the flooding affect the supply of salmon on Canadian and foreign markets?

In Quebec, concerns have been raised around the ability to conserve this wonderful salmon for consumption. People love eating salmon. Will this affect supply going forward, in the same way certain foods are becoming scarcer on store shelves right now?

• (1140)

[English]

**Ms. Sarah Murdoch:** I did mention in my opening remarks just how many of these populations unfortunately are already under consideration for COSEWIC, particularly in the lower southern portion of British Columbia—our sockeye and Chinook. Sockeye largely have been targeted, as have other salmon species, for commercial harvesting, for both the domestic and the broader market. We have seen downward returns in many of those for some time. We are working with fishermen not only on fishing opportunities, but on how to best set themselves up in terms of resiliency going forward.

I would say, yes, just like the Big Bar landslide, which I know you have looked into as a committee as well, unfortunately the floods are now another natural incident. I think it points to the need for climate adaptation and just the recognition that opportunities for fishing commercially on salmon will be quite variable, and we need to be working with industry to manage and weather that storm ahead. That work is already under way and will definitely be continuing over the next few years under the PSSI.

[Translation]

**Mrs. Caroline Desbiens:** Do I have a bit of time left, Mr. Chair?

[English]

**The Chair:** You have two minutes.

[Translation]

**Mrs. Caroline Desbiens:** Thank you, Mr. Chair.

Ms. Murdoch, thank you for that very informative answer.

Is it possible that the export side of this resource market could be diminished to satisfy domestic demand or demand from the Quebec market?

Are you considering a decrease in exports to ensure we have enough of this wonderful fish for the domestic market?

Is that something you are studying or planning to do?

[English]

**Ms. Sarah Murdoch:** I may need to get back to you in, if that's at all possible, in writing regarding that specifically. I'd like to talk to or discuss this with my fisheries' management colleagues.

I would say that salmon over the last several years have become a smaller and smaller share of the fish harvested on the west coast. Obviously, salmon have a huge cultural and historical importance and are important to first nations, commercial fishers as well as recreational fishers.

As for the overall percentage share that salmon represent in the commercial harvest and in GDP, that has reduced quite significantly, so I think there is a story here around diversification into other products and other fisheries. As for the actual breakdown of export versus domestic consumption of our Pacific salmon, I'd like to respond in writing, if that's okay.

**The Chair:** Okay.

Thank you, Madame Desbiens.

We'll now go to Mr. Fast for five minutes or less, please.

**Hon. Ed Fast (Abbotsford, CPC):** Thank you to our witnesses for appearing.

Ms. Murdoch, I want to talk about dredging. Although the flood devastation in the Fraser Valley was immense, it could have been so many times worse had the Fraser dikes been breached by this atmospheric event.

Your presentation addressed the steps that will be taken to restore and protect fish habitat, effectively after the fact. The focus of the study is actually “risks flood control/mitigation systems...pose to wild salmon runs”. The Fraser River dikes run all the way from Hope down to Richmond, and if they were breached, the devastation would be many orders of magnitude greater. It behooves us as decision-makers to turn our minds to how we harden our infrastructure—in other words, to our diking and drainage systems.

One of the problems in the Fraser River—and if you speak to the mayor of Abbotsford he'll confirm this—is that the current of the Fraser River is being redirected. Sandbars are building up, redirecting the currents up against the dikes themselves, undermining them. I believe the term that's used is “avulsion”. In any event, the integrity of those dikes, which are many decades old, is being eroded. I believe that DFO and levels of government across Canada are going to have to put their minds to how to protect our communities against these events that will become more frequent.

To get to the dredging issue, obviously DFO is deeply implicated in the dredging of rivers.

Have you turned your mind to the possibility of increasing the dredging to ensure that the flow of the river doesn't further undermine the integrity of the dikes?

• (1145)

**Ms. Sarah Murdoch:** Mr. Chair, I would just say that we are looking to take a medium- to long-term view of this. Obviously there was an emergency response phase, but we do need to be planning for future climate events and how we adapt.

I'm going to pass this to Mr. Fanos who's much more familiar with the different types of infrastructure and projects that may likely be considered, and our role in it as a key regulator to protect fish and fish habitat.

**Mr. Brad Fanos:** With regard to the work that the department does with other local jurisdictions, the Vancouver Port Authority for example, around dredging in the Fraser River, we're actively involved in the annual maintenance, if you will, of many of the channels, particularly as it relates to navigation.

When you look at the opportunities for broader flood protection in the context of climate adaptation—and I think we're all familiar with the work that's happening in the greater Vancouver regional district at the various local levels around the concerns you've just flagged and raised with respect to elevation of the dikes and the risk for broader flooding and economic and personal impacts—and the departments involved in the planning exercises currently under way to assess the required mitigations, some of it would be and potentially could be dredging, but others could be dike design, movement of dikes and access for drainage around dikes. So there are quite a number of mitigations. The department is engaged particularly with B.C., which has obviously got some lead jurisdiction here in how they're designing and maintaining and upgrading these particular systems. So we work in collaboration with the other local and provincial authorities, and in this case the Vancouver Port Authority, to look at all those opportunities with respect to mitigation for the longer term climate adaptation needs that we're seeing.

**Hon. Ed Fast:** Mr. Fanos, you mentioned that you're looking at a number of mitigations. If it's not dredging, you mentioned moving the dikes, but that is horrifically expensive. In fact, if you look at just British Columbia alone, for the diking improvements that will have to be made, including seismic improvements, the cost is in the many, many, many billions of dollars. When you run that across Canada, we're talking probably about \$1-trillion bill eventually. With those kinds of expenses, it seems to me that a cautious and careful approach to dredging might at least in the interim be a resolution to this challenge.

I had a chance to tour the Fraser to see the condition of the dikes, and you can see the erosion that's happening. It's happening from the currents that are being redirected by the sandbars that are not being dredged at this point in time.

Does DFO have a default policy of some kind that dredging is generally frowned upon unless there is an emergent issue to be dealt with?

**The Chair:** Sorry, Mr. Fast, we've gone over the allotted time.

I would say to the witnesses, if you could provide an answer to that particular question in writing, it would be appreciated.

We'll move on now to Mr. Hardie for five minutes or less, please.

**Mr. Ken Hardie:** Thank you, Mr. Chair.

In deference to Mr. Fast, yes, I'd like to hear an answer to that question, and particularly on whether or not dredging would also have a damaging effect on salmon runs.

Mr. Fanos, you were almost ripe to get into it there, so away you go.

**Mr. Brad Fanos:** Thank you.

Yes, I thought it was a good opportunity to maybe explain some more.

First, with regard to role the department has in dredging—and then I'll move into some of the impacts that could be associated with dredging—we're not the lead for water management, for flood management and for drainage. This is a provincial jurisdiction. We really work in collaboration with others. Our role is approval of the dredging as we're looking at the impacts on fish and fish habitat from a regulatory perspective. We support the thinking and the work that's going into what are the best prescriptions to manage flood and drainage in the Lower Mainland. Again, it's a secondary role to provide advice on how that might impact fish and fish habitat, so again it's provincial jurisdiction and local government's.

