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Chair

Mr. Scott Simms

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● (0845)

[*English*]

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

We have a few new people this morning as far as our colleagues are concerned. I want to say welcome to Phil McColeman from Brantford—Brant and to Dave Van Kesteren of Chatham—Kent—Leamington.

Of course, Mr. Stetski from Kootenay—Columbia, we welcome you again, sir.

That being said, for the benefit of our new colleagues, it was agreed that pursuant to Standing Order 108(2), the committee undertake a study in reference to the mandate letters of both the Minister of the Environment and Climate Change and the Minister of Fisheries, Oceans and the Canadian Coast Guard to examine the criteria and process being used to identify and establish marine protected areas, with the objective of ensuring the criteria and process are aligned to: a) achieve the intended benefits of MPAs; b) assess social, economic and environmental impacts of the MPAs; and c) ensure all traditional uses and values are duly considered and respected in the criteria and process for identifying and establishing MPAs.

We are planning to do a site visit later this month on the west coast, as well as to the Northwest Territories, and in the fall we will be travelling to the east coast, we hope.

Welcome to our witnesses this morning. We have four witnesses, so we're going to run for what may not be the full two hours, but we're not going to break this up in any way.

I want to say a very early good morning to Dr. Natalie Ban, assistant professor, School of Environmental Studies, University of Victoria. Thank you for joining us this morning.

From the BC Seafood Alliance we have Christina Burridge, executive director; Bruce Turris, executive manager, Canadian Groundfish Research and Conservation Society; and someone who is no stranger, from the BC Commercial Fishing Caucus, Jim McIsaac, managing director. It's good to see you, sir.

As many of you know, we do 10-minute presentations from each group. I understand that Ms. Burridge and Mr. Turris are doing one 10-minute presentation.

First we'll go to Dr. Ban on the west coast for 10 minutes or less.

Dr. Natalie Ban (Assistant Professor, School of Environmental Studies, University of Victoria, As an Individual): Good morning. It's an honour to have been invited to present to you today.

I've been working on the science of marine conservation for the past 14 years with a focus on the design of marine protected areas, or MPAs. Most of my work has been in British Columbia, but I also spent four years in Australia and have been involved in other countries.

I would like to make five key points today. I will follow up with a written submission that will include the peer-reviewed scientific papers supporting my points.

My first point is that there is documented scientific support for the biodiversity benefits of strongly protected MPAs. A study in 2014 showed that the conservation benefits of MPAs worldwide increase exponentially with the accumulation of five key attributes: that they're no-take; well enforced; old; large; and protect whole ecosystems that are isolated by deep water or sand.

Most of these global studies, including that one, include many tropical MPAs. Often the question is whether these same concepts apply in our temperate or Arctic waters, and the answer is yes. A study in 2009, focused only on temperate marine ecosystems, also found higher density, biomass, and species richness in fully protected MPAs compared with adjacent exploited areas. Thus, science has illustrated the effectiveness of fully protected MPAs for biodiversity conservation, which is their primary purpose. There are many other tools to assist with fisheries management, although MPAs might be able to help.

My second point is that some of the recent work, including my own, shows that MPAs that permit varying levels of extraction, fishing and other activities, are less effective at biodiversity conservation than fully protected areas. More specifically, in a study that I led, we considered the added benefit of MPAs at increasing biomass of fish. A no-take area such as IUCN categories I and II, for those of you familiar with that, are as effective as they can be, so let's assume compliance. We'll call those, for the sake of argument here, 100% effective.

We then were examining the benefits of MPAs over and above conventional fisheries management, so considered unprotected areas as having zero additional benefit, giving us a range between zero and 100. We found that MPAs that allowed some extraction, so IUCN category IV limited extraction, were about 65% effective compared with 100% for the no-take areas. Areas that allowed quite a bit of extraction, so IUCN category VI, were on average about 25% effective. In other words, MPAs that allow extraction are less effective, not only because of the actual fish or other things being taken out through extraction but because everything is connected within marine ecosystems. The whole ecosystem is affected.

Fully protected MPAs are therefore needed so we can understand the impact of fishing and other activities on marine ecosystems. At present in Canada, we only have about 0.1% of the ocean in fully protected MPAs.

My third point is that education, compliance, and enforcement are crucial to obtaining biodiversity benefits. A recent study found that MPAs with adequate staff capacity had ecological effects that were 2.9 times greater than MPAs with inadequate capacity.

The rockfish conservation areas, or RCAs, in B.C. are illustrative. A student of mine studied compliance with RCA rules amongst recreational fishers in B.C.'s Strait of Georgia, interviewing more than 300 recreational fishers. About 25% of people admitted to fishing illegally within RCAs. The main reason for this non-compliance was lack of knowledge. About a quarter of recreational fishers had never heard of rockfish conservation areas, 60% were unsure of where RCA boundaries were, and less than 1% knew the rules of all the prohibited and permitted gear within RCAs. Most had never seen an enforcement officer. So outreach and education are essential for successful MPAs, and enforcement officers need to have the resources to do their jobs or these areas will not actually protect biodiversity.

