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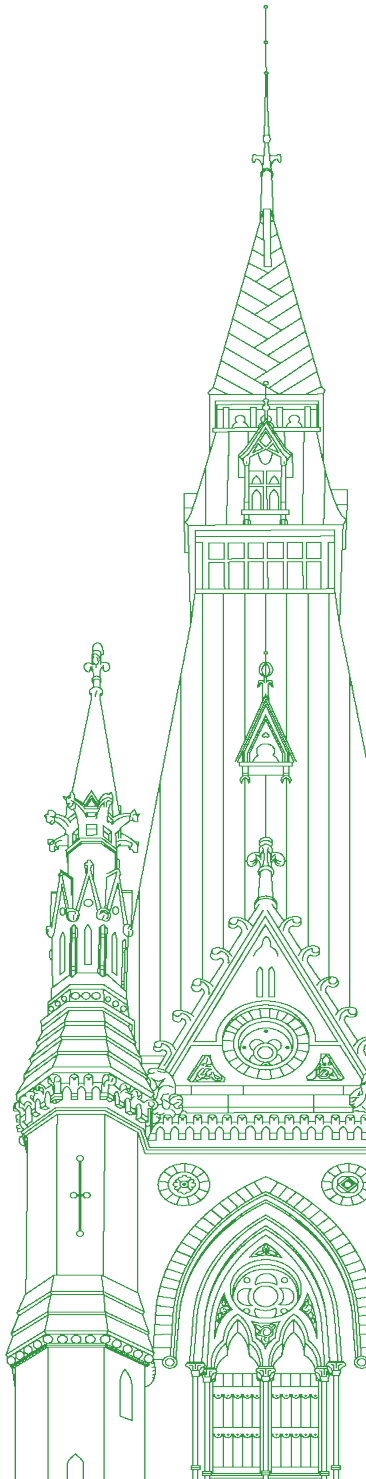

Chair: Mr. Ken McDonald

Standing Committee on Fisheries and Oceans

Monday, May 10, 2021

● (1535)

[*English*]

The Chair (Mr. Ken McDonald (Avalon, Lib.)): I call this meeting to order.

Welcome to meeting number 30 of the House of Commons Standing Committee on Fisheries and Oceans. Pursuant to Standing Order 108(2) and motions adopted on October 19, 2020, and April 21, 2021, the committee is meeting on its study of the state of the Pacific salmon.

Today's meeting is taking place in a hybrid format pursuant to the House order of January 25, 2021, and therefore members can attend in person in the room and remotely by using the Zoom application. I believe the only ones we have in the room today are the clerks.

The proceedings will be made available via the House of Commons website. So you are aware, the webcast will always show the person speaking, rather than the entirety of the committee.

For those participating virtually, I would like to outline a few rules to follow. Members and witnesses may speak in the official language of their choice. Interpretation services are available for this meeting. You have the choice at the bottom of your screen of either "Floor", "English" or "French". With the latest Zoom version, you may now speak in the language of your choice without the need to select the corresponding language channel.

You will also notice that the platform's "raise hand" feature is now in a more easily accessed location on the main toolbar should you wish to speak or alert the chair. I will remind you that all comments by members and witnesses should be addressed through the chair. When you are not speaking, it is very important that you have your mike on mute.

I would now like to welcome our witnesses.

Today we have, as an individual, Richard Beamish, retired research scientist; from the Nuu-chah-nulth Seafood Limited Partnership, Larry Johnson, president; from the Nuu-chah-nulth Tribal Council, Eric Angel, fisheries program manager; from Omega Pacific Hatchery Inc., Carol Schmitt, president; and, from the Thornton Creek Enhancement Society, Dave Hurwitz, hatchery manager.

We will now proceed with opening remarks. We'll start off with Mr. Beamish for five minutes or less, but I will say, members, that when our witnesses are finished speaking and we get to questioning, please identify who you are putting the question to.

Mr. Beamish, when you're ready, you have five minutes or less, please.

Dr. Richard Beamish (Research Scientist (Retired), As an Individual): Can people hear me?

The Chair: Yes.

Dr. Richard Beamish: Am I ready to go?

The Chair: Yes. Your five minutes have started.

Dr. Richard Beamish: Thank you.

My message is that there is an international Pacific salmon emergency and a need to see a bigger picture. There were unprecedented declines in Pacific salmon abundances throughout the entire north Pacific in 2020. The total commercial catch by all countries was the lowest in 30 years. The total catch of all species was 605,000 metric tons, and that's a 38% decrease from the average for the past decade.

In British Columbia, the total commercial catch in 2019 and 2020 was the lowest in history. The average for both years was 5,200 metric tons, which is just 7.5% of the average annual catches in the 1970s. The unexpected poor catches in 2019 and 2020 extended north throughout all of southeast Alaska. The total abundances of sockeye salmon produced in the Fraser River were the lowest in history in 2019 and 2020.

Looking across the Pacific, in Japan virtually all salmon catches are chum salmon produced in hatcheries. Beginning in 2010, catches started to decline from a recent 10-year average of about 221,000 metric tons to just 59,000 metric tons in 2019, which is a shocking 73% decline. The releases of chum fry from Japanese hatcheries over this period really did not change much, showing that the collapse of their catches resulted from declines in ocean survival and not from a shortage of juveniles.

In Russia, the commercial catch of all species in 2020 declined 33% from the recent 10–year average. The surprise reduction in catch in 2020 was sufficiently alarming that their government organized an international virtual conference about a month ago, in English, to consider explanations for the decline and expectations for the future. I was invited to give the opening presentation, which will be published in a Russian journal.

There is a principle in ecology that the abundance of plants and animals that produce large numbers of seeds or babies is determined by the available habitat, and not by the number of seeds or babies. As you know, salmon produce a large number of babies, and the available habitat is mostly the ocean. There now is solid published evidence that once salmon are in the ocean, their abundance is mostly determined in the first months.

The large-scale declines in British Columbia in 2019 and 2020 and throughout the north Pacific in 2020 must result from a common mechanism. A mechanism could be that fewer salmon grow faster and more quickly to be able to store the energy needed to survive the first ocean winter. A possible explanation for the collapse is that a changing climate has resulted in a reduced capacity of the coastal ocean to support salmon.

The emergency is that we now need to understand the mechanisms that regulate salmon abundance in the ocean if we are to understand the future of Pacific salmon. I believe that we have the researchers and technologies we need from around the north Pacific to make the needed discoveries if we could find a way to work together as an international team.

The Chair: Thank you for that. There's a little time left over.

Now we'll go to Mr. Johnson for five minutes or less, please.

Mr. Larry Johnson (President, Nuu-chah-nulth Seafood Limited Partnership): Thank you.

My name is Larry Johnson, and I am the president of Nuu-chah-nulth Seafood Limited Partnership. Our shareholders are the Ditidaht First Nation, the Huu-ay-aht First Nations, the Kyuquot and Checleseht First Nations, the Uchucklesaht Tribe government, and the Ucluelet First Nation.

NSLP is a commercial fishing enterprise that offers fisheries management support to the shareholding nations, their fishers and entrepreneurs in various aspects of fisheries development. I want to focus today on saying that there are nations that support sustainable salmon farming. They believe that marine salmon farming and wild salmon can coexist and be mutually beneficial.

The state of the Pacific salmon is, in fact, in deep trouble for many reasons.

My story here today about fish farms goes back to 1995. I started off as a councillor for my nation. Fish farms were a bad word back in those days when I got involved in the mid-nineties. As a matter of fact, I led our hereditary chiefs on a declaration to the kick fish farms out of our traditional territory.

We had concerns like everyone else. I didn’t actually have my own mind made up. I kind of toed the line, much like a lot of people in this province. We took it upon ourselves to ask about what the concerns were. Our chiefs talked about a lot of things that others are talking about, like what happens to the bottom of these farms after the farms are gone. What happens if they escape? What happens about sea lice? What about chemicals that are used? What about safety plans? There were all kinds of questions.

As a councillor, I embarked on communications. We got answers, and I relayed the answers to our chiefs. In our nation, we have eight chiefs. I still recall that even though we answered the questions, they were still skeptical. One of the chiefs spoke up and asked about 50 years from now. What if we actually find out that we were wrong and we missed the boat? What's next?

I think it's really hard for fish farms to work in B.C. because there's fear in B.C. There are not enough treaties and there is not enough certainty for industry and first nations in B.C.

I participated on the indigenous and multi-stakeholder advisory body and technical working groups through the aboriginal coordinating committee that is hosted by FNFC so that I could participate and make sure that treaty nation voices were heard. We did our homework. We separated business from politics in our treaty nations by creating business arms that focus on straight business. It has to follow the strategic plan of the nation, of course, in building sustainable business and in our access to the ocean resources. We wanted it to be diversified with aquaculture.

I think aquaculture is a great opportunity for our nations economically. It provides jobs, revenue and profits to the nation, so that the nation can do what it likes and create services for its people. It helps the region. It boosts our local economy while contributing to the greater economy. It also supports a blue economy through aquaculture development.

How do we do this? We do it through partnerships. My company has done a lot of good work in partnerships. As a matter fact, we won the Business Partnership of the Year award through aboriginal achievement.

I want to talk a little bit about partnerships from my nation's perspective, because forestry is good example of building relationships. It takes a long time to build relationships. It takes a long time to build trust, but once you get those foundational things, then economic reconciliation is achievable. I think it's not something that you do and just let go. You have to keep a relationship going. It's a pathway forward. It does leave a path for others to follow.

That's the goal of our company. We have two nations working in shellfish aquaculture, kelp aquaculture and finfish aquaculture. Four of our five shareholder nations are modern-day treaty nations and have self-governing rights and law-making authorities. They'll decide what kind of economic opportunities they have within their traditional territories.

● (1540)

They're focused on building their nation and building an economy so they can draw their people back to their homelands. They want to enhance salmon. I think we can do a better job on production and survival rates so that we can carry on with enhanced salmon. We participate in commercial fisheries, aquaculture, including shellfish, kelp and salmon farming.

I think the one big thing that's totally missing from everyone's plan is predator management, and I think we really need to deal with that.

Again, I just want to re-emphasize that there are nations that support sustainable salmon farming because they believe that marine salmon farming and wild salmon can coexist and be mutually beneficial. I am pretty sure that this has been happening for several decades already.

I have a bit of an ask here that—

● (1545)

The Chair: Thank you, Mr. Johnson. You have gone over your time. Hopefully anything you didn't get to say will come out in the line of questioning following the presentations by witnesses.

We'll now go to Mr. Angel for five minutes or less.

Go ahead, please.

Dr. Eric Angel (Fisheries Program Manager, Nuu-chah-nulth Tribal Council): Thank you, Mr. Chair.

Thank you to the committee for the opportunity to present today.

My name is Eric Angel. I am the fisheries program manager for the Nuu-chah-nulth Tribal Council on the west coast of Vancouver Island.