With regard to the impacts on fish and fish habitat, absolutely, when we look at these projects and these mitigations, if it's dredging, we look at the various impacts we could be seeing, whether it's on juvenile or adult species and habitats in those locations. There could be spawning habitats or rearing habitats for important species that could be impacted. There are times of the year that are particularly sensitive when fish at different life stages are in the water. There are significant potential impacts on fish and fish habitat associated with dredging. It's in-water work, so it's disturbing their habitats. It may be disturbing individuals. It could harm or even kill individuals depending on the time of year the dredging is done.

It's a serious piece of work; it's important. We have a lot of expertise. Over the years we've worked with various local governments to ensure that dredging is going on, because it's required and critical for a variety of reasons, not only for flood management but also for navigation. Absolutely, we're actively engaged to conserve and protect the fish and fish habitat values that are in those systems.

• (1150)

**Mr. Ken Hardie:** That leads to another question with respect to fish. I mean, we've been obviously focused on salmon, but there are other species in the river.

Has the flooding impacted other species? If so, which species are they? Second, do flood control measures also impede, for instance, the access to spawning for other important species up and down the Fraser?

**Mr. Brad Fanos:** We certainly have a keen interest, as you know, in the salmon, but there are other species, freshwater species, such as sturgeon, and there are several listed species in Sumas, for example, with Nooksack dace and Salish suckers. So there are other species that are potentially impacted by the flooding events.

As we said earlier, many of the impacts of the flooding will be hard to determine at this particular juncture. We're going to have to do assessments over time to look at the channel morphologies and at the stock assessments from a fish perspective to understand what stocks might have been impacted. Absolutely, there is quite a diverse array of potential impacts.

I should note that these are natural events that often impact habitat features, for example, scalping gravel away that fish might want to spawn in, but they also generate new off-channel habitats and spawning habitats, so there is a positive and a potential negative feature to these kinds of hydrologic events that you're seeing.

With regard to mitigation, yes, the Fraser, as you've kind of alluded, is a critical migration corridor for many upriver salmon species, not just Pacific salmon, but also resident species, so there are potential impacts on those. By the nature of the Fraser River itself, I don't think that corridor looked to be having any impacts with respect to those migratory patterns, if you will. It was more those adjacent systems that drain into the Fraser that were really impacted by that, the heavy rainfalls and the increases in hydrologic flows in those particular systems.

**Mr. Ken Hardie:** Great. Thank you for that, Mr. Chair.

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

We'll now go to Madame Desbiens for two and a half minutes, please.

[*Translation*]

**Mrs. Caroline Desbiens:** Thank you, Mr. Chair.

I'd like to follow up on what I was talking about earlier, but in relation to the St. Lawrence River and what might apply there.

I bring it up because these types of problems could also occur in the St. Lawrence River. As we know, climate change is a complex phenomenon with many surprises in store. The river could be affected by events that could threaten certain species.

In Quebec, we have experts who study the St. Lawrence River.

Would it be possible for us to have some latitude in terms of managing the river's resources? At the very least, would it be possible to have a consultation committee made up of Fisheries and Oceans Canada representatives and scientists who specialize in the St. Lawrence River, the idea being to help advance the thinking and planning around this issue?

• (1155)

[*English*]

**Ms. Sarah Murdoch:** As you know, both my colleague Mr. Fanos and I are from Pacific regions, so we're not very familiar with the details of what's going on in the St. Lawrence. I would just say I know that, in a national context, climate adaptation is something we're considering across all of our program areas.

I don't know, Mr. Fanos, if you've got some specific info regarding what's happening in that region.

**Mr. Brad Fanos:** It's a good question. I think what I would add is, yes, absolutely, we don't have any detailed knowledge from Quebec or the St. Lawrence area, but we do know that there are many other jurisdictions in Canada that have experienced flooding events as we've seen, and there's some expertise throughout Canada, be it in Edmonton from floods there, and in Winnipeg and locations. So I think there are examples, like you say, whether it's St. Lawrence and others, that we're going to draw from in that medium- and long-term planning for sure.

**The Chair:** Thank you, Madame Desbiens. There are 20 seconds left, but I don't think that gives you much time to get a question and answer in.

[*Translation*]

**Mrs. Caroline Desbiens:** All right. Thank you.

**The Chair:** Thank you.

[*English*]

We'll now go to Ms. Barron for two and a half minutes or less, please.

**Ms. Lisa Marie Barron:** One of the concerns that has been brought forward to me is around the potential introduction of petrochemicals and other toxins into salmon habitats as a result of the flooding. I understand there's research being done to fully understand the situation at the moment, but is that something that DFO is currently monitoring?

Could you expand on that?

**Ms. Sarah Murdoch:** Mr. Fanos, go ahead.

**Mr. Brad Fanos:** The response to this is that the department works in collaboration with others on the water quality issues. You referenced petrochemicals. These are in the jurisdiction of Environment and Climate Change Canada, as well as the provincial authorities responsible for the water quality, if you will, of deleterious-type substances that may need to be controlled for entry into freshwater systems.

It's not our direct jurisdiction in DFO to do that work, but we work with others when there are impacts sufficient to share work where they have the primary jurisdiction.

Thank you.

**Ms. Lisa Marie Barron:** Thank you.

I'm going to try to sneak in one last question here. This is around disaster funding support from advocates. I'm hearing that a lot of the time, fish friendly infrastructure has larger sticker prices attached to it.

Will DFO adjust the funding criteria for flood control infrastructure projects to ensure that federal dollars are not spent on projects that block access to fish habitats or on pumps that kill salmon?

**Ms. Sarah Murdoch:** I can begin.

I would say that in our funding programs that DFO administers, we are looking forward to things that further support and protect fish and fish habitat, and to do this in ways that are forward-thinking in terms of climate adaptation going forward. Regarding the additional costs, as long as it's a solid project and meets the program criteria, I think the type of work you're talking about, which has positive outlooks for salmon, would be well received.

You may be referring to some of the broader funding that's being managed by the provincial government by way of broader response. I don't know if Mr. Fanos has anything to suggest there, other than the fact that this work still requires regulatory permits and necessary requirements to show that it is not harming fish or fish habitat. That would be a key part of our process, as well as participating in the planning.

**The Chair:** Thank you for that. Your time is up.

We'll now go to Mr. Strahl for five minutes or less, please.

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

I thank the witnesses for coming today.

Obviously, in the Fraser Valley, we experienced a major flooding event. That's why Mr. Fast and I are here. What I saw was private citizens rushing in to the breach, if you can put it that way, to not only help with search and rescue and animal rescue, etc.; shortly afterwards, the Fraser Valley Angling Guides Association, professional guides, used their own boats and own fuel and expertise to rescue not only stranded salmon, but stranded sturgeon, as well, which is an endangered species.