My fourth point is that strong science exists about the design of MPA networks, including both ecological and social considerations. To date, MPAs in Canada have been established as single areas. Moving from establishing single MPAs to networks of MPAs is the best chance Canada has to meet its targets. It will also make for ecologically more effective MPAs.

● (0850)

This is the approach that is being taken in the northern shelf bioregion in B.C. There is a further opportunity to accelerate the MPA implementation process because of the prior planning in the region through the marine plan partnership, which has done much of the work that's needed, including acquiring data, running some technical analyses, and getting the support of first nations, the B.C. government, and many stakeholders.

A network of MPAs is different from a single MPA, because a network can represent the suite of different habitat types and biodiversity. In other words, every known species and habitat should have an example included within an MPA, ideally in three or more different sites, which we call replication. A network of MPAs should thus be designed so that individual MPAs are connected for species that move.

There have also been advances in the tools to design MPAs to allow for some of the potential impacts and other social considerations. For example, some decision support tools can help to meet the biodiversity objectives while minimizing potential impacts, such as those for the commercial fishing sector.

The design of the stakeholder engagement process is also really important. Stakeholder support for MPAs results in greater compliance, and hence more effective biodiversity conservation outcomes. Thus, a legitimate, transparent process is particularly important. As adjustments to proposed MPAs are made through consultations and engagement, it is crucial to check the revised boundaries of MPAs so that the biodiversity objectives can still be met and checked out with the science.

My final point is that there is an unprecedented opportunity to use MPAs to work towards reconciliation with indigenous communities. While I do not speak for the first nations that I collaborate with, I want to share some of my observations.

There's grave concern about the state of the oceans and a keen interest from indigenous communities to use MPAs to engage in marine management. Joint management of MPAs, or co-management, which means sharing of power equally, is seen as one opportunity both to revitalize the cultural practices and to recover culturally important species.

The planning towards a network of MPAs in the northern shelf bioregion is a great step in that direction. Any Oceans Act or other MPA needs to consider first nation rights and cultural priorities, including their food, social, and ceremonial—or FSC—fishing. If done in partnership with first nations, MPAs can provide ecological conservation, cultural conservation, and food security, and can play a role in reconciliation.

Let me illustrate the need for marine conservation through two culturally important species for first nations on the central coast. This is from research that I did in partnership with the Central Coast Indigenous Resource Alliance, which comprises the Heiltsuk, Kitasoo/Xai'Xais, Nuxalk, and Wuikinuxv first nations. In these studies, we interviewed knowledge holders about the changes they've seen to these species in their food fishing.

The first is the yelloweye rockfish, a long-lived groundfish that lives to be about 120 years old and doesn't start reproducing until about 15 years of age or older. They're quite sedentary. The big, old female fish produce the greatest number of and most successful young. Thus, the size of yelloweye rockfish is a good indicator of their population status. The knowledge holders we interviewed saw about a 50% decline in the average size of the individuals that they caught before the 1990s to now. Declines were observed to have coincided with the start of the commercial groundfish fisheries.

The second example is that of Dungeness crab. This is a fishery that's generally considered to be sustainable at the regional level; however, indigenous fishers have been observing declines. The central coast first nations did an experiment in which they monitored 20 bays, 10 open to fishing and 10 closed, which unsurprisingly showed that stopping fishing increases the number of legal-sized males. DFO did not formally close those 10 bays, despite requests to do so, so the first nations used indigenous law to close them and did patrols to ask commercial and recreational fishers not to fish in them.

Our interviews indicated that people had seen a 77% decline in Dungeness crab since the 1990s. This means that there seems to be serial depletion of bays getting depleted by commercial and/or multiple recreational fishing vessels, to the detriment of the local people who rely on these species for food and for their culture. Thus, the loss of abundance of these species is not only a worry for biodiversity; it also threatens the cultural continuity and revitalization of indigenous practices.

● (0855)

That concludes my five points. I really thank you for the opportunity to present to you today, and I look forward to your questions in a few minutes.

Thank you.

The Chair: Thank you, Dr. Ban. That was almost exactly 10 minutes. Very good. Thank you indeed.

Now we'll go to the BC Seafood Alliance.

Ms. Burridge, you have 10 minutes or less. Thank you very much.

Ms. Christina Burridge (Executive Director, BC Seafood Alliance): Good morning, everyone, and thank you for inviting me here.