Our fisheries program is known as “Uu-a-thluk”, which means “taking care of” in the Nuu-chah-nulth language.

Salmon are integral to the culture and the economy of the Nuu-chah-nulth nations, and that's been the case for thousands of years. The courts have recognized the importance of salmon to Nuu-chah-nulth, most recently in the B.C. Court of Appeal decision in the Ahousaht fishing rights case.

The Court of Appeal also recognized how important it is for government to work with the Nuu-chah-nulth nations in implementing their fishing rights. That's what I want to talk to you about today—the value to government and to society more generally of sharing the responsibility for making decisions that will affect our well-being long into the future.

The crisis facing Pacific salmon today has been decades in the making. It's a complex problem with multiple causes.

You've heard from Dr. Beamish about the ocean survival issues. There is degradation of salmon habitat on land, overfishing, potentially ocean-based aquaculture, predation by marine mammals and overcapacity from too many fish in the ocean.

You also heard from earlier witnesses about ways to address problems: restoring salmon habitat, building resilience to climate change impacts, reducing fishing pressures, improving monitoring and enforcement, moving salmon farming operations to land and increasing hatchery production and enhancement. These are all important measures and they surely can help, but we've been doing a lot of them for a long time already, and no one approach is going to be sufficient.

From our perspective, the most important thing the government and DFO can do to address the decline of Pacific salmon would be to recognize the passion, knowledge and capacity that exist in first nations in coastal communities throughout B.C. and to work closely and directly with those first nations in coastal communities on a regional basis to decide how best to use the financial and human resources that exist and that are being made available.

On the west coast of Vancouver Island we have an organization that is fit for that purpose. The West Coast Aquatic Governance Board was brought into being over 20 years ago by the Nuu-chah-nulth nations working with regional, federal, provincial governments and stakeholders in the area. There are representatives from everyone with an interest and a role to play in promoting the health of salmon and salmon ecosystems: first nations; the regional, provincial and federal governments; commercial and recreational fishers; salmon aquaculture firms; forestry companies; tourism operations; hatcheries; and environmental NGOs.

Today the board continues to operate, running salmon harvest and stewardship round tables in each of the major fishing areas on the west coast of the Island. These round tables reduce conflict among everyone involved. They promote win-win solutions for the participants and they are highly cost-effective.

For many years now, the governance board and the round tables have operated on a shoestring budget of a few tens of thousands of dollars each year. Recently, Nuu-chah-nulth nations, working through West Coast Aquatic, submitted a proposal to DFO to use a small portion of what remains of the Pacific salmon treaty mitigation fund to support the operations of the board. We're asking that we be able to do that or that they commit a very modest amount of the new Pacific salmon strategy monies to supporting West Coast Aquatic on a long-term basis.

It's important to understand that there are opportunities here and that this isn't simply a crisis. For decades we've had an economy built around maximizing the extraction of resources, including salmon, from rural regions of B.C. That isn't sustainable, and that should be clear to everyone by now, but it doesn't mean our salmon-based economies have to collapse and that coastal communities and first nations in particular have to suffer the consequences. We can shift our focus to restoring salmon and salmon ecosystems. We can build a restoration economy that creates long-lasting jobs and brings salmon back to health. This will take generations, but we can start to see the benefits immediately, and the Nuu-chah-nulth nations are ready to lead the way.

Nuu-chah-nulth co-founded West Coast Aquatic because we know that the only way forward is to work with our neighbours, the newcomers. You can see this in the Nuu-chah-nulth commitment to *iisaak*, respect for all living things; and to *hishuk'ish tsawalk*, the interconnectedness of everything. We just need the government and DFO to recognize what is already here. If we do that, if we build on our strengths and work together instead of against one another, we can tell our children and our children's children that we did the right thing.

Thank you.

● (1550)

The Chair: Thank you, sir.

We'll now go to Mr. Hurwitz, hatchery manager, for five minutes or less, please.

Mr. Dave Hurwitz (Hatchery Manager, Thornton Creek Enhancement Society): Thank you.

My name is Dave Hurwitz. After leaving university, I commercially fished the west coast of Vancouver Island for 17 years. For the past six years, I've been the manager of the Thornton Creek Hatchery, located in Ucluelet on the west coast of Vancouver Island and operated by the Thornton Creek Enhancement Society.

What does a hatchery like ours do?

Each year we spawn, rear and release between 350,000 and over 1,000,000 chinook, chum and coho fry into five streams. We undertake numerous creek walks and snorkel surveys on 10 systems to enumerate salmon returns for DFO's stock assessment division. We also provide DFO with DNA, otoliths, scales and associated biodata for every fish we spawn.

We foster stewardship by delivering the Salmon in the Classroom program in local schools through educational hatchery tours for thousands of visitors and students each year and through open house events. We partner with and provide training for local first nations, local organizations and volunteers.

We participate in the Clayoquot and Barkley roundtables and facilitate West Coast Aquatic, our regional human-wildlife coexistence group, and I am a member of the salmon enhancement and habitat board that is advisory to DFO.

We're presently undertaking a master's project using PIT and coded wire tagging to study west coast Vancouver Island chinook survival, and we have fundraised $70,000 to undertake this research.

Oh, and we repair and maintain a boat, trucks, power lines, an access road, a dam, water supply, three buildings, and incubation, rearing and brood collection equipment. We purchase drysuits, wading gear, safety gear, fish feed, insurance, telephone/Internet and fuel as we travel long distances on gravel roads and by sea to do our work. We have a dedicated crew of five underpaid seasonal workers and several directors and volunteers who are the heartbeat of our organization.

Each year for the past three decades we've received $158,000 from the Government of Canada to operate our hatchery. There is no way that the money Canada provides is enough for hatcheries like ours to do our work. We all rely on donations, grants, partnerships and volunteers.

Inflation and aging infrastructure threaten every hatchery's ability to undertake more salmon enhancement and more tagging and research. Our hatchery is not alone in this regard. The Tofino Hatchery receives only $8,000 per year from DFO to rebuild salmon stocks in remote streams in Clayoquot Sound. This is barely enough to cover the cost of insurance for the vehicle, boat, the building, and liability, and a bit for phone and electricity. Their money is gone before they start.

Science and technology, especially DNA science, teaches us more each year about how to best manage and enhance salmon stocks for resilience. The mass marking of Canadian hatchery fish should be an imperative. We need to be able to measure the success of enhancement and habitat restoration. Mass marking allows for selective fisheries that protect wild stocks while allowing for harvest of hatchery fish. It also provides hatcheries with the ability to ensure genetic integrity when spawning fish from small populations. Mass marking identifies the wildness of a run, allowing individual watersheds to be enhanced to their optimum.

If we were permitted to use DNA parental-based tagging developed by DFO, the cost of mass marking would drop dramatically and would provide more information for science. Most hatcheries have been collecting the necessary data for several years to undertake this paradigm-shifting method of measuring age and determining the origin of hatchery fish.

I am flummoxed by the idea of a Pacific salmon secretariat and restoration centre of expertise. What I do know is that through hatchery enhancement, habitat restoration, research and science-based stock management, we'll improve the state of our salmon.

I also know that DFO has been deeply gutted over the past 15 years. Important positions haven't been filled due to funding cutbacks, and valuable expertise is being lost to attrition. Our incredible community adviser has been covering two positions. Enforcement can use more resources. More watersheds require surveys and biodata collection for stock assessment. The regional DFO staff are our partners, and, like us, they need more funding for boots on the ground.

If we can ensure that the existing hatchery programs are funded to succeed, funding new community hatcheries in critical areas will be a worthy investment in salmon. Now is a crucial time to act on Canada's obligation to conserve our salmon runs. Hatchery enhancement is an effective tool in the tool kit required to rebuild salmon stocks.

● (1555)

Canada absolutely needs to support hatchery enhancement with cost-of-inflation funding increases at the very least, and funding for the mass marking of hatchery salmon.

The Chair: Thank you, sir. You're right on time.

We'll now try Ms. Schmitt. You have five minutes or less, please.

Ms. Carol Schmitt (President, Omega Pacific Hatchery Inc.): Thank you, Chair and committee members for the opportunity to provide information regarding the state of the salmon.

My name is Carol Schmitt, and last fall marked 40 consecutive years that I've raised chinook salmon. I'm a graduate of the BCIT fish wildlife program, having an employment history with provincial fisheries, federal fisheries, Union Carbide fish farms, as a Sea-1 aquafarms hatchery manager and through a Pacific biological station chinook incubation contract. In 1987 we built our privately run Omega Pacific Hatchery, and I raised thousands of adult chinooks and millions of S1 smolts for aquaculture, which included 25 years of growing large chinook in ocean.

In 2009, we raised 600,000 chinook S1 smolts for 13 releases for enhancement projects. Data shows that all S1 releases continue to have higher marine survivals and adult returns than S0 smolts. I've written a paper on freshwater hatchery management practices that could be incorporated to rebuild wild stock of chinook. It was presented at the Aquaculture Canada conference as well as at the Northwest Fish Culture Conference in 2019 among other natural freshwater rearing programs to increase chinook survival.

My address to the committee is regarding the chinook salmon decline. Stocks of chinook salmon continue to decline, with many reduced to fewer than 100 fish. Rebuilding efforts have not increased the stocks because DFO's enhancement smolts released as S0s have low marine survivals and too few adult returns. We've demonstrated a solution to rebuild the chinook numbers. Omega Pacific Hatchery S1 chinook smolts have increased marine survivals, with more adults returning to spawn, and have been shown to effectively rebuild the stock.

Our one example, Phillips River, last fall had 3,500 adults return and is now listed in the 2021 hatchery production plans as “enhancement target met in monitoring phase”. This was largely due to Omega's four release groups of 45,000 S1s, whereas in the previous 25 years of releasing many groups of 100,000 S0s, the adult returns to the river had remained at 200 to 500 fish, which is similar to most streams in DFO's enhancement program, despite 40 years of enhancement releases totalling millions of S0 smolts.

A 50,000-smolt release by Omega Pacific as S1s had 500 to 1,350 adult spawning returns, compared to the S0s for the west coast, which numbered 65 to 100, and for the Salish Sea, where between 200 and 600 adults returned.

My presentation summarizes the results for our smolts compared to S0s. However, because of the short time frame, I will first give you my closing recommendations.

My recommendation is that we establish a chinook special project committee with five to seven members, with myself being one who would help organize, with the authority to implement a plan that prioritizes chinook stocks to be raised as S1s this fall.

Use our hatchery's available space and assess capabilities at other hatcheries to raise S1s using Omega's procedures. Put together a budget and deliverables for five-year and 10-year periods to rebuild chinook stocks, including the Fraser River, Clayoquot Sound, the Nahmint River, Henderson Lake, the Chemainus River and others.