Have you reached out to those groups that incurred significant costs and used a significant amount of time, to compensate them for their efforts to save precious salmon and sturgeon resources that were impacted so drastically by that flood event?

• (1200)

**Ms. Sarah Murdoch:** We had a team, part of an integrated inter-agency approach, as part of that emergency response phase. Mr. Fanos and I are looking more at what we do now to rebuild and for the restoration going forward. For instance, our conservation protection folks were on the ground in boats out in the water supporting other emergency response providers.

I would need to get back to you on the direct engagement with those individual citizens. As you mentioned, we saw a lot of them on the news. In terms of their ongoing involvement in the next phase of work, we'd have to get back to you on that.

**Mr. Mark Strahl:** Right. I do think that as we go forward they need to be acknowledged for not waiting. They did get permits, but they certainly didn't wait around. They saved a lot of displaced fish in those critical days following.

I want to follow up as well on the issue of debris in the Fraser River. There was an unprecedented washout of a lot of material—thousands of cubic metres—now stranded, I would say, on the banks of the Fraser River, waiting to be pushed downriver by the spring freshet. Is there a plan in place to ensure efforts that prevent more significant damage to flood protection infrastructure? If that

stuff all comes down at the same time, we are going to have massive damage to infrastructure downriver.

I'm wondering if there is a plan in place to ensure that fisheries regulations, permitting, etc., are all streamlined so that red tape doesn't prevent the necessary cleanup that needs to take place before the spring freshet comes through.

**Mr. Brad Fanos:** I can take this question, Sarah—if that's appropriate, Mr. Chair.

Yes, DFO often provides support and advice to provincial authorities that do debris management in the Fraser, largely for protection of infrastructure and for navigation control and safety. We will continue to provide advice. I think you've made an excellent point in terms of the streamlined process. You're familiar with the processes there.

As we did with the flood work in November-December, our teams were actively involved with all the local authorities and the people needing to do the work to make sure that we had timely responses. We'll continue that work in the spring. As Sarah indicated, this is work that's going to continue over the next several weeks and months and perhaps even years. We'll be making that a priority for sure.

**Mr. Mark Strahl:** Finally, there was certainly some criticism on the ground that federal assets, federal boats—for instance, fisheries boats—were not deployed to assist residents who quickly found themselves in a very dangerous situation and that it again fell to private citizens.

Have you done a review, or are you in the process of reviewing, the response of DFO in terms of whether the assets that were in the area, the individuals in the area, etc., were deployed appropriately and quickly enough, given the emergency we were facing in the Fraser Valley?

**Ms. Sarah Murdoch:** Yes. As part of any involvement in emergency response activities or incident response, a post review is undertaken. In the case of this work, I want to emphasize again how much of an inter-agency effort it was, not only across federal agencies but also with the province and other local governments. That process may take a bit longer, but DFO will certainly be part of that, and learning lessons from our role and how we can work more effectively with other agencies in events like this in the future.

**Mr. Mark Strahl:** Thank you, Mr. Chair.

**The Chair:** We'll now go to Mr. Hardie.

You have five minutes or less, please.

• (1205)

**Mr. Ken Hardie:** Thank you, Mr. Chair.

Information from the Library of Parliament suggests that flood control systems along the lower Fraser have fundamentally cut off 80% to 90% of the fish habitat. Now, the legislation in British Columbia says that if you build something that uses, diverts, obstructs, impounds or otherwise changes the natural flow or course of any river, you have to have some means by which the fish can get around or over it.

I guess what I need from you is this: What is the situation right now, especially with the dikes and the pumping stations, and have those systems actually been put in place?

**Ms. Sarah Murdoch:** I will start, and then I'll quickly pass it over to Mr. Fanos.

If there is a silver lining to the flood events that we saw, it is the fact that much of the infrastructure that was put in place, as I think Mr. Fanos mentioned, was from the fifties or was quite old in nature. Building forward, there is an opportunity to do it in a way that is much greener and more fish friendly.

Mr. Fanos, do you want to quickly add to that?

**Mr. Brad Fanos:** Yes, you're asking what our role is right now with the existing challenges you described.

There are two different angles that we're working on right now in the department. One, as systems are coming up for works and maintenance repairs, provincial authorities are planning on getting permits provincially for that. We typically try to provide advice in those processes to determine whether or not there's permitting from DFO, and that's the time when we engage, look for the avoidance mitigation and whether we need to offset measures here so that we're getting better inputs, or better conditions for fish. That's one way.

The existing facilities that aren't going under any reviews right now cause serious concerns and problems. We have been taking some lead from the various ENGO groups that have done a lot of work in this area, particularly Watershed Watch, and trying to understand some of the opportunities that they see in collaboration with indigenous groups and local governments to work with existing facilities that have been in place for some time.

We all know that the costs associated with many of these upgrades are substantial, not just in the floodgate access issues that would be of particular concern for DFO, but also the general maintenance of these dikes and facilities—

**Mr. Ken Hardie:** Maybe I can intercede here, because my time is short.

Let's talk about pumping stations. I understand they have been identified as a serious concern. What is the state of them? How many pumping stations are in need of either a retrofit or replacement along the lower Fraser in order to again open up fish habitat that could be supporting a much healthier salmon population?

**Mr. Brad Fanos:** I don't have the exact number. I would have to get back to you on the exact number, but there are dozens, if not more, of those types of pumping stations that are either impeding or preventing migration.

We're prioritizing those for action to look for these opportunities, whether it's through new funding programs, restoration programs or

infrastructure programs, to ensure we're getting improvements to those fish passages.

**Mr. Ken Hardie:** With regard to the international implications of this, it was the Nooksack River system that failed, which caused the flooding in the Sumas Prairie. There's also a dam near Oroville. I'm trying to remember the name of it—it's the Enloe Dam near Oroville that is making it very difficult for salmon to come up the Similkameen River.

Do we have any kind of reciprocal agreement with the United States to consult back and forth across the border on measures that impact the health of fish stocks in B.C. waters?

Ms. Murdoch, maybe you could take that.

**Ms. Sarah Murdoch:** We definitely have international arrangements, particularly with the U.S., given the migratory nature of salmon. There's the Columbia River Treaty process. There's the Pacific Salmon Treaty process more broadly.

I am not familiar enough to be able to speak to exactly what's happening regarding the Similkameen and fish migrating there, so I will have to get back to you in writing on that.

**Mr. Ken Hardie:** Thank you for that.

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

We will now go to Mr. Zimmer, for five minutes or less, please.

● (1210)

**Mr. Bob Zimmer (Prince George—Peace River—Northern Rockies, CPC):** Thank you, Mr. Chair.

I'm going to try to make my questions as brief as possible to get through as many as I can.

What direct role did the department take during the recent floods? I'm not talking about the Vancouver downtown office; I'm talking about on the water, on the ground.

Give a quick answer, please.