The BC Seafood Alliance is an umbrella organization whose 17 members represent about 90% of wild harvested seafood from Canada's west coast, worth about $850 million annually. Our members are associations representing all or most of the licence-holders in virtually every major wild fishery in B.C. That would include salmon and herring, which once were the backbone of the industry. Those have now been overtaken by the success of prawns, sablefish, halibut, geoduck, and other groundfish and dive fisheries. We are the most representative fisheries organization on the west coast, but our ultimate constituents are independent fishermen and businesses up and down the coast. These are the people who provide food to Canadians and to the world.

I want to talk a little bit about our fisheries first, partly because in reading through the blues, I've been a bit dismayed by the understanding of fisheries and fisheries management on the west coast. I'm referring to the assumption that what may hold true for fisheries in some parts of the world—say, overfishing, an increase in fishing footprint, wasted and unreported catch—applies in British Columbia. That's simply not true.

Conservation has driven our sector for the past 20 years. It has shaped the way it has developed and encouraged a pragmatic approach to stewardship that has really worked in market terms as well. More than half our fisheries by volume are in the marine stewardship council program. The MSC is the gold standard for independent third-party verification of sustainability. It works through an arm's-length third-party process. Only 10% of the world's fisheries have so far qualified for MSC certification. We're part of that. Most of our other fisheries are recognized either by the Monterey Bay Aquarium's Seafood Watch or the Vancouver Aquarium's Ocean Wise as good choices for consumers.

By volume, almost two-thirds of our fisheries are managed under the Canadian groundfish integration program. CGIP integrates the management of 66 different species, seven different fishery sectors, and three gear types—that's hook and line, trap and trawl. The most important thing here is that under that program, a vessel is fully accountable for every single fish it catches, whether those fish are retained or released. That is verified through a monitoring program that includes100% at-sea observers, or 100% electronic monitoring, and 100% dockside monitoring.

Groundfish integration is recognized by the MSC as “one of the most rigorous in the world”, by Prince Charles' sustainability unit as a world fisheries success story, and by the David Suzuki Foundation as, quote, “among the best-managed fisheries on the planet”. It creates incentives for long-term stewardship of the resource and the ecosystem, encouraging fishermen to be highly selective in catching the fish they want and not weak or endangered species.

For example, our groundfish trawl fleet, working again with the David Suzuki Foundation and other conservation groups through a habitat conservation collaboration agreement, has frozen the trawl footprint. It has taken out 9,000 square metres of the coast, protected 50% of all habitat types, especially deepwater habitat, and it has instituted the world's first conservation bycatch quota for corals and sponges. Fleetwide, the quota for corals and sponges was set at 4,500 kilograms. In fact, it has been less than a fifth of that every year the program has been in place.

I'm giving you this information as context for the points that I want to make on MPAs. Let me be clear: we support the international commitment and the minister's target of 5% by the end of this year, and 10% by 2020. We believe we can and should be partners in achieving this goal, but we are becoming more skeptical that what's happening on the west coast meets the government's commitment to science, evidence-based decision-making, transparency, and collaboration.

Here is where we are on the Pacific coast, according to Environment and Climate Change Canada's most recent international reporting according to UN and IUCN rules. B.C. accounts for less than 8% of Canada's coastline, but currently we account for 28% of the total marine protected areas. We currently protect 3.2% of the marine and coastal area in B.C.

● (0900)

Newer areas just identified for protection this year, such as the Scott Islands, will take that to 6.3%. That's above the 5% threshold. Today I think there will be an announcement of a large offshore area of interest. If we assume that this will protect about 10% of the offshore, the total level of protection in B.C. by 2020 should be at least 13.2%—more than the 10%—and that's before we include other effective area-based conservation measures or new protected areas in the northern shelf under the Canada-British Columbia MPA network strategy. We're certainly ready to do our part in B.C., but we don't think we should be expected to shoulder more than our share of conservation requirements, and we really need to be part of the process.

Protected areas certainly are a part of the fisheries management tool box, especially for protecting spawning areas, habitat, and special benthic features. We've done our part in that too. Our groundfish fleet voluntarily protected the Hecate Strait glass-sponge reefs starting in 2001 until they were formally closed in 2003 and eventually designated as an MPA earlier this year.

Most of the science on MPAs has looked at warm-zone coral reefs, where fish are tied to place, usually in areas where fisheries management doesn't work very well. In such cases, there's strong evidence that MPAs, including large no-take zones, really do work. By contrast, the science suggests that in MPAs in such areas as New Zealand, Australia, the U.S., Canada, Iceland, Norway, and even large parts of the EU, all countries with good management systems, biodiversity goals are best served by strong fisheries management, particularly enforced harvest control roles. In these jurisdictions there's evidence that MPAs simply displace fishing activity and concentrate it detrimentally in other locations, often decreasing, not increasing, biodiversity. This makes ecosystem-based management harder to achieve while increasing dependency on foreign fisheries that are not as well managed as our own.