The rationale for this action is that DFO's enhancement program is in its 44th year and continues to release mostly fry or S0s. DFO has our S1 results ongoing for seven years, and over 40 letters from first nations and organizations such as the B.C. Wildlife Federation have been sent to DFO. In the October 2018 House of Commons standing committee, M-154 and recommendation number 16 both request that DFO incorporate the use of S1 and the Omega hatchery to increase chinook populations. Despite this, DFO continues with their S0 program, and Omega's proposed projects have been taken to DFO's facilities to raise fry or S0, leaving Omega in its third year without any enhancement projects. A team of experts is required to ensure that the best actions are taken to rebuild the chinook stocks.

In summary, chinook's future existence is a serious issue. The majority of chinook returns to rivers are too few in number to naturally rebuild. This will not be resolved through mass marking, fishing closures, parental tagging, more studies or continuing to release S0s.

● (1600)

Hatchery intervention and releasing S1 smolt is the most effective tool to increase numbers, so I would recommend a Chinook special projects committee independent of SEP to put in place a plan starting immediately that prioritizes the stocks to effectively increase the numbers, and commencing this fall. I did have a number of slides to show you with some of our results, so I'll just keep on talking until I run out of time.

Have I run out of time?

The Chair: Yes, you've gone over time a little. I thought you were just about finished.

We'll now go to questioning by our committee members. We've got five witnesses here today, and you'll make better use of your time if you identify who you're asking the question to rather than asking a question and waiting for someone to start to answer.

We'll start off with Mr. Bragdon for six minutes or less, please.

Mr. Richard Bragdon (Tobique—Mactaquac, CPC): Thank you, Mr. Chair.

Ms. Schmitt, the smolt transfer to your operation from DFO was cancelled. Has anyone at DFO explained why?

Ms. Carol Schmitt: Are you referring to the Henderson Lake project that was supposed to commence last fall?

Mr. Richard Bragdon: Yes.

Ms. Carol Schmitt: When we started to talk about Henderson Lake, we approached DFO with the Uchucklesaht tribe and asked them what they required. Within two and a half years we had everything in place and a standard IT permit. They had taken the eggs at the hatchery, which was Nitinat, because Henderson is down to 25 returning fish, so we needed fish eggs to restart the run.

Previously eggs had been put into the system, but none for 16 years. However, when we applied, the department said that first of all they didn't support an S1 strategy. Then they brought up a bunch of reasons that had already been discussed and resolved, and in the final minute, they said they were going to keep the eggs and do a fry release because it's one less move to a hatchery. The IT committee was waiting for SEP to say they had approved the release location, but they wouldn't provide that to the IT committee.

Mr. Richard Bragdon: It sounds like you have developed a very successful program that seems to be showing some good results, so hopefully we'll see that continue to grow and be able to help replenish at-risk stocks of salmon throughout the west coast.

I know I've got several witnesses, but I want to go to Mr. Beamish.

It was nearly 10 years ago, I believe, in 2011, that you appeared before the Cohen commission and presented a theory that mature wild Pacific salmon could and did cause wild salmon smolts to become infected with sea lice independent of any harm caused by farmed salmon.

Do you believe wild adult salmon are responsible for infecting wild juvenile salmon with sea lice? Are you still of that persuasion, Mr. Beamish?

Dr. Richard Beamish: I don't remember saying anything like that.

What I am presenting today—hopefully everyone got the message—is that we really need to see a much bigger picture and we need to understand what is regulating the production of salmon in the ocean.

After Russia got their unexpectedly poor catch last year, they are now taking the issue seriously. They have determined that 2021 is the year of the salmon in Russia, and they've put together a five-year program not only to come up with the explanation for the decline but to look at the future.

I'm sorry. I honestly don't remember anything, but I'm old and I retired 10 years ago.

● (1605)

Mr. Richard Bragdon: No problem. Thank you, Mr. Beamish.

I want to follow up with you respecting your years of service and knowledge in this field.

What are some of the actions that can and should be taken right now in 2021 to restore the Pacific salmon stocks? We're hearing so much testimony from a wide variety of very qualified witnesses, but really, for tangible action to be taken that is practicable and doable without devastating any community's employment, what are some practical first steps that you feel would render the most results?

Dr. Richard Beamish: It's a perfect question; it's a common audience question. Obviously, it's difficult to answer.

I suppose what I want to say is that we really need to work together as a team, both within British Columbia and internationally.

I think there are things that can be done. Very quickly I'll tell you that, for example, with regard to the South Thompson chinook salmon, there are 12 or so populations, and they represent about 30% of the adult chinook coming back to the Strait of Georgia and the Fraser River. Those chinook salmon enter the Strait of Georgia six to eight weeks after all of the other chinook salmon, so they are entering an ocean ecosystem that essentially has a different carrying capacity, and they are benefiting from that.

If we really understood the mechanisms responsible, then we, as a community, could begin to focus on what we can do when we have changes in the coastal ecosystems, and that's what's going on.

The reason we're seeing reductions in Japan or up into southeast Alaska is that our coastal ecosystems no longer have the capacity. If you understood what the mechanisms are.... I think that they are as simple as this: The juveniles that grow faster and quicker survive better. Once we understand that, I'm sure that we have the ability and the technologies to maximize the survival in the ocean.

Mr. Richard Bragdon: Thank you, Mr. Beamish. I'll go to Mr. Johnson quickly.

Mr. Johnson, what would you recommend? From your perspective, what do you feel are some of the things that we should be acting quickly upon that could achieve the best results in restoring health to the Pacific salmon?

Mr. Larry Johnson: Well, I think it's a combination of things. Production needs to be up. Survival rates need be to examined thoroughly. We really need to do something about balancing nature, and that's the pinniped issue. We need to get pinnipeds down to a number that's better for our fry and for our brood stock.

The Chair: Thank you, Mr. Bragdon. Your time is up.

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

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

Thank you to all the witnesses. It's fascinating. I wish we had a lot more time to chat with you.

Mr. Beamish, I must say that I'm old too, and sometimes last week is a challenge, so there you go.

I'll start with you, Ms. Schmitt. Explain briefly, if you can, the difference between an S1 and an S0 smolt.

Ms. Carol Schmitt: With regard to an S0, most salmon spawn in the fall, and they emerge from the gravel in the spring at half a gram. In most systems in the lower reaches, the fry will go to the estuaries and into the ocean right away, and that's called an S0.

In the upper reaches, the fish remain one year or longer in fresh water before they migrate to the ocean, and that's an S1.

Mr. Ken Hardie: I see.

Is it possible to put S1s where S0s used to be, and they would exhibit the same trait?

Ms. Carol Schmitt: All fish have the ability to go out as S0s, S1s or S2s. What dictates that is genetics, but so do food availability, water temperature and development.

Just listen to this one interesting thing: In the farming industry—I farmed Chinook for many years—when we entered S0 smolts, every farm had issues keeping them alive and required antibiotics. If they re-entered an S1 smolt, that was a non-issue; we'd get 96% survival.

Mr. Ken Hardie: I'll have to leave it at that because I do have to move on to other questions. I appreciate that very much.

Mr. Beamish, I'll come back to you.

It's our understanding that in their first couple of years, the salmon stay fairly close to the shore. They're not out in the deep water. Given that there's probably not an awful lot we can do about deep water conditions, what about the inshore conditions for these young salmon? What can we do there that would improve their chances of survival?

● (1610)

Dr. Richard Beamish: Over the last couple of years, a colleague and I have been privately organizing expeditions into the Gulf of Alaska in the winter to actually understand what regulates salmon when they're out in the open ocean.

What you just said is that the coastal environment does contain some salmon, but really, most of them move off the coast into the more open ocean. If they survive the first winter, they more or less continue to survive until they return. There's some—

Mr. Ken Hardie: If I could, sir—

Dr. Richard Beamish: I'm only—

Mr. Ken Hardie: I need to know something. The fish from inshore go out into the open water. Do we know the population of the fish leaving the inshore area and going out to the water? If too few fish are getting far into the deep ocean, that would say an awful lot about where we might have to focus our attention, given that there's not a lot we can do about the deep ocean.

Dr. Richard Beamish: A short answer is that you're right. What we have seen in the research we have done in the last 10 years is exactly what you said: It's the coastal ocean survival that is probably more or less now regulating the abundance of salmon coming back.

Mr. Ken Hardie: Thank you for that, sir.

I know all of you could go on at great length. If we miss something or you're not able to finish a thought that you really wanted to stretch out, please write to us, because, again, our time is usually pretty short.

Mr. Hurwitz, we've heard a lot about hatcheries. We've heard pros and cons and sometimes conflicting evidence.

Do we know enough to come up with a really good collaboratively developed hatchery strategy for the restoration of salmon stocks on the coast?

Mr. Dave Hurwitz: I think about the work we're doing in our area. Science is growing in leaps and bounds. To speak to what Dick Beamish just said, the research we're doing is looking at bottlenecks in the estuary by using very advanced PIT-tagging technology. We'll be able to track these fish right out in the nearshore waters, and—

Mr. Ken Hardie: I'm sorry, sir, but again, time is short. The question is, do we know enough, yes or no?

Mr. Dave Hurwitz: I think we're starting to, yes. We're starting to find those bottlenecks, and certainly everybody is speaking to them.

Mr. Ken Hardie: Okay. Fair enough.

One of the things we have to do is think about the rather large amount of money that the federal government is willing to invest. Obviously we want those investments to be wise and we want them to produce results. There's always a temptation for people to say that we have to have a study or a committee, and then when all is said and done, there's more said than done. That's what we need to avoid.

Mr. Johnson, you said that when you were talking in your community, you went out looking for answers to some of the initial misgivings about open-net aquaculture. Where did you get the answers from, and over time did those answers change?

Mr. Larry Johnson: We engaged directly with the fish farm that was within our territory. We engaged with someone who was specifically there to answer our questions.

What was the second part of that question?

Mr. Ken Hardie: Did their answers change over time?

Mr. Larry Johnson: No, the answers didn't change. As a matter of fact, we started to see that maybe we were missing the boat and that we needed to start creating some different criteria for what we're going to do.

The Chair: Thank you, Mr. Hardie.

Mr. Ken Hardie: Thank you, sir.

The Chair: We'll now go to Mr. Trudel for six minutes or less, please.

[*Translation*]

Mr. Denis Trudel (Longueuil—Saint-Hubert, BQ): Thank you, Mr. Chair.

My name is Denis Trudel, and I am the member of Parliament for Longueuil—Saint-Hubert, which is on the other end of the country. The issue of salmon seems to be a bit unique here, in Quebec. All I know about salmon is that my father-in-law fishes it in the beautiful Matapédia River in the Gaspé.

I found the witnesses' comments very interesting. It's a little concerning to hear that there have been fewer catches in the last year in Canada. There were some interesting topics such as shared responsibility and degradation of salmon habitat. One witness suggested changing the salmon ecosystem altogether. I think these concepts are very important.

I would like to ask a broader question and get a response from each witness.