**Mr. Brad Fanos:** The quick answer would be that we were supporting the immediate actions required to protect property and people, and, at the same time, trying to give advice to protect the fish—

**Mr. Bob Zimmer:** What does that mean?

**Mr. Brad Fanos:** That means we were giving permits to allow work to proceed immediately.

**Mr. Bob Zimmer:** We have heard from our local guides, and we have seen, as my colleague from Chilliwack has previously mentioned, that a lot of work that was done and a lot of boat fuel was used, but we haven't heard about any compensation.

Is there a plan to compensate them for their efforts? If you're working with them, I would assume there would be some compensation for their assistance.

**Mr. Brad Fanos:** We would have to do a takeaway on that. I don't have any information that would suggest we have compensated any of those people that have done the work you described.

**Mr. Bob Zimmer:** Thanks for that.

**Ms. Sarah Murdoch:** I would just add—

**Mr. Bob Zimmer:** I guess I would—

Go ahead, quickly.

**Ms. Sarah Murdoch:** Sorry, I would just highlight again that we were always a supporting agency in those efforts, largely regulatory, but in some operations on the ground where we could. We were always working—

**Mr. Bob Zimmer:** I heard mention of anglers in passing, but I guess I'm concerned. I've seen this before. I know the anglers and the angling community in the Fraser Valley, really across Canada, very well. I haven't seen the department work particularly well with anglers on the ground or on the water.

What role will the department take in working with volunteers, because we see some of the best work done by volunteers? We see salmon restoration happening, again unpaid, yet we've heard of record amounts of money getting dumped into the DFO and little showing up on the water to help the efforts of the volunteers.

We see there's a lot of cleanup and work to be done, as you've mentioned. What role will the department take in working with volunteers to restore the stocks impacted by the floods?

**Ms. Sarah Murdoch:** I'll just quickly highlight that under the Pacific salmon strategy initiative we are putting an entire pillar and focus around better integration and collaboration.

I've met already with the Lower Fraser Collaborative Table, which is a process that involves anglers, commercial fishers and indigenous representatives, and talked to them not only about fishing impacts but, as you say, their interest in really being part of the solution and leading in a lot of the solutions around fish habitat restoration—

**Mr. Bob Zimmer:** I appreciate that, and I just have to go quickly.

What I've heard from some of those conversations is that it seems like there's a meeting and it's a box to be checked, but there's very little listening being done by the department.

I have one last question and comment.

My colleague from Chilliwack as well has really signalled that a mark-selective fishery is very important. The B.C. provincial government has said that the mark-selective fishery is very important to our B.C. salmon stocks. It's even going to be more important as a result of what's happened and the impacts of these recent floods.

What is the department doing now to actually implement a mark-selective fishery?

**Ms. Sarah Murdoch:** I can quickly take that and just say that one of the key areas and one of the key requirements for considering expansion of further mark-selective fisheries is having the mass marking occurring and in place at our hatchery facilities and—

**Mr. Bob Zimmer:** “Considering” means—

**Ms. Sarah Murdoch:** Pardon me?

**Mr. Bob Zimmer:** We've heard this. This conversation has gone on for 20 years and “considering” doesn't mean anything, frankly.

We actually heard that somebody was supposed to be appointed as a director to oversee the process of establishing the fishery, and you're saying it's just a thought.

What is substantively being done to implement a mark-selective fishery in B.C.?

**Ms. Sarah Murdoch:** We are in the process of increasing our capacity to do mass marking. That is a key, fundamental first step. This means we mark the fish so that they could be fished in a mark-selective fishery. It will allow for where we can consider doing mark-selective fisheries without impacting wild stocks, but it also has a broader benefit in terms of our stock assessment and using that information—

**Mr. Bob Zimmer:** Do you have a timeline of when that's actually going to start?

• (1215)

**Ms. Sarah Murdoch:** We are looking to expand our mark-selective capacity going forward this coming year, but there are a number of ongoing conversations required with industry around where we can move forward on those mark-selective fisheries' proposals in a precautionary way, so that work will have to happen in parallel.

**Mr. Bob Zimmer:** Certainly in Washington state it's been done successfully for many years and—

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

**Mr. Bob Zimmer:** Thank you, Mr. Chair.

**The Chair:** We went a little bit over there. We'll now go to Mr. Hanley for five minutes or less, please.

**Mr. Brendan Hanley (Yukon, Lib.):** Thank you, Mr. Chair, and thank you to our guests and witnesses for coming into today. I'm learning a lot.

Ms. Murdoch, I know the Pacific salmon strategy initiative covers Yukon as well as British Columbia. I know that while we're here to discuss the impact of flooding and climate change on salmon stocks in B.C., we also had flooding and high water in Yukon with effects on the salmon. We have experienced consistently poor salmon runs in the last few years.

I was wondering if you could comment either now or later in writing on how you're approaching implementation of the Pacific salmon initiative in Yukon, and how you're working with Yukon government and Yukon first nation governments, particularly in regard to climate change effects including flooding and high water, and regarding salmon stocks in the Alsek and Yukon rivers.

Thank you.

**Ms. Sarah Murdoch:** As you highlighted, the focus today has been on British Columbia, but the Pacific salmon strategy initiative does apply to Yukon Territory as well.

We've had initial meetings with the Yukon government at the deputy level and below, just socializing this new direction for the department and really trying to focus on, as you say, understanding the climate effects on salmon and salmon habitat and looking at opportunities for rebuilding and recovery.

Because of the post-treaty context up there, a key important first step that we have begun is to meet directly with first nations in Yukon to talk about where we have shared priorities and how we can move forward on that. That conversation is expected to continue over the next few months.

We also have a unique process there that reports directly to our minister, called the Yukon Salmon Sub-Committee, which was created under the umbrella Yukon agreement. We are looking to work with them and get advice from them also on how best to implement the PSSI, as we call it, up in Yukon.

Those three groups are key, I think, to identifying the shared priorities for how PSSI can be implemented up in the Yukon context.

**Mr. Brendan Hanley:** Thank you very much.

Secondly, to follow up on Mr. Hardie's question about international agreements, and knowing that there is a Yukon River Salmon Agreement, how does your department work with the United States in addressing ongoing stock management and mutual threats related to climate change and flooding, again, noting that this is a significant concern, particularly in our first nations communities?

**Ms. Sarah Murdoch:** For those who don't know, one of the key factors in our salmon health, in the salmon escapement in the Yukon context, depends on our partnership and collaboration with Americans, given how the fish migrate.

I will have to respond in writing. I'm not the lead on those Pacific Salmon Treaty negotiations or implementation, and I know there is quite an extensive amount of work that's under way, so I would rather respond in writing with their support if that's all right.

**Mr. Brendan Hanley:** That would be great and much appreciated. Thank you.

Those are my questions. Thank you.

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

We'll now go to Madame Desbiens for two and a half minutes, please.

[*Translation*]

**Mrs. Caroline Desbiens:** Thank you, Mr. Chair.

Once again, I'd like to thank the witnesses. What a repository of information they are. It's really something.