On the west coast, we're not seeing a lot of evidence-based decision-making. It's beginning to look like political decision-making. The exact boundaries of fishing limitations around the Hecate Strait sponge reefs were a consensus recommendation from a multi-stakeholder group that included the ENGO community. This went to *Canada Gazette*, part I. Those boundaries were changed by the federal government in response to push-button responses from the ENGO community.

We're kind of seeing the same thing with the Scott Islands. More than 10,000 automated push-button responses from ENGO websites apparently outweigh the science, analysis, and considered consensus recommendations from the advisory committee, which included many of those same ENGOs. This is not how you do evidence-based decision-making, and it's not how you do collaboration. It just blows up any chance of effective collaboration, compromise, and consensus.

On the west coast in particular, we're also apprehensive about the convergence of protected areas and reconciliation. This looks rather like reallocation by zoning without compensation. I'll be clear: we support reconciliation with the indigenous peoples of Canada, but whether it's protection, reconciliation, or both, it can't be on the backs of commercial fishermen and their families, at least one third of whom are indigenous themselves. Fishermen on the west coast, the family businesses in both harvesting and processing that have diversified, adopted cutting-edge practices and technology, and developed new markets and new products, are at risk here. You are all charged with scrutinizing the policy and approach on protected areas. We ask you to do exactly that and to not be swayed by views of fisheries and fish management that apply to other places in the world but not to B.C.

The threats to our oceans are real, but they come from oil and gas exploration, the prospect of seabed mining, and ocean acidification, not fishing for food. Large no-take fishery zones will not help deal with these problems. We are partners in the 5% and 10%, and will always be ready to protect special features.

● (0905)

Closing large areas to fishing off the west coast does little for biodiversity, little for conservation, little for the men and women up and down the coast who work in our sector and who are middle class or aspire to the middle class, and little for the health of Canadians, who deserve access to local, sustainable seafood.

On the west coast, we believe we can have both biodiversity and healthy, sustainable fisheries. Indeed, we have been working with the ENGO community to try to sketch out what that might look like so that we can indeed continue to provide food for Canadians and food for the world.

I really appreciate the chance to speak to you. If I can leave you with one message, it would be this. It's the livelihood of fishermen, my members, that is at stake here, and we need to be part of the process, engaged in looking at exactly where these MPAs will go and reducing the impact so that we can continue to do our job.

Thank you very much, everyone.

● (0910)

The Chair: Thank you, Ms. Burridge. I appreciate that.

Mr. McIsaac, you have 10 minutes or less, please.

Mr. Jim McIsaac (Managing Director, BC Commercial Fishing Caucus): Thank you very much for the invitation to speak.

As for my background, I commercial-fished for 25 years. Commercial fishing paid my way through university, where I studied physics and mathematics. I'm not a fishery scientist or ecologist by background, but through the commercial fishery I got involved in conservation. For the last 25 years I've been involved in conservation. You might ask why. It's because as a commercial fisherman, I think it is really important to conserve so that we can use our marine resources—not lock them off from future generations, for nobody to touch forever, but for use.

I chair a commercial fishing caucus on the west coast. There are 13 different organizations that are part of it. It's open to independent commercial fishermen and fishing organizations to participate in marine planning. We've been involved in marine planning on the west coast on a number of different fronts—the PNCIMA process, the integrated planning process, the west coast of Vancouver Island governance board, and several MPA processes, including the glass-sponge reefs, the Scott Islands, the Gwaii Haanas, the NMCA at the bottom end of Haida Gwaii, the Bowie Seamount, and a couple of other ones.

I've been involved in a number of the issues associated with this. Here's what I want to cover today. I want to talk about the value of biodiversity and the value of our oceans, ocean issues globally, best ocean management, the definition of MPAs, differing MPAs, differing objectives between MPAs and fisheries, and lines on the map.

First, the ocean is what makes this planet. It is the most important feature on this planet. The average temperature of our ocean is 3.5° C. The average depth is 4,000 metres. It provides half of our oxygen and 25% of our protein on this planet. It is essential for life on this planet. Protecting our ocean is a priority, obviously.

We have a number of different issues facing the ocean. Christina mentioned a few of them. These include climate change, pollution, the amount of plastics going in there, the IUU fishing, and the oil and gas and energy sector. We're facing a number of different issues competing for space in the ocean.

How best do we manage the ocean? Beth Fulton, one of the top modellers on the planet, gave a presentation a couple of years ago when I was in Australia. She identified the main ways for managing the ocean. You can do nothing; you can manage by single sector; you can manage in time and space in that single sector; you can add other dimensions, economic and social, in that single sector; or you can do integrated management.

The best way to manage our oceans, given the global drivers on our planet, is integrated management. That's what the Oceans Act attempts to do, attempts to line up for Canada. We've attempted doing that in a number of different spaces in Canada. We had Canada's oceans strategy in 2005, which tried to focus on five different areas, PNCIMA being the one on the west coast. The fishing industry bought wholeheartedly into PNCIMA to try to do integrated management on the marine space in the west coast.