Since the beginning of this committee study, witnesses have stressed the importance of good consultation between the department and the various stakeholders, such as our witnesses, and scientists. A budget was recently tabled.

Has the government's concerted effort been reflected in the budget tabled last month?

Mr. Hurwitz, would you like to start?

● (1615)

[*English*]

Mr. Dave Hurwitz: There's lots of chatter, but have we been consulted as a hatchery? No, not really. We are the boots on the ground. We're the data collectors. We're feeding information into these think tanks.

[*Translation*]

Mr. Denis Trudel: Dr. Beamish, do you have any comments to add?

[*English*]

Dr. Richard Beamish: Remember that I'm old and that I retired 10 years ago, but there are good people in DFO, and the work that I've been doing to look at what's regulating salmon abundance in the ocean has been in co-operation with DFO. We have a good working relationship. I'm quite comfortable working with DFO.

[*Translation*]

Mr. Denis Trudel: Dr. Angel, what's your opinion on this same issue?

[*English*]

Dr. Eric Angel: I wouldn't say that we've been consulted per se, but we work closely with DFO. I think there's absolutely work that we can get going on right away. We're doing a lot of that work already. This new money will make it possible to expand on that. As I already spoke about, we have an existing organization that Nuu-chah-nulth nations participate in that's set up to make the kinds of decisions that we need to make about how this money can be best spent, so yes.

[*Translation*]

Mr. Denis Trudel: Ms. Schmitt, do you think the government consulted with stakeholders sufficiently before preparing the budget that was tabled a month ago and allocating new funds to salmon conservation?

[*English*]

Ms. Carol Schmitt: I was aware of it through seeing emails come across my desk. With the local stewardship groups that I participate in, there really hasn't been any discussion about the money. With our enhancement, our information and our solution to rebuild the chinook stocks, the problem is that the department 100% controls who can participate and how you release the fish. Since their program is based on S0 releases, there's been a big resistance to our participation. For all the fish we've grown to date, we've had to rely on our own money and money from our community, which is 600,000 fish, which is a lot of fish, and the community has wholly supported it.

I would have to say that the relationship with the salmon enhancement program, because we're private and we bring a different strategy, has been.... As I say, they've been continuing with their same strategy for 44 years, even with the results that we've shown that can make a huge difference.

You can rebuild a stock in four years to over 1,500 fish, yet some of them have had five million fish released over 40 years, and they're at almost the same number as when they started 40 years ago. That is why I'm presenting here today.

[*Translation*]

Mr. Denis Trudel: Dr. Johnson, do you think the government consulted with stakeholders sufficiently before developing policies included in the budget?

[*English*]

Mr. Larry Johnson: I'm not sure that they consulted enough, but I can say that our treaty nations have a relationship built since 2011 with the department, so there is the ability to collaborate, co-manage, codevelop and co-implement plans. We certainly want to work with DFO to increase production, collaborate and try to create balance out there in the resources.

● (1620)

[*Translation*]

Mr. Denis Trudel: I'll ask you another question, Dr. Johnson. I'll go to the other witnesses if I have time.

Dr. Johnson, given the dramatic state of the salmon situation, do you think the amount of money announced is sufficient to implement a comprehensive strategy to safeguard salmon habitat?

[*English*]

Mr. Larry Johnson: That's a loaded question. I'm not sure whether enough is going to be enough, but more is always welcome. We can do what we can with what we have, and I would hope that we would spread the money out a little more, rather than it going to some of the big hatcheries that seem to usually get the funds. Maybe some more along the Vancouver Island, the west coast....

The Chair: Thank you, Mr. Trudel.

We'll now go to Mr. Johns for six minutes or less, please.

Mr. Gord Johns (Courtenay—Alberni, NDP): Thanks so much.

We probably could be hosting this in our riding, given that four of the five members of this panel are from our riding. Mr. Beamish is just outside our riding.

I'm going to start with Mr. Angel.

To go back to West Coast Aquatic, you talked about the important role they play when it comes to reducing conflict and also in terms of co-management. Can you speak about what role DFO is currently playing at the West Coast Aquatic management board and what needs to happen in terms of investment?

Dr. Eric Angel: Sure. Thank you.

Mr. Chair, right now DFO is not participating in the management board. They provide some limited support for the salmon round tables to operate, and that's great, but they're not actually participating in the process of decision-making, and that's what we need from the department.

They began 20 years ago in that capacity, and then withdrew. We need everyone at the table to be able to make the kinds of decisions that need to be made. We need DFO back and we need the province there. We need all of the players there, but DFO really needs to show up for that.

Mr. Gord Johns: To follow up, can you talk about what's being invested currently and what it looked like 20 years ago? What are the ramifications of the decisions that are being made right now by the department, by their absence?

Dr. Eric Angel: The funding 20 years ago was far more significant than what there is now. We operate on tens of thousands of dollars to keep things going.

The crisis with salmon is a complex set of problems. There's no one single cause. If you want to deal with a complex problem, you don't deal with it by just asking one person and doing one thing. You have to get everyone in the room and get them to figure out together, collectively, what the strategy is. That's what we do, day in and day out, through the salmon round tables and West Coast Aquatic.

With the things we were hearing about in terms of coastal ecosystems, we're doing that. We're collectively agreeing on the research project to go out to the nearshore ecosystems and figuring out how to gather better data and what's happening to the fish there. We're doing all of those things together, and that's the difference right now.

If you're going to spend all that money, my point is not to pitch for specific projects but to say “spend it wisely” and ask the people who are closest to what's going on how to do that.

Mr. Gord Johns: We've heard about resources such as the Pacific Salmon Treaty mitigation fund. You cited that in your opening remarks.

Can you speak about how that's playing out for Nuu-chah-nulth and for the Area G trollers, for example? We know they've had a lot of concerns about the mitigation fund not flowing to them, yet they're not fishing close to what they were prior to the agreement.

Can you speak about that?

Dr. Eric Angel: The issue there is on this question of using that money wisely. That money was meant to come to the west coast of Vancouver Island to support the communities that were facing cutbacks in what they were allowed to fish. Very little of that money has actually made it here. We've been going after them over and over again.

We have fishers who are Area G fishers. They've lost a lot of catch and had their livelihoods suffer, and we've made some simple requests to DFO to have that money come to the region. I guess that's what I'm talking about in the larger picture: We need regional support for this, and West Coast Aquatic is there to enable that.

The mitigation fund is money that could have been going to the coast and could have been supporting salmon rebuilding for all these many years. It still could, if the department would simply make a decision around that.

Mr. Gord Johns: Mr. Hurwitz, you talked about how difficult it is, citing the Tofino hatchery, at $8000. I know, talking to Joe Curley and Andrew Jackson, who are running the hatchery at Kennedy River, and you have your hatchery at Thornton Creek.

Can you talk about the few increases you've seen over the last 30 years and how that plays out for your operations?

● (1625)

Mr. Dave Hurwitz: Our facility was built in 1975. For a house on the west coast of that age, there's lots of maintenance, let alone when there's water running through it. We've done quite a bit of fundraising to maintain our facility and upgrade it to the highest level of biosecurity standards, so we are poised to move into the future effectively.

We're still facing threats like climate change. We need to increase the height of our dam. I have the ability to increase rearing capacity, but we need more water. I'd like to get more crews. Salmon are generally all spawning at the same time, so we could have more crews on more systems.

The money that we're looking for is not for carpeting and Xerox machines; it's for more people and making sure we have effective, well-maintained equipment.

Mr. Gord Johns: You talked about other hatcheries, Tofino hatchery, for example, and$8,000 before they even get off the ground.

Can you talk about how this impacts morale, which actually...? Money unlocks volunteer hours.

Also, what would happen if we just stopped funding hatcheries? What would be the impact to those rivers and the systems where we live on the west coast of Vancouver Island?

Mr. Dave Hurwitz: For starters, because we all are small hatcheries—we're not federal facilities—you could just shut us down. There are no pensions, no union jobs. We put up to a quarter of our budget towards helping the Tofino hatchery in resources. They've been engaging lots of different volunteers, businesses, etc., just the way we do.

People have to understand that these are remote systems, and in those systems and the rivers that we enhance, there are only a handful of unlogged watersheds on Vancouver Island. These are not habitat issues, but the salmon are struggling.

I must say that through the tagging we've done—the marking—we see results from the hatcheries. I'm sorry, but we do. If it weren't for the hatchery effort and all these volunteers and businesses and locals contributing, there would be nothing.

The Chair: Thank you, Mr. Johns.

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

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

Thanks to all of the witnesses for being here with this study. It's been going on a long time, yet there still seems to be so much more we need to know.

Mr. Beamish, if I could start with you, I want to thank you for your efforts towards understanding the open ocean survival with the expeditions that you've undertaken.

Could you, really briefly, tell us if there were any surprises that you found in that expedition regarding what species you found or the intermixing of stocks in that ocean environment?

Dr. Richard Beamish: The short answer is that almost everything was a surprise.

Specifically, we found that coho salmon were much farther offshore than expected. We found that pink salmon were at the southern limit of our survey. They should have been the most abundant species, and they were pretty close to the least abundant. Their distribution is going to be much farther south.

We found that pink salmon and sockeye and chum did not overlap and compete. We found a Chilko juvenile sockeye way out in the middle of the Pacific. We made estimates of the expected returns of chum salmon in 2019 and 2020, just based on our catches, and they weren't too bad. We've also made a quick estimate of what will come back to the Fraser this year. We're projecting that it would be a little bit better than the last two years.

Some of this isn't publishable science, but you asked me, and the short answer is that just about everything we found was new.

Mr. Mel Arnold: Okay, thank you.

Are there any measures we can take that will affect the ocean environment in the short term? We all hear that climate change is affecting it, and so on, but is there anything in the short term?

Dr. Richard Beamish: Again, it's a standard audience question. You hear commonly that we can't change the climate and we can't change the ocean so we're going to continue doing what we're doing. It's a tough answer, but in fact you can do something. If we understood the fundamental mechanisms regulating salmon abundance in the ocean, we would make decisions that would allow us to maximize ocean production.

I could give you some examples, but you guys want short answers.

Mr. Mel Arnold: If you could send us those, we'd certainly be happy to include them.

● (1630)

Dr. Richard Beamish: I will, if someone reminds me.

Mr. Mel Arnold: Okay, thank you.

Mr. Johnson, can I go to you?

The federal government has announced resources for the sustainable aquaculture program, but it's unclear which direction the transition of the program is actually meant to drive. Has your organization been granted any funding under the sustainable aquaculture program?

Mr. Larry Johnson: Not that I know of, to date.

Mr. Mel Arnold: Thank you.

Does your organization see a path towards land-based, partial land-based or closed-containment systems for salmon farming?

Mr. Larry Johnson: I see maybe closed-containment systems. On land-based systems, I don't see any example anywhere in the world where those are working yet.

Mr. Mel Arnold: Okay, thank you.