Earlier, we were discussing the importance of having small local groups to benefit from the depth of knowledge found in local regions, such as in the Yukon. Not only does that tie in with what I was saying earlier, but it's also number six of the 32 recommendations in the committee's report. That long list of recommendations actually predates the catastrophic flooding in the lower Fraser River.

Which recommendations have already been put in place? Which ones could prove beneficial going forward?

• (1220)

[*English*]

**Ms. Sarah Murdoch:** I'm not familiar with or don't have handy right now exactly what recommendation 6 is. I'll be brief, and maybe you can clarify whether I hit the mark.

One of the key aspects of the Pacific salmon strategy initiative moving forward is the recognition that the federal government, and DFO in particular, will not be able to stem the declines we're seeing in Pacific salmon alone. We have over 200 first nations across B.C. and Yukon, many of whom are very passionate and have a huge historical tie with the social and economic importance of salmon.

We also have, I think, approximately 30,000 stewardship volunteers who spend their own volunteer time and hours working on salmon-related projects. We need to harness that. Also, Mr. Fanos and I spoke to the fact that addressing salmon habitat in particular requires a multi-jurisdictional approach with the Province of British Columbia. So...building in the capacity, and we are creating a salmon stewardship directorate specifically so that we have the right people in place to leverage those relationships. Making sure that our partners have access to whatever DFO capacity and resources they need to move forward in their own priorities and work to protect and rebuild salmon stocks is a key component of our work going forward.

That does represent a bit of a shift in that there's a leadership role, but the government is going to be doing this working with others.

**The Chair:** Thank you, Madame Desbiens.

There are only about seven seconds left—not enough for another question.

Now we'll go on to Ms. Barron for two and a half minutes.

[*Translation*]

**Mrs. Caroline Desbiens:** Would that kind of measure apply to the St. Lawrence River, yes or no?

[*English*]

**Ms. Sarah Murdoch:** Yes.

**The Chair:** Sorry. Your time is up.

[*Translation*]

**Mrs. Caroline Desbiens:** I will follow up afterwards, Mr. Chair. Thank you.

[*English*]

**The Chair:** Thank you.

Ms. Barron, you have two and a half minutes, please.

**Ms. Lisa Marie Barron:** Thank you, Chair.

That was a good use of seven seconds.

My questions definitely have a bit of a theme here. I'm really trying to understand better what the infrastructure will look like as we move forward in developing systems. In particular, I'm wondering about this: In February 2021 the Union of BC Municipalities executives endorsed a resolution around flood mitigation through green infrastructure and natural assets, which calls for the restoration and protection of salmon habitat compromised by outdated flood control systems.

While I understand that this resolution was sent to the provincial government, I'm wondering if you can confirm whether or not there have been any collaborations from DFO to help support communities who are looking to enhance their green infrastructure. If not, why has DFO not been more proactive?

**Mr. Brad Fanos:** With regard to the green infrastructure work that's happening at many different jurisdictions, DFO is engaged and involved from a planning perspective to provide advice as we can with respect to the green infrastructure for fish. So we absolutely are engaged.

I think there's work to do. I think Sarah Murdoch and I have indicated that through programming, whether it's PSSSI or an existing program, we're going to continue our efforts to more proactively work with others, particularly leading those infrastructure upgrades, to ensure and facilitate the green outcome. I think you're going to see a lot more movement, probably, in the coming months and years on that front. DFO is well positioned to support that.

**Ms. Lisa Marie Barron:** Thank you.

My last question is this. In 2016 we saw Lina Azeez, a project manager for Watershed Watch Salmon Society, who recommended to the committee that the federal government establish a salmon and dike fund as an interim measure until fish friendly flood control practices become the norm through legislation and policy. Can you point to how DFO has shifted its approach, in light of this information, over the last six years?

**Mr. Brad Fanos:** Watershed Watch, I must say, has been doing some tremendous work. Lina is one of the leaders there.

In terms of the funding opportunities, I don't have any indication from my particular programming around that item. One thing that happened over the last two or three years in particular was the updated Fisheries Act, as you know, in 2019. That positioned us to do more investments with staff and resources to support the proactive planning piece you're referring to as well as the PSSSI.

That's kind of what's been happening over the last few years, implementing new programming to be more proactive to have better outcomes for fish.

**The Chair:** Thank you, Ms. Barron.

We'll move on to Mr. Arnold for five minutes or less, please.

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

I thank both witnesses for providing what they're able to.

Ms. Murdoch, in your opening remarks you said that flooding is "likely" to have impacted fish species, and then in some of the testimony you said it had definitely been impacted. I would ask that you define what impacts DFO has measured, or been provided by

other parties, and that you or the department provide that to the committee in writing, please.

I'll move on to a question that you might be able to answer here. Who at DFO Pacific is responsible for leading DFO's response to the flooding impacts—not to the flood itself but to the impacts and restoration? Who at DFO would be responsible for that?

• (1225)

**Ms. Sarah Murdoch:** We'd be happy to respond on the more technical aspects in writing.

Right now, as I mentioned, we have a task team as we're shifting from the emergency response phase into the planning and next phase of work. Mr. Fanos here is leading that work. We do see this being a medium- to long-term need over the next few years. I did mention the PSSSI and the salmon stewardship directorate that we are looking to establish right now. We expect to be the medium- to long-term host or lead for that work going forward. Mr. Fanos is leading up the interbranch work task team right now.

**Mr. Mel Arnold:** Would Mr. Fanos be responsible for coordinating the responses between the provinces, indigenous organizations, municipalities and other users?

**Ms. Sarah Murdoch:** Right now, actually, our minister is participating in a committee at that level. I understand that our deputy and associate deputy are also quite engaged in the issue. We are supporting up through that process.

**Mr. Mel Arnold:** Could you identify one individual in the department who might be responsible for this, or is it part of the Pacific salmon strategic initiative? Who ultimately is responsible for leading this?

**Ms. Sarah Murdoch:** That is the intent. I am the senior director for the Pacific salmon strategy initiative. Above me, Wes Shoemaker is the head of the Pacific salmon strategy transformation. I would say it's me and Mr. Shoemaker.

**Mr. Mel Arnold:** Okay, thank you.

Mr. Chair, before we run out of time, I would like to put forward a motion here. I apologize to others who may have questions. We may be able to get through this fairly quickly.

We're obviously seeing and hearing that there are other organizations that would have input into this particular study. I believe all members have received a request from another organization wishing to provide testimony. To only hear from the department and not from other affected bodies, I don't think would be a fulsome study. I would table the following motion:

That the committee add one meeting to its current examination of the risks of flood control/mitigation systems in British Columbia, particularly along the lower Fraser River, posed to wild salmon runs; and

That in this additional meeting the committee receive testimony from witnesses with knowledge of risks of flood control systems and mitigating impacts of such systems on wild salmon runs.

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



I think you did say that it was being sent to the clerk to distribute.