We have the Royal Society of Canada's review on biodiversity. It identifies four key things for sustaining marine biodiversity. The first one is ecosystem-based management. That is exactly what PNCIMA attempted to do on the west coast—to define ecosystem-based management and implement it in that region. This PNCIMA plan has sat on the shelf for three, four years now. It was just approved, but there are no resources, nothing behind it. That is what Canada should be doing on its oceans.

● (0915)

This next graphic shows the value of fisheries on the Pacific. The dark areas are the most valuable per hectare on the Pacific. This is taken over a 15-year period, 1996 to 2010. If I broke this down and showed you this across every year, these areas would change. If I showed you this across different fisheries, these would change by fishery every year. They change by year, but you can do this, and you can average it out and everything like this. It shows you some of the hot spots.

The red areas identify the key areas right now where we have marine protected areas, or the Scott Islands, in this case. It's just gone through the *Gazette*, part I. Those areas are important for fisheries, and we're going to add way more space. If you look at the value, you see this is just looking at the economic value of fisheries. Fisheries bring way more values to communities on our coast. This graphic comes from a study from two years ago identifying the tangible and intangible values that fisheries bring to communities. When you just measure the economics of fisheries, you're missing all these other values that aren't counted, which fisheries bring to communities. These are important for our coastal communities.

This study, which was done in 2012, identifies the differing objectives between MPAs and fisheries management. MPAs and fisheries management have a bunch of similar objectives. About 70% of objectives for MPAs are very similar to fisheries management objectives. They differ in about 30% of objectives.

The main objective for fisheries management is food security. It's an imperative for this planet that we use our oceans to provide food. By locking off marine areas to that, we're endangering that.

This report identifies two main international definitions of MPAs. One is from the FAO. The FAO defines an MPA as “any marine geographical area that is afforded greater protection than the surrounding waters for biodiversity conservation or fisheries management purposes”. We have hundreds and hundreds of MPAs on the Pacific that qualify under the FAO definition. The 184 MPAs, the rockfish conservation areas on the west coast, qualify as MPAs under FAO. We've had them for 15 years. We have way more in place in the Pacific that are FAO-defined MPAs. They don't qualify as IUCN MPAs. They do not have the required legal framework for IUCN, but we have them locked off for all different kinds of fisheries in space and in time, on the west coast. This is a huge challenge for fisheries going forward, with all of those not counting.

This is a workshop we were involved with. We worked with the ENGOs on the west coast to find some common ground between fisheries and MPAs. We identified that the two diverging interests are science knowledge fields. We invited international fisheries scientists and ecologists to come together and discuss MPAs and fisheries.

These are our takeaway messages from this. It was identified that MPAs aren't going to solve the major problems facing our oceans. MPAs are only one tool in the tool box. When you have well-managed fisheries, exactly as Christina has said, MPAs will reduce the yield, so you have to reduce your TAC in the outside area if you're going to continue to manage the fisheries with MPAs that are closed. Any kind of benefit you're going to get from MPAs to fisheries is going to take 20 years plus.

These were international scientists who came to these conclusions at this forum. The *Seeking Convergence* document is available if you want to go through it.

Another finding there is that you need good process to get good results. We've just gone through two processes, the one with the Hecate, and now the one with the Scott Islands, where you're getting this last-minute button-pushing to impact the collaborative agreements that were moved forward there.

● (0920)

If that's how we're going to do it, then we're going to get that as well. We're going to be doing the same thing. Forget about the collaboration. What I hear from the minister and the government is that they want to collaborate. If you're going to make decisions other than that, then we're going to take different ways to go forward with this.

This is a great book, *A Walk in the Woods* by Bill Bryson. In here he talks about the park service and he talks about the boundaries and giving an area to the park service. This is terrestrial. Putting a line around an area doesn't mean you're going to protect biodiversity. All different kinds of things impact biodiversity. For example, in the park services in the United States, 42 species have gone extinct inside the boundaries. You don't protect biodiversity just by putting lines on maps.

Essentially 60% of our EEZ is in the Arctic and is essentially a de facto MPA. That doesn't protect the biodiversity in the Arctic. What protects the biodiversity in the Arctic is what we do on the rest of the planet. In the 1970s, when we were looking for a reference site for pollutants, we went to the Arctic and we put up all different kinds of monitoring there. We found that the Arctic was one of the most contaminated places on the planet, and we have virtually nothing there. So why is that? It is because of the coupled system. The atmosphere is coupled with the marine, with the ocean, and it's driving pollutants there. We have to be more cognizant instead of just drawing lines on a map if we want to protect biodiversity.

Governance and leadership are key. These are my takeaway messages. The collaborative process will lead to durable results. If you don't want to have durable results, do what you're doing with Hecate. You have to build a collaborative rationale for protection so we're all on the same page and we all understand why we're adding extra protection.