Are you working with any partners towards that at this point or doing any research or studies into it?

Mr. Larry Johnson: We are working with a company, and yes, they are looking at new technologies and those kinds of things. Our main focus right now is on kelp and on trying to get the province to turn applications around faster.

Mr. Mel Arnold: Okay, thank you.

I think I have time for a question for Ms. Schmitt.

Carol, we've met. I've toured your facility. You do some incredible work there. We've seen in so many species that whether it's mountain caribou, salmon, deer, or other species, the first year of survival is so important. Why do you think that is so important with the S1s that you have been raising and doing the work on?

Ms. Carol Schmitt: An S1 is very different from an S0. They are much more physiologically developed, mentally developed and immune-developed. That is why S1s migrate very quickly in the early spring, whereas S0s take a lot of time and use the estuaries. In the farming industry, we found that as soon as we entered S1s, there were absolutely no issues as long as they had been raised properly.

I think it's an extremely effective tool, and the government needs to expand on it. They've had problems raising them, but we're specifically set up. We can do 10 groups of 50,000 a year. We could rebuild to over 1,500 to 2,000 fish in each stream and start that, whereas most of them are still within just a few hundred fish after all the years of S0 releases.

That's my answer.

The Chair: Thank you, Mr. Arnold.

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

Mr. Robert Morrissey (Egmont, Lib.): Thank you, Chair. My question is to Mr. Beamish.

Do you think that Canada can deal with the west coast Pacific salmon decline issue on its own?

Dr. Richard Beamish: Oh, boy....

Mr. Robert Morrissey: I'm asking because you made reference that today it's 7% of the 1970 stocks and that there's a 73% decline in Japan and a 33% decline in Russia.

Dr. Richard Beamish: I think the answer might be yes, but it's going to be a lot longer. There's no question that we could work as an international team if Canada and other countries that produce salmon could find a way of getting scientists to work together. I know the various scientists in the various countries, and the fastest way to expedite our understanding of the future of Pacific salmon in all countries is to work together as an international team.

Mr. Robert Morrissey: You would recommend to this committee that we strongly advocate in favour of international co-operation on dealing with this issue, which has been ongoing for years now.

Dr. Richard Beamish: Absolutely. If you look at our history, you see that we go back to the seventies, as you pointed out. We started the salmon enhancement program with a commercial catch in Canada of 70,000 metric tonnes. We told Treasury Board there would be 120,000 to 140,000 metric tonnes by 2005. Instead of 120,000 to 140,000 metric tonnes, it's 7,000, so we didn't get there.

The point is that you have to begin to think differently. The best way is to use what exists in the Pacific. We have the scientists. We have the technologies.

● (1635)

Mr. Robert Morrissey: Thank you.

Chair, my next question is to Mr. Johnson.

Mr. Johnson, I believe you may be one of the only witnesses who have appeared before this committee.... I'm not sure if you were advocating for open-pen fish farming, but you were certainly not critical of it. You referenced in your comments a fear in B.C. Could you elaborate on what your thought was behind that?

You were referencing open-pen fish farms and a fear, and if we could get beyond the “fear in B.C.”

Mr. Larry Johnson: It's the fear of the unknown. A lot of people never had their own opinion about it—like me, for example. I heard what others were saying. I heard what my chief and councillors were saying. I think there's a lot of this information going around that's not the right information.

My sense about it is that there's a lot of fear in B.C., because there's not a lot of certainty. There are very few modern-day treaties, so if we could get the right information out there, I think the outcome would be different.

I still think there's a lot of fear of the unknown. It took me several years to go through and identify the questions and get the answers.

That's my answer.

Mr. Robert Morrissey: Could you just explain a bit to the committee and describe the type of open-pen fish farming that your first nation is involved in? Obviously, you wouldn't be involved in it if you felt it was having a negative impact on the ecosystem and the natural salmon. Would I be correct in assuming that?

Mr. Larry Johnson: My nation is not involved in it, but one of my shareholding nations is doing sablefish. Two of our nations are doing kelp aquaculture, and four of the five are doing shellfish aquaculture.

Mr. Robert Morrissey: Are any of them doing open-pen salmon farming?

Mr. Larry Johnson: No.

Mr. Robert Morrissey: Then you're not involved in that side at all.

Mr. Larry Johnson: No, but I believe the information that we have is that there are nations looking at it. No one has gone that far yet.

Mr. Robert Morrissey: Do you mean looking at open-pen salmon farming?

Mr. Larry Johnson: Yes.

Mr. Robert Morrissey: Then this would be an economic activity you're considering pursuing.

Mr. Larry Johnson: Absolutely. One of our nations is going down the path of building a relationship and finding out for themselves and addressing their concerns, so we'll see where that goes.

Mr. Robert Morrissey: Thank you.

You also—

The Chair: Sorry, Mr. Morrissey; your time is up. You're probably not going to finish the question or get an answer in the four seconds that are left.

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

[*Translation*]

Mr. Denis Trudel: Thank you, Mr. Chair.

I'd like to thank the witnesses once again. I'm learning a lot from this absolutely fascinating discussion.

Dr. Beamish, do you think enough resources are being invested right now to reduce the impact of pollution and climate change on Pacific salmon populations? I'm also talking about their conservation.

Earlier you gave the example of Russia. Do you think Fisheries and Oceans Canada can learn from Russia in this area?

[*English*]

Dr. Richard Beamish: I think we have the resources and I think Canada should be inspired by Russia. We had a virtual conference a few weeks ago to look at the results of our two expeditions, and the agriculture minister of Russia welcomed us in our virtual conference. Russia is taking their reduction in 2020 very seriously.

We had the worst catches in 35 years. This is all countries. There has to be a common mechanism that caused the decline. I think it's the coastal ocean, as was brought up earlier, perhaps by Mr. Arnold. It's less the number of resources that we have but how we use them, and we need a focus to see a bigger picture.

● (1640)

[*Translation*]

Mr. Denis Trudel: Thank you.

Dr. Angel, in your opening remarks, you talked about the issue of employment. You mentioned that this was very important to ensure better conservation of salmon populations.

Do you think everything is in place to create and maintain jobs in this area?

[*English*]

Dr. Eric Angel: No. There's a great deal of work that could still be done to create jobs in this context.

This kind of economy that we need to transition to with respect to salmon involves a lot more looking after the salmon as opposed to thinking about how many of them we can get out of the ocean to sell. That's part of it still, absolutely, but we need to be rebuilding the ecosystems, both the ones on land and in the nearshore environment, where we can have some influence.

We have lots of opportunities to put people to work doing that. We need guardian programs. Our first nations are always out on the water before anyone else is, yet we struggle to find enough money to employ people doing that. Money can go towards having people out on the water, looking and paying attention to what's going on.

We need to be doing more science. DFO has a fantastic science department. There's lots of capacity in the private sector, and in our nations, we could be doing work there too.

There's tourism related to this as well. Salmon bring bears; bears bring tourists. There are all sorts of possibilities here. We're stuck thinking that we just need to get more salmon again so we can keep on fishing them as we were doing. We need to be a bit more imaginative than that.

The Chair: Thank you, Mr. Trudel.

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

Mr. Gord Johns: Thank you.

Mr. Johnson, as just a quick question, you're running a leading company on the west coast. It's the only cannery on the west coast right now. There were 80 canneries back in the day.

I know you've been a huge advocate for getting more investment into companies like yours, indigenous-led companies that are providing value added. Can you talk about how important it is that we invest in fostering and developing value added, especially in the new areas you're embarking on, like seaweed and kelp and other areas?

Mr. Larry Johnson: There could be a lot more funding put towards this type of aquaculture, whether it be kelp or—

I'm sorry, Gord. Can you rephrase that question?

Mr. Gord Johns: In terms of your overall situation—your wild salmon, all of your wild species, as well as all the products that you're offering and where you're pivoting to now with kelp and seaweed—you've talked about the need for investment to add more value to these products, the importance of that and the lack of it right now.

Can you speak about what that would do if there was funding made available?

Mr. Larry Johnson: We could use more funding and capital funding in terms of developing aquaculture. We could use more funding for business development to establish partnerships with industry. FLRNORD could use more funding to hire more people to process applications.

I don't know if that answers your question.

Mr. Gord Johns: Yes, that's where I was going. It was about how the support that funding could provide.

Carol, you've talked about your frustration with the department and the delay in decision-making. Just this year, you were in partnership with Uchucklesaht and you had smolts ready to go, but you couldn't get an answer from the department.

Can you talk about the impact of the delays in decision-making at the department and how that's impacting wild salmon and the opportunities that are there and the partnerships?

Ms. Carol Schmitt: Yes. It was extremely disappointing in the final minutes to have the department keep the eggs and do a fry release instead of allowing us to pick them up to grow them as S1s. Just so you know, for the Henderson project, we had a five-year private commitment to pay for the entire enhancement program. Released as fry, they will have 160 fish come back. Released as our S1s, there would have been 1,100 or more adult returns.

As for the frustration, I think Rebecca Reid stated that they rely on private and public involvement and participation because without it they wouldn't be able to complete as many projects as they do in the department. There are a lot of good things going on. However, it appears that for our private hatchery, once all these results have come in for the S1s, it's as though they've dug in their heels and they don't want to allow us to participate.

I don't know. All I can say is that given the results, it needs to be transposed in a bigger scale to rebuild the stocks, and should [*Technical difficulty—Editor*] After 40 years of enhancement, they're down to 70 fish. It means that in 40 years of enhancement, with a return of 260 on average. When they started 40 years ago, 200 fish were in the system. In Clayoquot Sound, all the chinook stocks are now at a high-risk level because the returns were so low.

I have demonstrated that if you grow them more naturally, they behave differently and you will get way more fish back because there is greater survival. I don't know. As I said, I am here today saying that maybe we need to set up a special committee to make these decisions in real time. I wrote to the department 18 years ago and stated that their 0.02% to 0.06% survival could be increased to 5% to 10% and all they had to do was change how they grew the fish. They have their results now, so here we are.

● (1645)

The Chair: Thank you, Mr. Johns.

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

Mr. Blaine Calkins (Red Deer—Lacombe, CPC): Thank you, Chair.

I'm going to ask questions of every one of you, and I'd like you to note the question. If you don't have an opportunity to answer it, I would appreciate it if you could submit a written answer, because I think this will be probably the only five minutes I get.

My question for you, Mr. Beamish, is on the studies we've seen on the ocean and the commingling of fish from countries that do ocean ranching—I will use the term loosely—such as Japan and the Russians. You haven't talked very much about the fish coming from Alaska, and I am wondering what's happening there. Can you talk about where these fish are going if they're not showing up in catches? If we're down 70%, are the fish moving somewhere else or are they coming back to the wrong stream? Are they showing up in our Arctic systems where they haven't shown up before? Could you just comment a bit on that?

Mr. Hurwitz, first of all, I'll extend my appreciation to you and everybody else. I've gone to so many hatcheries on the coast and visited with people, but I unfortunately never got to yours.