**Mr. Mel Arnold:** I believe it is, yes.

**The Chair:** I just got a nod that she has it sent to members.

**Mr. Mel Arnold:** I see a nod from the clerk that she's received it.

**The Chair:** Yes and a thumbs up that she has it sent, I think, to the other members.

It looks like everybody has received it. I'm not hearing anybody say no, they haven't. I presume everybody in the room has received it as well.

Is there any discussion to Mr. Arnold's additional motion?

Mr. Hardie.

• (1230)

**Mr. Ken Hardie:** I would like to offer a friendly amendment to Mr. Arnold's motion, simply adding to it the following: "and that the chair issue a letter to the minister outlining the key issues requiring her oversight."

**The Chair:** We've all heard the amendment. Is there any discussion on the amendment?

Tina, can we do a recorded vote on the amendment, please?

(Amendment agreed to: yeas 11; nays 0)

**The Chair:** Thank you for that. I guess it was a friendly amendment. Everybody voted in favour of it.

Now we go back to the motion as amended. Is there any discussion?

Mr. Cormier.

**Mr. Serge Cormier:** I'd just like a clarification from Mr. Arnold.

Are you just talking about one more meeting? I want to make sure of that, because if we keep adding meetings and we're pushing everything back, I'm sure that Ms. Desbiens will not like to see her study going far down the line, and Ms. Barron also. Is it just one more meeting you're asking for?

**Mr. Mel Arnold:** That's correct—just one more meeting.

**Mr. Serge Cormier:** Okay, thank you.

**The Chair:** Is there any other discussion on the motion as amended?

**Mr. Bob Zimmer:** Mr. Chair, I've told the clerk three times that I'd like to speak to this, so I don't know if she hasn't heard me.

**The Chair:** I don't think she has.

Mr. Zimmer.

**Mr. Bob Zimmer:** Yes, thank you. I just wanted to say I appreciate the witnesses today from the department, but I think they couldn't answer many of our questions specifically. Also, I'd like to hear from some of those who were actually on the water to help explain what the picture looks like, what's necessary down there as well, and maybe hear from some local officials about what could be done there. I think a first-hand account would be appreciated by this committee.

Thank you. I support the motion.

• (1235)

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

Now we'll go to our clerk, Tina.

**The Clerk of the Committee (Ms. Tina Miller):** Mr. Chair, Ms. Barron also wishes to speak.

**The Chair:** Ms. Barron.

**Ms. Lisa Marie Barron:** Thank you, Chair. I was trying to figure out how to get your attention in this hybrid model here.

I wanted to speak in favour of this motion. As much as I appreciate the insights and information that have been provided by those here today, there are some very valuable and key stakeholders who are not at the table, such as first nation representatives, as well as the Watershed Watch Salmon Society and many who are very invested. Although I recognize that we don't have endless time and we have many other studies to get to, having one additional meeting would provide us with a much-needed opportunity to hear from others who are experts in this field.

I would like to thank the member for bring forward this motion and I am in favour of it.

**The Chair:** Thank you, Ms. Barron.

**The Clerk:** Mr. Small wishes to speak, Mr. Chair.

**The Chair:** Go ahead, Mr. Small.

**Mr. Clifford Small (Coast of Bays—Central—Notre Dame, CPC):** Thank you, Mr. Chair.

I'd like to speak in favour of this motion. One day in front of this committee for a study is not quite enough considering the enormous impact that these floods have had on salmon year classes that are coming up in the next three or four years. I just want to say I support an additional meeting.

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

Does anyone else in the room want to speak or can we go to a recorded vote?

(Motion as amended agreed to: yeas 11; nays 0)

**The Chair:** The motion is passed unanimously.

Your time has expired, Mr. Arnold. There's no doubt it was a good motion because everybody seemed to be in favour of it.

We'll go on now to Mr. Morrissey for five minutes or less, please.

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

My question is for Madam Murdoch.

You referenced a restoration unit. Could you elaborate and explain what the unit entails?

**Ms. Sarah Murdoch:** Thanks very much for the question.

With some of the new capacity under the PSSI, we are going to be building on what we have now, which is a relatively small salmon habitat resource restoration unit that provides technical advice to outside agencies around salmon restoration work. I mentioned earlier that we'll be looking at creating and standing up within the next fiscal year a full centre of expertise on various aspects of technical knowledge and information. We're making sure it's available to others around salmon habitat in order to inform habitat restoration work.

That will be part of broader efforts that we're going to be doing under a salmon stewardship directorate.

Thank you.

**Mr. Robert Morrissey:** Is this a new initiative, then?

**Ms. Sarah Murdoch:** That's right.

**Mr. Robert Morrissey:** This will be a new expertise within DFO.

**Ms. Sarah Murdoch:** It's building on a small group we have right now under our salmon enhancement program. It's expanding that quite significantly.

**Mr. Robert Morrissey:** Could you elaborate on the infrastructure that was compromised during the flooding? Who owns the infrastructure?

**Ms. Sarah Murdoch:** I spoke briefly to the fact that DFO has federal infrastructure that was impacted, particularly in—

**Mr. Robert Morrissey:** What infrastructure was that, Ms. Murdoch? Describe the DFO infrastructure.

Then could you elaborate on the infrastructure outside of DFO that was destroyed or compromised?

• (1240)

**Ms. Sarah Murdoch:** Sure.

I may see if Mr. Fanos can speak more effectively on this. In a nutshell, it was a number of our salmon enhancement facilities.

Mr. Fanos, did you want to speak more specifically?

**Mr. Brad Fanos:** Yes, I'll speak specifically and quickly.

Facilities in the Chilliwack and the Spius, which is the Nicola watershed hatchery operation and restoration channels, for example, were directly impacted by the flooding events and needed repairs.

A number of other partner restoration projects that are funded through different avenues like BCSRIF, for example, also received some impacts associated with the high water flows and will need to be considered for repair.

**Mr. Robert Morrissey:** The only direct infrastructure that DFO owns is primarily attached to salmon habitat not in the area of flood control. Did I interpret you correctly?

**Mr. Brad Fanos:** Yes, that's correct. The actual dykes and the infrastructure for flooding and drainage are all wholly owned either by the provincial or local authorities.

**Mr. Robert Morrissey:** Ms. Murdoch, you referenced a licence retirement plan. Could you elaborate on that? Is that primarily for salmon?

**Ms. Sarah Murdoch:** Under the Pacific salmon strategy initiative, there are actually four pillars. Our conservation, stewardship and collaboration pillars are most relevant to this discussion around flood response. We actually have a whole area of focus around harvest transformation to work with indigenous, recreational and commercial fisheries. Projecting out what are likely to be much more modest opportunities for harvesting salmon over the next two to three cycles, or 10 to 15 years, we can work with each group.

On the commercial side, some significant closures were announced last year. We're consulting right now on long-term closures. Recognizing the impacts it has to fishers, we are working with them right now on finalizing the details of a license retirement program, which will be voluntary, but open to commercial salmon license holders.