We need to engage stakeholders from the start, not bring stakeholders along at the end. We have to set outcome objectives, and the process should fit the objectives. We should build tools to fit the process and get the place and the scale right for that.

Right now on the west coast we have 10 or 12 different MPA processes. It's impossible for the fishing industry to engage in all of these in a kind of comprehensive way. We need a place where we can sit down and set some of these overarching objectives. If we don't do that, it's just going to disintegrate into a mess. It won't be durable going on. We need a way to bring all available knowledge into these.

This is what was passed last year, the global targets from IUCN calling for 30% protection by 2030 in highly protected MPAs and other affected areas. If that's what we're going to do in Canada by 2030, the fishing industry is going to be a fraction of what it is today. I would say that right now we are hugely under-fishing our marine space. There are places right now on the west coast where we have a 10-tonne target for shrimp, and we've taken a million pounds out in one year, with four guys or five guys fishing that. We're not doing that now.

Under the terms of union between Canada and British Columbia, Canada would take on protecting and encouraging fisheries in British Columbia. I don't see that happening here.

That's me done. Thank you.

● (0925)

The Chair: Thank you, Mr. McIsaac.

We'll go to our questions now. We do several rounds.

It looks as though we're going to do two full rounds, colleagues, and then following the two rounds we should have time, if somebody would like to add something or would like to ask a quick question for clarification, at the end. We're going to be pretty flexible with time.

We will begin with the government side.

Mr. Hardie, go ahead for seven minutes, please.

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

Thank you, everybody, for being here, especially from the west coast. I know how early it is out there.

First of all, Jim, you mentioned "FAO". What is that?

Mr. Jim McIsaac: It's the fisheries and aquaculture organization for the UN.

Mr. Ken Hardie: Ah. All right. We just needed to get that confirmed.

Let's dwell on that for a second. What I'm hearing is this. You're concerned that some of the processes, particularly the one around the Hecate Strait, were stampeded by people from away, with access to a computer, who pushed a button. Is that narrowing it down a little?

Mr. Jim McIsaac: That's shortening it, yes, definitely. I mean, we were involved in that process for six years, going through all the science and working on how we can best protect the features while also protecting fisheries. We thought we had a general agreement, which the fishery sector was taking a lot of pain on. That wasn't enough pain, apparently, so more was inflicted.

Mr. Ken Hardie: The point is that there appears to be, in your view, an imbalance between the ability or the efficacy of your involvement in the consultation versus people from Lord knows where who have different interests. Is that again a fair characterization? I mean, where are these NGOs from?

Mr. Jim McIsaac: They're from the west coast.

Mr. Ken Hardie: They're all from the west coast.

Mr. Jim McIsaac: Yes.

Mr. Ken Hardie: Okay. Got it.

Dr. Ban, do you agree with the notion that the rockfish conservation areas could legitimately be considered MPAs and therefore part of our overall goal or objective in terms of protection?

Dr. Natalie Ban: I believe they could be, although some adjustments would have to be made. I generally think about the IUCN definition of MPAs, which includes that they need to have long-term legal protection. Right now the RCAs are under the Fisheries Act, so technically they could be changed quite easily. One of the things that would need to be potentially changed is to ensure that they actually would be there for the long term.

I also think they would need more active management to be effective. As I was saying, the recreational fishers don't know where the boundaries are. However, for the commercial fisheries, they are as compliant as can be. Their vessels are monitored through the vessel monitoring system, so compliance by the commercial sector for not fishing where they're not supposed to within the RCAs is excellent.

Mr. Ken Hardie: I guess the question, though, is this. If overall the intention is to protect enough areas so that we continue to have sustainable fisheries or even abundant fisheries, would the paperwork involved in converting these RCAs fully and legitimately into MPAs contribute enough toward meeting the overall objective? We're not dealing with the idea that here's a percentage of areas and good we're done; the idea or reason for setting up these things is to protect the biodiversity and to ensure we have a sustainable fishery, I would presume.

Would turning the RCAs into MPAs meet the scientific objectives, if you like, in setting these percentages?

● (0930)

Dr. Natalie Ban: On their own, I don't think they would. The RCAs were set up specifically to protect rockfish, mainly the inshore stocks of rockfish, yet MPAs are meant for biodiversity as a whole. One of the first things that would have to get done is to see what habitat types and ecosystems are missing with the current protections, including the RCAs, some of the provincial parks with a marine component, and others that were mentioned. We'd need to see some of the gaps in protecting biodiversity. They might be a great basis for an MPA network, but additional places would likely be needed to ensure protection of biodiversity as a whole.

Mr. Ken Hardie: I noted your comments that obviously no extraction in an area will contribute to building the biodiversity and sustaining it. You did mention, though, that with some managed fisheries, the effectiveness of an MPA might be reduced to 65%.