I want to talk about mobile marking facilities, because I don't think it's possible to have stationary ones. Could you tell us what the cost would be and how many hatcheries like yours, community-based hatcheries, could be impacted if we are going to do complete marking? How many of those hatcheries would be available, or how many of them could access a mobile marking system?

Carol, it's wonderful to see you here again. I was honoured to go out to your facility. I think Mel and I went out there at the same time. I want to talk a bit about fresh water versus salt water. I know that at the Marble River facility they actually rear some of the fish in fresh water, and they rear some in places like Quatsino Lodge, which has a pen there where they rear some of the chinook and get better returns. Can you talk a bit about the difference between rearing to a certain size in fresh water versus rearing in salt water?

My last question is for you, Mr. Johnson. We've heard from a lot of people who were talking about seals and predation. Some have suggested that we don't have to do a massive amount of effort on predatory seals; we just have to target the ones that are causing the most havoc. I'm wondering if you could elaborate a bit on that.

I'll just let you guys answer to the best of your ability.

Mr. Larry Johnson: I'll go first, on seals.

Our approach to them would be to deal with habitualized seals or sea lions within the system itself while we're collecting our brood stock and also to deal with them when we're releasing our fry in the estuary area. The third place would be while we're harvesting for our food for domestic purposes. We'd be able to deal with and protect our nets and investment, but our underlying principle is always to utilize the whole animal.

Mr. Blaine Calkins: Thank you.

Go ahead, Mr. Hurwitz.

Mr. Dave Hurwitz: Ironically, the mobile marking trailer I've heard about for two years showed up last month, and we just used it last week. Prior to that, it was used in a Tofino hatchery to mark chum. I'm very excited that we now have a unit on the coast that is working. I'm very excited this week.

Regarding sea penning, I must say, with all due respect to Ms. Schmitt, that I swim rivers along with lots of other seasoned biologists, and we've yet to see an S1 in the wild, so this is definitely a life history that is more conducive to glacial-fed streams on the mainland coast, and she's used that technology to introduce them onto the island.

Unfortunately, facing climate change and warming waters, the S1strategy is not necessarily something that is natural, but as for the sea penning that you speak of, yes, we've done sea penning, and to take the fry from the hatchery at five grams and put them in a sea pen at the mouth is very, very important for imprinting to that natal stream. In two weeks they double in size, and we have exponential survival.

● (1650)

Mr. Blaine Calkins: Mr. Beamish, do you want to take a shot at my question?

Dr. Richard Beamish: Fish that survive are the fish that grow faster and more quickly in the first months in the ocean. For those fish that survive the first ocean winter, there is mortality, but in general the brood-year strength is determined at the first ocean winter, based on how fast they grow in the coastal area.

With the fish that we catch, there is some overlap with U.S. fish, but in general, that's not quite true. There's chum salmon from Japan and Russia in the Gulf of Alaska, but if you're suggesting that there's competition from fish from other countries, I would say no, it doesn't exist.

By the way, we did find, through our plankton studies, that it did look like there was a lot of food available in the Gulf of Alaska, so that would not be regulating the abundance after they survive the first ocean winter.

The Chair: Thank you, Mr. Calkins. Your time is up, but I think you may get some time yet before the day's session is over.

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

Mr. Jaime Battiste (Sydney—Victoria, Lib.): Thank you for that.

My questions will be to the Nuu-chah-nulth witness. I come from Mi'kmaq territory, where we've seen it's best when plans are based on collaboration. There are several nations along the B.C. coast, as well as several stakeholders.

I'm wondering, with the money that our government is investing moving forward, what you feel is the best way that indigenous communities on the B.C. coast can be engaged and involved in the process of developing a plan moving forward.

Dr. Eric Angel: Larry, do you want to start with that one?

Mr. Larry Johnson: Sure. The best way to be engaged is....

With my group at least, we're a treaty group, so we are already collaborating. I think that if you can focus on some of the varied marine areas, you could sort out some funding regarding business development for aquaculture and establishing partnerships with industry.

I'll leave it at that for now.

Dr. Eric Angel: First nations need to be decision-makers at the table with DFO. It's that simple. We don't need to be consulted and we don't need to be engaged; we need to be decision-makers as a level of government, as right holders, in deciding how the money can best be put to work.

Mr. Jaime Battiste: Mr. Johnson, you talked a little bit about fish farms being bad words, and we've heard some reluctance around hatcheries as well.

Can you talk to me a bit about how fisheries have evolved in B.C. in terms of the indigenous view on how to best bring back the salmon stocks?

Mr. Larry Johnson: I can give you my view on it. It's hard to speak for everyone else.

My view on bringing the salmon back involves looking at production, upping the production, looking at survival rates, looking at pinniped management and predator control, and looking at collaboration among governments and first nation groups.

Mr. Jaime Battiste: Okay.

Mr. Johnson, can you tell me—I know when I ask for an indigenous perspective from B.C., it's difficult—whether there's any discussion happening with the British Columbia AFN level about some of the solutions moving forward? Do you think that's a good forum to use for this discussion, or is there a better forum that looks specifically at the indigenous communities that live along the coast?

Mr. Larry Johnson: I think the AFN could be appropriate to look at indigenous things on the coast, but I think speaking directly with the nations, with the tribal groupings, is likely the best, and even drilling down right to the specific nation levels. I think we get caught up in this cookie-cutter approach a lot of times. Each individual nation has their story.

Mr. Jaime Battiste: How many nations on the B.C. coast do you think would be part of this discussion? In the Atlantic we have three nations. In B.C., what is the number?

● (1655)

Mr. Larry Johnson: I think there's something like over 208 or 209 nations in B.C. Of those, I think probably a quarter, so 45 to 50, would be my best guess in terms of marine involvement.

Mr. Jaime Battiste: Are those nations or are those bands or reserves?

Mr. Larry Johnson: I would say it's a mixture. It just depends on what you like to be called, I guess. I know that with our modern-day treaty, we like to be called nations.

Mr. Jaime Battiste: When I talk about nations, I mean the language they speak. Are you saying there are still over 200 nations in B.C.?

Mr. Larry Johnson: That's individual nations. The language groupings are much different. I'm part of the Nuu-chah-nulth, which is 14 groups and one language.

Mr. Jaime Battiste: All right. Thanks a lot.

Mr. Chair, that's it for me.

The Chair: Thank you for that, Mr. Battiste.

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

Mr. Dan Mazier (Dauphin—Swan River—Neepawa, CPC): Thank you, Chair.

Thank you to the witnesses for coming out this afternoon.

Mr. Johnson, you mentioned the economic opportunities associated with aquaculture and its positive impact on local economies. Can you expand on how aquaculture creates opportunities for first nations and rural communities?

Mr. Larry Johnson: First nations people, particularly the Nuu-chah-nulth, are ocean-going people. Nuu-chah-nulth literally means “people of the mountains facing the sea”. We are definitely a part of anything to do with the ocean. It goes back to our principles of *hishuk'ish tsawalk*, the interconnectedness. We are connected to our environment, connected to our lands, connected to our resources.

Mr. Dan Mazier: How should the federal government support communities who rely on aquaculture?

Mr. Larry Johnson: I think we need to have capital funding for business development. We need to have business development to establish partnerships with industry. We need the funding for that. We need the province to support and build to be able to process the applications. We need governments to honour UNDRIP and give first nations decision-making ability to make the decisions on what types of aquaculture they want to develop in their territories, and provide the funding necessary so the first nations can make it happen.

First nations can provide advice on examples of how to breathe life into UNDRIP that's meaningful for that first nation. If you let first nations help the government define UNDRIP through economic development, I think there are some really good opportunities there. There are some good partnerships out there. As a matter of fact, I think networking on some of the positives would be beneficial for some of the first nations of British Columbia.

Mr. Dan Mazier: Mr. Johnson, you also raised concerns in your opening remarks about the lack of predator management and the discussions around that. Can you explain the impact that the lack of predator management discussions are having on the Pacific salmon stocks? Why are these conversations not being held, do you believe?

Mr. Larry Johnson: Well, the environmental groups.... I like to call them “environmental activists”, because everyone is afraid to deal with this.

The first nations role in our environment prior to contact was to maintain the balance of nature. It's unbalanced right now. Seals and sea lions are going up into rivers and eating salmon. That never would have happened in the old days. I think what needs to happen here is that we need to put things back into balance and into perspective.

Mr. Dan Mazier: Okay. That's a good answer.

Dr. Beamish, you mentioned the importance of working together as an international team. What are the most important factors in creating a credible and effective international team?

Dr. Richard Beamish: That's a good question. I'm not sure I can answer it, but if I were doing it, we have a pretty good idea of the scientists who could contribute. When we had our expedition in 2019, I chartered, along with a colleague, the *Professor Kaganovskiy*, a Russian research ship. We loaded that ship with 21 scientists from the salmon-producing countries, and those guys worked effectively together even though the operating language was Russian on the ship.

We do have individuals who have a history of working together. You obviously must have a smaller committee, but we essentially know how to do it, and if we had the overall support from all countries, I'm confident we could have an effective committee. All we need is four or five governments to say “Let's do it.”

● (1700)

Mr. Dan Mazier: How am I doing, Chair?

The Chair: Your time is pretty well done. You have 20 seconds.

Mr. Dan Mazier: That's good. Go on to the next one.

The Chair: All right, we'll go to Mr. Hardie for five minutes or less, please.

Mr. Ken Hardie: Thank you very much, Mr. Chair.

This is an interesting conversation today.

Mr. Johnson, the predator management system or approach that's being used in the State of Washington focuses on what they call “problem sea lions and seals”. Is that kind of what you've been talking about as well?

Mr. Larry Johnson: Yes, we're talking about the problem seals. I call them “habitualized” ones, but they are the ones that come into the rivers when we are releasing fry.

There's a really simple one. The province allows loggers or forestry to put their log booms right beside the mouth of a river. If they weren't there, then likely there wouldn't be a staging place for sea lions to go and clean up all of our fry when we release them. It's things like that.

We can put things in perspective. It's not about a big giant cull; it's about being precise and dealing with the ones that are stopping you from collecting your brood stock and stopping you from releasing your fry.

Mr. Ken Hardie: You're the second person to tell us that, so we'll make sure that is reflected in the study somewhere. I appreciate that very much.

Dr. Richard Beamish: Thank you.

Mr. Ken Hardie: Mr. Beamish, we heard from our panel the other day a lot of commentary about things that the State of Washington is doing that we should look at. Do you have any reflections on that?

I think we've lost Mr. Beamish. The more I look, the more he's not there.

All right, I was going to also ask about—here he is. He's back. Mr. Beamish, sorry, I had a question.

Dr. Richard Beamish: I had a barking dog. I had to go and stop it.

Mr. Ken Hardie: I hate it too when that happens. I sometimes get wrestling matches in front of my desk.