**Mr. Robert Morrissey:** This will be a permanent retirement. They'll be removed totally.

**Ms. Sarah Murdoch:** That's right.

**Mr. Robert Morrissey:** As referenced earlier, how will the the updated Fisheries Act, which this committee reviewed some time ago, impact the rebuilding of infrastructure going forward?

It will influence it.

Who wants to answer that? Mr. Fanos?

**Mr. Brad Fanos:** I can take that. I appreciate the question, Mr. Chair.

The Fisheries Act changes had a couple of different prongs of influence on what we're seeing here today, one being the regulatory authorities, the reinstatement of HADD, and the regulatory authorities that we have on the scale and scope. There is engagement programming. We have grants and contributions programming that we work with indigenous partners on. The indigenous have a participation program, as an example, where we try to facilitate funding opportunities to support indigenous engagement in the departmental activities related to habitat.

There are other changes around the proactive planning piece to restore lost protections and get in front on a more proactive scale working with others like the province and the local authorities to have better outcomes for fish.

**Mr. Robert Morrissey:** I believe my time is up.

**The Chair:** It is. Thanks, Bobby.

On my list it says we will go now to Mr. Fast, but I notice Mr. Small is back, so I'll leave it to you two gentlemen to decide which one of you is going to use the five minutes or if you're splitting your time or whatever.

Mr. Fast or Mr. Small, please, for five minutes or less.

**Hon. Ed Fast:** Mr. Chair, I'll be ceding my time to Mr. Arnold.

Thank you.

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

Mr. Arnold, you're up.

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

I'd like to ask Ms. Murdoch about the Pacific salmon strategy initiative.

When minister Jordan announced the PSSI, she repeatedly stated it would be "built from the ground up". That was her quote.

Today we've heard from you that the PSSI is the government's primary response conduit for fish affected by the floods. Obviously the PSSI is up and running, so what is the current status of the PSSI? Can you give us a ballpark figure of the PSSI, whether it's 10%, 20%, 50% established?

Could you provide some information?

• (1245)

**Ms. Sarah Murdoch:** I'm happy to respond.

As you know, minister Jordan made that first announcement in June right before the salmon commercial fishing season. We spent much of the summer and then post-election period, the later fall and early winter, engaging at a broad level on the salmon strategy initiative.

We've now launched into what we call our early implementation identifying some key priorities and action areas of work under each of the four pillars and consulting quite broadly with first nations and the provincial government, the Yukon government and other parties on moving forward both in the short term on some immediate action area.

As I said, we didn't envision what would happen in the fall in terms of the floods. We do think PSSI is well positioned to lead our flood response going forward.

**Mr. Mel Arnold:** Well positioned: would that be 50% functional, 75% functional, fully functional?

**Ms. Sarah Murdoch:** I would say we're still in very early days. We're looking to initiate most of our key activities starting at the beginning of the next fiscal year. We're still largely in a planning period right now identifying key priorities to launch this spring.

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

In your opening remarks today you spoke about prioritizing actions to mitigate the impacts and support restoration of fish and fish habitat and include the province, indigenous groups and others to assess the impacts and determine the effective short-term and long-term actions to promote recovery.

What is the current status of these points and what organizations have been able to provide input or will be able to provide input?

**Ms. Sarah Murdoch:** Go ahead, Brad.

**Mr. Brad Fanos:** Yes, I can take the question. Thank you.

In terms of what's happening right now, the first item that we're doing is working internally with the different expertise within the department. We have science. We have the habitat program that is helping people restore some of the infrastructure to roads and dikes. We have that expertise. We have contribution program expertise to make sure we're connecting with various opportunities for funding different activities. We have restoration expertise within the department, as Sarah alluded to.

We're bringing those people together in a team to make sure that we can understand what assessments are required to understand the impacts. As we said, it's going to take months and years for us to assess given the life history of salmon. We're trying to position ourselves to use existing assessments to understand that. We're trying to set priorities based on stock status and habitat conditions to prioritize our actions to work with others.

We're really preparing ourselves as a department to have a coordinated response to support the provincial agencies, the environmental agencies and others that are positioned. We're actually doing work with the Pacific Salmon Foundation on some assessments of imagery around some of the impacted systems. We'll continue to work with first nations and others to understand their interests and try to support those activities in a timely manner.

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

In the opening remarks you talked about re-evaluating current restoration techniques. Are these previously existing techniques? Are they being evaluated before or after they're being applied?

When you're re-evaluating current restoration techniques, are those one that have been in place for some period of time or are they current, new techniques?

**Ms. Sarah Murdoch:** Yes. We've been working with community partners for decades in various levels and types of salmon restoration work, both at the local scale and more broadly at the watershed scale. With climate adaptation and the need to plan for flooding events, fires and things of that scale that we thought we would only see every 100 years now happening once every few years, what we're realizing is that we need to take stock of what we know. We have to make sure that we're applying the latest science and the latest research, not only from our own jurisdiction here in British Columbia, but also more broadly in Canada, as well as jurisdictions around the world who are also working around this idea of fish and fish habitat restoration and how to prepare for events like what we saw in terms of the floods.

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

You mentioned taking stock of what we—

**The Chair:** Thank you, Mr. Arnold. Your time has gone over.

We now go to Mr. Hardie for five minutes or less, please.

• (1250)

**Mr. Ken Hardie:** Thank you, Mr. Chair.

The year 2021 was a hard year on British Columbia. We had the heat dome. We had the fires. Historically, the mountain pine beetle, of course, devastated so many forests, and there's logging. The logging still goes on.

Then along comes this atmospheric river. We used to call it the "pineapple express", but I guess "atmospheric river" sounds more scientific.

Do we have an assessment as to what all of these deforestations meant for the land's ability to handle the runoff? Did that contribute to the severity of the flooding?

Mr. Fanos.

**Mr. Brad Fanos:** I can take that, Mr. Hardie.

Yes, I think what you're describing is really what we're putting our mind to from a science perspective. DFO science and habitat is working with, certainly, the provincial agencies who are doing work around climate adaptation, around cumulative effects, as you describe it, on a number of different activities, whether it's water management, whether it's fire, whether it's forestry management, agriculture, all under provincial jurisdiction. They're doing planning exercises now to position ourselves to be more resilient in the future. DFO will be part of that work.

**Mr. Ken Hardie:** What about the riparian areas that are supposed to be preserved next to streams, etc.? Do we need to review those standards, particularly in light of the extent of the deforestation that we've seen?

**Mr. Brad Fanos:** As Ms. Murdoch indicated, I think we need to re-evaluate all the work that we're doing right now to make sure that we're putting our minds to the changes in climatic conditions and how we may need to have different approaches. Riparian has always been recognized as an important element. That may be something we need to closely look at to ensure we have the capacity there to support the aquatic ecosystems with the buffer zones of the riparian.

**Mr. Ken Hardie:** This is the last question from me. It really has to do with the connectivity and the coordination.

I was looking at the B.C. legislation and I couldn't see anything in there that noted the requirement to consult with DFO when they're dealing with anything that was going to manage the flow of water in the province.