In the time I have left, Dr. Ban, and maybe Ms. Burridge, what does 65% mean in terms of the economic benefits of that kind of an arrangement?

Dr. Natalie Ban: It means that some fisheries could still be allowed within MPAs and get a benefit above and beyond areas that are not protected. It does mean that there would be a reduction in fishing inside those areas, but there is still some biodiversity benefit.

I'll let Christina speak to the actual impact of that kind of reduction on the commercial fishing sector.

Ms. Christina Burridge: I think it would be huge.

The point I would like to leave you with is that over the last couple of decades, we've done a massive amount of work towards improving and increasing the biodiversity of the west coast. We need to get credit for that work that we've already done.

If you look at what groundfish trawl has done in terms of protecting habitat, it was very much based on taking a look, drawing circles on maps, and trying to figure out how best to protect habitat and still maintain fisheries that work. Because our fisheries are so integrated, even though we don't use a whole lot of space, we need access to that space for flexibility.

Mr. Ken Hardie: In earlier testimony, we heard that it isn't just fishing in itself, but the kind of fishing that's done, particularly at the various depths in the water. A hundred years ago, fishing could only go down so deep, and that was that. Today, with modern gear and all the rest of it, we can go down deep. We can basically lay waste to everything that's under that patch of water.

Is there something that you can think about in terms of the kind of fishing, the depths taken—there's a technical term that I've forgotten...of fish that exist at each level? Is there something in there that, again, could contribute to biodiversity but also allow for a reasonable amount of commercial activity in the same area?

Dr. Ban.

Dr. Natalie Ban: Thanks for that question. Those fisheries, especially bottom trawling, that damage habitat structures like coral sponges or other three-dimensional habitat that are especially important for juveniles are known to affect biodiversity more than other fisheries. One of the things we do know is that there are a lot of linkages, even in the water column, for ecosystems. So even if a lot of fishing still happens that doesn't affect the bottom, it can still have an effect on the ecosystem as a whole. Things are connected. Things at the bottom rely on some of those interconnections.

I think it's certainly possible to have some effective protection by still allowing aspects of fishery to happen that don't damage some of that habitat, but we do also need some places that show us what the impact of fishing and other extraction is by having some baselines where we don't do fishing, just to see what the impact actually is.

The Chair: Thank you.

Thank you, Mr. Hardie.

Mr. Arnold, you have seven minutes, please.

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

I thank all of the witnesses for being here. Your testimony has been very interesting already.

Mr. McIsaac, I was really pleased to hear your presentation and your description of conservation versus preservation and the values in that so we continue to see the benefits of sustainable harvest and conserving areas for future use rather than setting them aside and not touching them with no real immediate gain.

You stated that it's important to engage stakeholders from the very start of the MPA process. I received a DFO announcement just yesterday about how DFO is looking at an area of interest off the B. C. coast, approximately 140,000 square kilometres. In that statement it says, “This year in advance of the MPA designation, DFO intends to implement Fisheries Act closures prohibiting the use of bottom contact fishing gear within portions of the Offshore Pacific AOI.”

Would you consider that to be involving stakeholders from the start?

● (0935)

Mr. Jim McIsaac: There are a couple of different issues with that.

One of the impacts we will have is that when that MPA goes to get designated, you ask for an impact analysis. In that impact analysis, because that's closed now, there is no impact to what's just been closed by that announcement, right? So we missed that. We're not involved in the discussion about whether it should be closed to all bottom fisheries or not, and that's a mistake as well. So okay, you can identify it as an area of interest; then open the conversation.

Mr. Mel Arnold: That's rather than close the fishery first and then start the conversation.

Mr. Jim McIsaac: Yes.

Mr. Mel Arnold: Thank you.

Ms. Burridge, one of your comments was that you are dismayed by the misunderstanding of fisheries management and the stories of overharvest. I've seen some of the issues around waste from bycatch being exaggerated. Would you like to elaborate a little further on that?

Ms. Christina Burridge: When I look back at some of the earlier witnesses' testimony, it's clear that there's a kind of convergence between what perhaps is happening globally and an assumption that it happens locally. I really don't think that's true.

Maybe as a way of illustrating that, I could ask Bruce Turris to respond to Mr. Hardie's point, because I think it will illustrate precisely the question you asked.

Mr. Bruce Turris (Executive Manager, Canadian Groundfish Research and Conservation Society, BC Seafood Alliance): Thank you.

In 2012 the Department of Fisheries and Oceans, on the advice of the Canadian groundfish industry on the west coast, with the environmental community, closed enormous amounts of area to bottom trawling. In fact we took 50% of all habitat types in every depth strata, from zero to 200 metres and every 200-metre depth strata all the way out to 1,500 metres, and we closed 50% of the bottom to bottom trawl contact. We also closed off all known areas of coral and sponge. Even though there are still some areas within the fishable area, they put in place a coral and sponge bycatch limit, which for most boats is less than 100 pounds a year, so they avoid those areas.