Dr. Richard Beamish: I'm sorry. I had to stop it.

Mr. Ken Hardie: No problem.

The question was this. We've heard a lot from a previous panel about things that the State of Washington has been doing, some of which they liked and some of which they didn't. Do you have any reflections on the State of Washington specifically and some of the measures they are taking?

Dr. Richard Beamish: Washington has a focus on chinook, coho and steelhead. They represent a fairly small percentage of the total catch by all countries, but, that said, they have some awfully good scientists who have produced some really good papers, again focusing on the mechanisms that regulate salmon when they enter the ocean. The mechanisms still look like a fish that grows faster and quicker in the first weeks to months, exceeds a threshold, and then stores enough fat to survive the first ocean winter, and that's only 3% or 4% of the population.

Washington-based scientists have done some excellent work, but so have Alaska-based scientists.

Mr. Ken Hardie: That gets to the next question, then. Of course, it spins off the work that you have done with that international group of scientists. Evidently there's some shared interest here, and that is in the availability or abundance of fish to catch.

Are there some interests that conflict between the countries, or even between the scientists from the countries?

Dr. Richard Beamish: Well, I told you guys that I'm old, so I don't know if I can answer that. Everybody knows that science progresses because we disagree with each other in a professional way, and that's important.

My experience is that we get along pretty well, and for years, if I've needed a bit of information from any salmon scientist anywhere around the Pacific, I've sent them an email, and usually the next day I have that information. The co-operation is wonderful.

● (1705)

Mr. Ken Hardie: Do you get the sense that the DFO has been engaging with some of our international would-be partners in this?

Dr. Richard Beamish: I think so. They are probably meeting today on the North Pacific Anadromous Fish Commission.

My experience started in the 1970s, when we had very close co-operation internationally, and I think that the co-operation is still there.

Mr. Ken Hardie: We also heard that—

The Chair: I'm sorry, Mr. Hardie. Your time is up.

We'll now go to Mr. Trudel for two and a half minutes or less.

Mr. Beamish, I wouldn't worry about Mr. Hardie getting cut a bit short. He has been sorry a lot lately.

[*Translation*]

Mr. Denis Trudel: Thank you, Mr. Chair.

One of the things I see in Parliament is that we always run out of time to talk about important issues. We'll try to do as much as we can in the two minutes we have left.

My question is for Dr. Angel, who gave a very detailed answer to my previous question.

Dr. Angel, in terms of the science of the process—if I can put it that way—you mentioned that the scientists' studies were very important and necessary for the rehabilitation and conservation of salmon. You even talked about how hatcheries operate.

Do you think that resources and evidence from scientists are being sufficiently used at present?

Are all the scientific research tools properly in place to protect salmon?

[*English*]

Dr. Eric Angel: No. There's opportunity for science to be better used in the management process, absolutely.

We still struggle to get access to all the information that we need to make good decisions. The tables we work at with DFO and others are still lacking data. There's scientific research that could be integrated more closely with management, absolutely.

[*Translation*]

Mr. Denis Trudel: Dr. Beamish, I'll ask you the same question.

Do you think scientific data is being used enough or used appropriately to address the challenges of protecting salmon habitat?

[*English*]

Dr. Richard Beamish: Yes, I do, but I don't think we have the data that we need. We need to see a bigger picture and we need to see differently.

What data we do have we are using, but we don't have the information that allows us to see a bigger picture. We need the missing pieces if we're going to understand what is regulating Pacific salmon in a future of changing ocean ecosystems.

[*Translation*]

Mr. Denis Trudel: How could we get that information?

My question is for Dr. Beamish or Dr. Angel.

[*English*]

Dr. Richard Beamish: We can obtain it, first of all, by recognizing that we do not have the information that we need. What we don't understand is how climate is changing the carrying capacity of the coastal oceans, which affects the overall survival, the ability of fish to survive through the first ocean winter. That's the information we need.

I can't remember who it was in this group, but earlier someone proposed that. Maybe it was Mr. Arnold.

That's what we need. That's my idea. Remember, I keep telling you guys I'm old, and it's essentially a hypothesis, but I'll bet a bottle of wine on it.

The Chair: Thank you, Mr. Trudel.

We'll now go to Mr. Johns for two and a half minutes.

Go ahead, please.

Mr. Gord Johns: Thank you, Mr. Chair.

Mr. Hurwitz, you talked about the department and the impact of those cuts. Maybe you could elaborate about that and about the attrition and about how that impacts the important work you're doing.

● (1710)

Mr. Dave Hurwitz: We partner with DFO in every which way. We're the data collectors. We're raising and studying fish. We are looking through tagging and research at the bottlenecks that Dr. Beamish alludes to, at least in our area. The cutbacks on that research affect it greatly. We haven't talked about poaching. That's a factor. Bycatch is a factor.

We speak about how the countries can work together. Let's face it: After all the enhancement we do in Clayoquot Sound, we know from tagging that over 50% are caught by the Alaskans, and nobody's brought up yet the impacts of salmon ranching in Alaska. An Alaskan bird biologist noticed die-offs due to lack of food from the competition from all these ranched fish.

Getting back to us, yes, it's tough. The region is suffering. We are not able to produce as many fish. The attention is not on us.

We are not big hatcheries. We're small hatcheries, which is actually the way we should be enhancing fish, not with these giant artificial-type releases. It's ecosystem by ecosystem. That's how we approach it. We approach it with rebuilding. That is a very much more expensive way to do it than building a great big factory that works on one river.

Mr. Gord Johns: Thanks for the answer. Thanks for the important work you're doing.

Mr. Angel, you talked about a restoration economy. Can you talk about how the B.C. restoration fund is working or not working? How's that playing out for Nuu-chah-nulth people on the water and on the ground?

Dr. Eric Angel: Thank you. I'm mindful of time here.

Just speaking for Nuu-chah-nulth, I can say that a limited amount of money from that restoration fund went to Nuu-chah-nulth projects.

We put in a lot of proposals. We did get funding for one that is quite important. We're looking at herring because herring is a forage fish and important to salmon, so that's excellent. That's been recognized.

Really, the fundamental problem with the SRIF funding program is that the decisions were made by DFO and the province without direct participation by first nations. We're rights holders; we should be decision-makers. We should be part of that decision-making process.

Mr. Gord Johns: That's excellent. Thank you.

The Chair: Thank you, Mr. Johns. You are dead on your two and a half minutes.

We'll now go to Mr. Arnold for five minutes or less.

Go ahead, please.

Mr. Mel Arnold: Thank you, Mr. Chair. I'll go back to Mr. Beamish again.

Mr. Beamish, I believe we need to understand every factor impacting our Pacific salmon and to take the appropriate actions where possible. I believe we can get a better understanding of the ocean's productivity if we improve our assessment activities. We need to be better aware of wild salmon returns and better informed to improve the management of hatcheries and the harvest and the habitat. Where is better assessment of salmon returns most needed, and how can we improve that assessment process?

Dr. Richard Beamish: I can't answer that. I can only repeat that as part of the assessment that you're referring to, which is essential, you need more information. There are too many missing pieces to really understand essentially what the mechanisms are.

I keep telling you that I retired 10 years ago. I don't know enough about how DFO works to answer your question.

Mr. Mel Arnold: Can you identify any of those key pieces relatively quickly?

Dr. Richard Beamish: Relatively quickly, I'd just tell you again that I think the fundamental mechanism that regulates all salmon, all species throughout their distribution, is that when they enter the ocean, they survive better if they grow faster and quicker.

Remember that even in the best years, 5% of chinook salmon in the Strait of Georgia in the 1970s provided all the fish that everybody wanted. There were 95% that died, but no one really worried about that. Now 99% die, or 99.9%. You need to understand the natural mechanisms that have increased that mortality.

Again, the collapse of the commercial fishery all around the Pacific last year has to be a common mechanism. To all scientists, it is key that we understand that mechanism if we're going to understand the future of Pacific salmon.

Mr. Mel Arnold: Thank you.

I'm hoping you might be able to shed a little bit of light on this next point. You've talked about the international co-operation that's needed, and so on. It sounds as though the science is being exchanged. As legislators we have to ask how we get that co-operation. We need an understanding of who might be winners and losers if that international co-operation took place. We haven't been able to look at illegal, unreported and unregulated fisheries. Have you any experience on that?

● (1715)

Dr. Richard Beamish: I only know a little bit about it, and yes, it's important.

The North Pacific Anadromous Fish Commission has the co-operation of the international North Pacific Fisheries Commission. However, there are no winners and losers. If what I am doing is basically providing the information all countries need, they need it for their hatchery programs. They need it to understand the future of the fishing resource. Really, everybody is going to benefit.

Mr. Mel Arnold: Thank you.

Mr. Hurwitz, could you elaborate a little bit on what your hatchery might gain from the better assessment processes that I spoke about with Mr. Beamish?

Mr. Dave Hurwitz: We undertake an assessment and we undertake smolt surveys. We're looking at bottlenecks in the estuary by using tagging. We do the snorkel surveys and the creek walks to count the fish.

It's just that 20 years ago we did way more. The data gaps that Dr. Beamish alluded to are due to funding cutbacks in DFO stock assessments that don't allow us to collect as much information as we used to.

Not only that, we've mapped a human genome, and guess what? We've mapped out the salmon genome. We DNA every dead chinook we find in a river. We've built up a database of DNA that scientists like Dr. Beamish can use in the North Pacific when they're collecting and mapping DNA salmon to see where they go.

The hatcheries don't just crank out fish. We are a different hatchery. We are producing the wildest, highest-quality and most genetically sound fish. We provide tons of information that's used by other scientists.

Mr. Mel Arnold: Thank you.

In the few seconds I have left, one of the questions burning through all us here is what, in your opinion, a long-term Pacific salmon strategy should look like or what it should include. If you could send us a written submission, that would be excellent towards our study.

Mr. Dave Hurwitz: Thank you.

The Chair: Thank you, Mr. Arnold.

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

Mr. Robert Morrissey: Thank you, Mr. Chair.

I have three questions.

Mr. Johnson, in the opening comments that you didn't get to complete, you started to say that you had an ask for this committee, I believe.

Could you provide that now?

Mr. Larry Johnson: Yes. The ask was around funding.

The federal government needs to provide adequate funding. We need capital funding for business development in aquaculture and for business development to assist in establishing partnerships with industry.

First nations need the province to also provide support by processing applications in a timely manner. The current process takes way too long.

If the government wants to honour UNDRIP, just give first nations the decision-making ability to make their own decisions on what type of aquaculture they want to develop in their territories and provide the funding necessary for first nations to make it happen.

First nations can also provide advice and examples of how to breathe life into UNDRIP in a meaningful way for first nations. Let first nations help governments define UNDRIP through economic development.

Thank you.

Mr. Robert Morrissey: Thank you for that, Mr. Johnson.