Where is that requirement nested? Is it in a letter of agreement between us and the province? Where is it?

**Mr. Brad Fanos:** Mr. Hardie, the requirements under the Fisheries Act and people doing work in and about a stream obviously will be indicated as a permanent requirement through DFO. With regard to how we work with the province, it's through a collaborative process. There's no requirement in the provincial process. They have the Water Sustainability Act that also conserves and protects fish habitat as the lead jurisdiction for water. There are authorities that they have to ensure protection of fish and their habitat. There are no official mechanisms, but we are working collaboratively with B.C. to improve and streamline processes and ensure gaps are met.

**Mr. Ken Hardie:** Are you confident that we're catching all of the things that we need to catch in order to have that oversight or do we need something more formal?

**Ms. Sarah Murdoch:** If I could jump in—

**Mr. Brad Fanos:** Go ahead.

**Ms. Sarah Murdoch:** There's definitely always room for improvement and that's one thing under the Pacific salmon strategy initiative we are looking to. The B.C. government has sent positive signals. They have their own interests in doing a wild salmon strategy, but we are looking at the potential for more structured collaborative approaches to work on all areas of salmon rebuilding and restoration.

**Mr. Ken Hardie:** I'd like to thank you both. You've obviously stimulated a lot more conversation here. I'm looking forward to the next session where we talk to some of the other stakeholders.

Thank you.

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

We'll now go to Madame Desbiens for two and a half minutes, please.

[*Translation*]

**Mrs. Caroline Desbiens:** Thank you, Mr. Chair.

I want to take this opportunity to thank the interpreters. They are doing a wonderful job, and I wanted to point that out.

We will soon be undertaking a study on labelling. We touched on the issue earlier, and I have a question for you.

What labelling and traceability recommendations would you have for Canada's fishery resources, generally speaking?

[*English*]

**Ms. Sarah Murdoch:** Chair, that is an area of work I know is happening not only from my regional Pacific region colleague in fisheries management but also our national group.

If it's okay I'd rather respond back. I'm not directly involved in that work, although I do know traceability is a key issue for the fish harvesting sector in British Columbia as well as across the country.

• (1255)

[*Translation*]

**Mrs. Caroline Desbiens:** Mr. Chair, could Ms. Murdoch repeat what she said?

[*English*]

**Ms. Sarah Murdoch:** Yes.

**The Chair:** Yes. No problem.

When you're ready, Ms. Murdoch.

**Ms. Sarah Murdoch:** My apologies. I will speak a little slower.

I was saying that I know from my colleagues in the Pacific region here on the west coast working in fisheries management, as well as being led from my national colleagues working on fish management, that the issue of traceability and labelling is a key area of focus for them.

I'm not directly involved, so if possible, I'll coordinate with them to make sure we have a written response for you.

[*Translation*]

**Mrs. Caroline Desbiens:** Thank you.

[*English*]

**The Chair:** Thank you, Madam Desbiens.

We'll now go to Ms. Barron for two and a half minutes or less, please.

**Ms. Lisa Marie Barron:** Thank you, Mr. Chair.

We've been emphasizing much of what has occurred in the Fraser River, understandably because it has seen a huge impact from the flooding. I was also hoping to have you speak a bit on some of the other rivers in B.C. that have had salmon populations impacted by the flooding, such as the Colquitz River and Millstream Creek on Vancouver Island. You mentioned Vancouver Island briefly in your statement.

Could you expand on that a little bit?

**Ms. Sarah Murdoch:** I'll ask my colleague Mr. Fanos if he's more familiar with this. I'm not familiar with this specific work. I know certainly there is assessment work happening on Vancouver Island as well as the Fraser, but Mr. Fanos might know more.

**Mr. Brad Fanos:** To be short we'd have to do a takeaway. We have staff in the field and in the area offices who do support actions that are happening in various watersheds and systems that have been impacted by floods. It's not uncommon, as we all know, that throughout the winter months we do get many systems throughout British Columbia and Yukon that have these flooding events. It's largely an area delivery program that Fisheries has with C and P officers, science and fish managers that work in the area offices to respond to different activities that may be occurring.

We could find out for those two systems, if you're looking for that information.

**Ms. Lisa Marie Barron:** Thank you.

I'm wondering if you could clarify the cost to salmon and other fish populations if we return to the same type of unfriendly pumping stations and dike systems that we have in place in many areas.

In the last session, we had a recommendation from our Pacific salmon study which suggested that DFO should review flood mitigation infrastructure. I know we're all hoping for a calmer 2022, but I'm wondering if you could give us a better sense of what that might look like for us to better protect our salmon populations and have more friendly pumping stations and dike systems.

**Ms. Sarah Murdoch:** I would say that given our regulatory environment right now, particularly with the new Fisheries Act, there is no going back. As Mr. Fanos mentioned, as that infrastructure comes up for repairs, retrofits, changes or needing replacement, the

new regulatory regime applies and that's the federal DFO regarding fish and fish habitat, but there are also provincial standards.

With regard to the other part of your question and the idea of a fund, I do think there will be opportunities for, whether it's B.C.'s SRIF or other federal funds that are directed towards salmon habitat, salmon restoration work in general and those types of projects being eligible.

I did want to highlight also the role of the province in this work. They are the lead regulatory authority around this type of work. They have also expressed an interest in this idea of green and fish friendly infrastructure, so we will be looking to them also in terms of both the funding that flows through them and their own funding that they're putting towards that end.

**Mr. Rick Perkins (South Shore—St. Margarets, CPC):** I have a point of order, Mr. Chair.

**The Chair:** Yes, Mr. Perkins.

**Mr. Rick Perkins:** I know we're about to conclude. I just wanted to move that given the urgency of this study, the suggested witnesses for the second session be tabled with the clerk by 5 p.m. Thursday, February 10.

**The Chair:** Mr. Perkins, you can't move a motion on a point of order, but we can set a deadline for witnesses before we end.

• (1300)

**Mr. Rick Perkins:** Fair enough.

**The Chair:** Thank you.

That concludes our formal session of today's meeting.

I want to say thank you, of course, to Ms. Murdoch and Mr. Fanos for joining us today. We'll allow those people to sign off and we'll get back to your deadline for witnesses, Mr. Perkins.

**Mr. Brad Fanos:** Thank you, Mr. Chair and committee members. I appreciate it.

**The Chair:** Thank you.

Mr. Perkins, on your request, I would suggest we could set a deadline of 5 p.m. on Friday for the submission of witnesses.

**Mr. Rick Perkins:** That's fine with me, Mr. Chair.

**The Chair:** Is everybody else in agreement with this?

There's no disagreement—it's all thumbs up. There you go, it's done, easy and smooth. It's exactly the time for the end of the meeting. It didn't even take any extra time.

I want to say thank you to the clerk and the analysts and, of course, our wonderful team of interpreters for a great job again today. Thank you to the committee members for such a cordial meeting and interaction with staff from DFO.

Have a good evening, everyone. We'll see you on Thursday.





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