I have a question for Ms. Schmitt. You were pretty categorical. Are you telling this committee that given where we're at now, the salmon stock on the west coast cannot rebuild naturally? I believe you said that it cannot naturally rebuild. Am I understanding your statement correctly?

Ms. Carol Schmitt: Yes.

Annually, the department surveys many streams and counts the species that return to spawn every year. Most of the chinook populations have 25 or 30 chinook. Even a lot of the enhanced systems that have been....

I described the Nahmint River. I was just doing a summary of the 40 years of enhancement on the Nahmint River, and we're right now at an average of 260 fish. For the first 10 years of the 40-year enhancement, 160,000 smolts were released a year. For the next 10 years, there were 120,000 smolts released a year. For the next 10 years—up to the 30-year point—100,000 were released. Now we're down to about 50,000 being released, but the numbers have remained the same. If you look at the coast-wide numbers of chinook, you see that all the numbers are extremely low. In the Chemainus River and the Kennedy River, I think the system last year got 1,500 fish to release this year from the huge system. On the whole east coast of the island, as well, many of those chinook stocks are down to very few adult returns. When you only have a few hundred, there aren't enough to naturally spawn to increase that to over 1,000 to 1,500 to start to rebuild and become self-sustaining.

That's where, in our program with the Phillips River, because the S1s had higher survivals, there were more fish that returned to spawn. Those in turn have spawned, and then the numbers returned last year, 3,500 strong. That is unbelievable. We can repeat that for all the systems.

I just want to comment on what Dave said about there being no S1s in the west coast system. I have 20 to 30 years of research data. All those systems predominantly would be S1s. There's a really good freshwater survey that was done of Bedwell River that saw a very large component of S1 chinook migrate out of the system at the beginning of April. They migrate differently. They're gone, and their survivals are extremely good.

I'll go back to the chinook. If we want to rebuild hatchery intervention, that's what's being done. However, when you take those last few remaining fish, you need to enter them into a program that has the highest survival. We know, from the coded wire tag data, that a lot of the S0s that are released are having 0.2% tag recovery. When we released our S1s, we were at 3.2% tag recovery.

Every tag captured in marine fishery represents 20% of the population, so all of a sudden you have 2% of those tags, near 10%. Our Phillips River ones were at 8.2% survival. The Sarita River and Nahmint River S0s that we released were at over 5% survival, compared to the 1% or 2% with the S0 releases. You can just simply say that we're getting 1% to 3% coming back to spawn, compared to the spawners from the S0s, which were 0.1% to 0.3% coming back. That's a huge difference.

As you keep on taking these last few eggs and you're not getting hardly any fish surviving and returning, you have to change the strategy. We've demonstrated it now with 13 releases. We have seven complete data sets.

Mr. Robert Morrissey: So—

● (1720)

The Chair: Thank you, Mr. Morrissey. Your time has gone a little bit over.

I know that we've gotten to three rounds of questioning. We have a few minutes left, so I'm going to make an executive decision and give about two minutes, or a little over, to each party.

First off I'll go to Mr. Calkins for two minutes, because he's probably looking to get a couple of answers that he didn't get earlier.

Mr. Blaine Calkins: Thank you.

I have a very simple question. Given the fact that we have a wild salmon policy in Canada that differs from the Alaskan policies and some of the other international policies, which seem to go towards ocean ranching, I'm wondering if Mr. Beamish or anybody else wants to address whether our wild salmon policy nestles in, in a way, on the international front, where we can expect our wild salmon policy to be successful if we do make some changes.

The other thing I'd like to ask is this: If there were three things that the department could do as priorities in order to save salmon.... It doesn't have to be three—it could be two or five—but I want to know your top priorities. Is it removing fish farms? Is it hatchery enhancement? Is it taking nets out of the rivers? If there were a list of your priorities that you think would actually do the best amount of good for ensuring that wild Pacific salmon populations rebound, I would be curious to know what those are.

I'll start there.

Mr. Beamish, I'll leave that with you, and then we'll go to the other witnesses.

● (1725)

Dr. Richard Beamish: I can't answer your question about the wild salmon policy. I just don't remember enough about the comparison with the United States.

The one thing that DFO and all countries need to do, and I've said it a dozen times, is to recognize that we don't have the information that we need essentially to be professional stewards. What we are doing is responding. We are professional responders, but we're not stewards yet, because we don't understand the fundamental mechanisms. The evidence for that is the total catch by all countries in 2020, which is a 35% reduction—and by the way, about half of that came from just two areas.

We do not have a scientific explanation for that, and that's what we need to get. That's the priority for DFO and other countries.

The Chair: Thank you, Mr. Calkins.

We'll now go to Mr. Hardie for two minutes and 20 seconds.

Mr. Ken Hardie: Oh, you're all heart.

I'd just ask for a show of hands of anybody who wants to chime in on this question:

The DFO for a long time has been accused of spending most of its time on managing fishing effort and not enough time on rebuilding stocks, but given the state that we're in right now, do you think it will be necessary for the DFO to continue focusing on managing fishing effort and do you think they should try to rationalize the number of licences that are available on the west coast?

Who wants to take a go at that question? Don't be chicken.

Okay, you laughed, Mr. Beamish, so go ahead.

Dr. Richard Beamish: No, fishing is not our problem. I think DFO does a good job at managing fishing. Where I disagree with DFO is that I actually think there could be more fishing opportunities, particularly in the recreational sector. It's not a fishing issue; it's an issue of ocean survival.

I do think we can optimize the carrying capacity of the ocean. We need a little more science, or maybe a lot more science.

To me, that's what rebuilding is. Rebuilding isn't some historic abundance. I don't even think those numbers are possible. The ocean carrying capacity has changed, but with a proper understanding we can rebuild to the capacity of the coastal ocean. I think there are opportunities to do that, particularly for chinook salmon.

Mr. Ken Hardie: All right.

Mr. Chair, am I out of time? No, I'm not. Okay, good.

Mr. Johnson, you've enlightened us in a very valuable way about the nature of aquaculture. It isn't just open-net fish farms that we're talking about. There's sable fish and there's shellfish.

In your community, if you wanted to get more involved in aquaculture, what kind of aquaculture would you tend to go to?

Mr. Larry Johnson: Personally, I would go to fish farms, because there's nothing wrong with that idea. I think there's enough science now that we can address a lot of the concerns. I'd sprinkle in some kelp, as well as some shellfish, and do some multi-trophic aquaculture.

Mr. Ken Hardie: Okay. That's good. Thank you.

The Chair: Thank you, Mr. Hardie.

I was going to jump in earlier when you were talking about chicken and remind you that you're at the fisheries and oceans committee and not agriculture.

We'll now go to Mr. Trudel for two and a quarter minutes, please.

[*Translation*]

Mr. Denis Trudel: Thank you, Mr. Chair.

I don't know if I have enough time left, but I'd like to ask a quick question to bring us full circle on everything we've discussed today.

Mr. Hurwitz, what would you have liked to have seen in the budget that you didn't see in it that would help us in the current situation?

[*English*]

Mr. Dave Hurwitz: Unfortunately, I haven't seen the budget, so I'm not really privy to answer that. I know basically everything that has been on a funding freeze and that has been working could probably use support.

On the filling of data gaps, again Dr. Beamish talks about this. We have risk assessment in our round tables that we've gone through with Dr. Isobel Pearsall and we identify our gaps. I think it's very important to start closing those data gaps so that we can find out where there are and are not bottlenecks to salmon survival.

With regard to saying there's not a fishing issue, though, with all due respect, can I bring up a point?

In 1996-97, I hate to say it, but Minister Anderson closed salmon fishing, so the returns were off the hook. When we look at what's caught in Alaska alone, comprising over 50% of the stock, in terms of the chance for rebuilding, if we could have those fish hit the beds, that's something to think about. I am not proposing we close fishing, but I'm saying that to not call it a fishing issue is, sorry, a bit naive.

Thank you.

● (1730)

[*Translation*]

Mr. Denis Trudel: Dr. Beamish mentioned that we don't have all the scientific data to solve the problems we're experiencing.

Dr. Angel, how can we get this data so that we can move forward?

[*English*]

Dr. Eric Angel: It's by doing science, by doing research. First nations are out on the water all the time. They are in the forests and the trees and looking at salmon's ecosystems.

We want to be part of that. There's an excellent opportunity for first nations to be working with DFO, as well as with the commercial and recreational fishers with the NGOs to collect that data and make it available. Support for that is absolutely essential.

The Chair: Thank you, Mr. Trudel.

We will now close it out with our friend Mr. Johns.

Mr. Gord Johns: First, I think I can say on behalf of all the committee how much we appreciate each and every one of you for your leadership in fighting for wild salmon. As the only Vancouver Islander, I can't thank you enough for the work that each and every one of you is doing. It makes me proud.

The Pacific salmon secretariat and restoration centre of expertise was recently announced in the budget. None of us knows what that looks like and what that means, but I think, Mr. Angel, you talked about how important it is that indigenous people not be left out of this. It needs to be government to government to government in terms of the structure.

We hear Wickaninnish. He says he doesn't want to co-manage because that just means consultation. He wants to jointly manage in moving forward.

Can you speak about how critical the structure of this is in relation to that model?

Dr. Eric Angel: We're moving that way slowly and reluctantly, but we're finally getting to the point where first nations are at the table with DFO making the decisions nation to nation and government to government.

We have a long way to go, and considering how incredibly important salmon are to the Nuu-chah-nulth and to first nations generally, this is one of the best opportunities we've had in a long time.

I don't want to overstate the point. It's not that hard to do. It just requires picking up the phone and saying, “Let's make this happen” at a senior level. The RDG, the directors at that senior level, just need to talk to their equivalents, to the nations' leaders, and say, “We want to make this work with you.” Then they do the same thing with the province.

Mr. Gord Johns: I guess it's the same thing at the West Coast Aquatic management board. DFO's not even at the table. All the stakeholders talk about how important that management board is.

Can you talk about the absence of DFO and what that does to all the work you're doing?

Dr. Eric Angel: It just makes everything so much more difficult, because we know they are the most important player overall in terms of what happens with salmon on the coast, yet they're not there. We're always having to make decisions with the idea that we still have to run it by the department. If the department were there, actually being part of that decision-making....

It's inefficient. We want some efficiency in this. We want this money to be spent wisely, so let's find processes that can actually make decisions quickly that aren't going to lead to all sorts of conflicts. You're not going to get all sorts of lobbying and campaigns going for and against and all that. Get people actually making the decisions that are going to stick, and you're going to spend your money a lot more intelligently.

The Chair: Thank you, Mr. Johns.

That closes up our questioning.

To each of the wonderful witnesses we have before us today, I want to say a big thank you for appearing here and educating us to great lengths on the issues dealing with the Pacific wild salmon.

Thank you to committee members for another great meeting. I want to say thank you to the clerks, the analysts and the translators. I look forward to seeing you at the next meeting on Wednesday.

The meeting is adjourned.