As Christina said, the actual measures being taken that aren't accounted for under the MPA accounting are quite significant in terms of protection and sustainability measures. If you look at our TACs for groundfish, we under-harvest them by up to 50% annually for most of them. That's not because the fish aren't there. It's because all of the management measures that restrict access to those areas because of protection of habitat or monitoring the integrated management, our weak stock that we have to avoid, means that we can't catch some of the directed harvestable resources there.

Those are all sustainability measures that are very effective to the point that they actually reduce our ability to harvest fish. These aren't accounted for in any of these MPA discussions. They've had significant impacts on the industry. The MPAs are just going to have greater impacts. The part that concerns us is that we're not involved in the measures that, as Jim said, we've already taken but aren't being appreciated or accounted for in the process.

● (0940)

Mr. Mel Arnold: If I were to summarize that, you're saying that better-managed sustainable fisheries could be more effective in maintaining that biodiversity.

Mr. Bruce Turris: Yes. In Ms. Ban's earlier examples, she made assumptions that either there's perfect monitoring or enforcement or there's none. In our case we have 100% at-sea observer coverage on every trip for every tow. We have 100% dockside monitoring. Every fish or shellfish that's caught is accounted for. The government has that information. We stay within TACs, not only on landed catch but on any release catch at sea.

The fisheries management that we have on the west coast in groundfish, as Christina mentioned, is world class and is very effective as one of the tools. It is not that MPAs aren't part of that process, but the management measures we have are very effective.

Mr. Mel Arnold: We may not have time for a full answer here, but Ms. Burridge, you were saying that science-based decisions seem to be put aside for political decisions and from pressure from push-button NGO responses. Can you elaborate a little bit more on what you mean by push-button NGO responses?

Ms. Christina Burridge: Yes. It's the point that both Jim and I made in relation to the Hecate process and to Scott Islands. You have an advisory committee, which is made up of all stakeholders, including environmental groups. They studied the science.

I think six years...you spent doing it this year? That's clearly too long, but we'll set that aside.

They make consensus recommendations that go to the *Canada Gazette*, part I, and then there are thousands of responses from someone hitting a website, a website prepared by those same environmental groups that were part of the process, and the response appears to be, well, we have 10,000 responses that say we have to do more.

So you're not looking at the science, but worse, you're taking a process that can work, engagement of all stakeholders on consensus recommendations based on science, then encouraging people to do an end run around it.

Mr. Mel Arnold: Thank you.

The Chair: Thank you, Mr. Arnold.

I've noticed, by the way, colleagues, that we've been very good at identifying who the question is directed to. That's always a good thing, of course, when you have someone in by video conference. Thank you for that. Just as a reminder, please, that goes a long way in putting the question, especially in Dr. Ban's case.

We're going to Mr. Stetski, please, for seven minutes.

Mr. Wayne Stetski (Kootenay—Columbia, NDP): Thank you.

Can I confirm that it's two rounds of seven minutes?

The Chair: It's two rounds of what we accepted, which will be four questions of seven minutes, four questions of five, and then a question of three.

Mr. Wayne Stetski: Thank you.

The Chair: If you would like to get more time after that, let me know.

Mr. Wayne Stetski: Thank you. I have a lot of questions.

The Chair: You should have time.

Mr. Wayne Stetski: This is an interesting sort of microcosm, I guess, of a lot of the issues, with the exception of the indigenous view not being here today.

I'd like to start with you, Dr. Ban, if I may, on the importance of no-take zones. You mentioned both from a benchmark perspective, so that we understand what a natural system looks like and what changes we're bringing about through our activities. What does science suggest about the importance of no-take zones for restocking areas outside of the no-take zones?

Dr. Natalie Ban: There's some evidence that no-take areas, or areas where no extraction is allowed, can help restock places outside these, through what's called “spillover”. The evidence of that is somewhat mixed, though. If we have more fish in a place that's protected and if the fish don't move a lot—we have some that don't, like a lot of the rockfish, which are fairly sedentary—then they're going to release their young and they're going to go into the fished areas. That's one of the mechanisms: that no-take areas can exist to help fisheries. However, whether that's sufficient to offset the loss of fishing grounds within that—it happens by having an MPA closed—that's what's not clear in terms of some of the science.

The other point is that MPAs have a short-term impact, an initial impact, on fishing, because if those no-take areas are closed, those fisheries cannot fish those areas. Their benefit, however, is likely to be much longer-term into the future. It depends on the species. In many cases, it's going to take about five years. In others, such as the yelloweye rockfish I was talking about, you're talking more like 20 years for those individuals inside the boundaries to build up and provide a benefit to the outside.

There is often in the discussions a bit of a mismatch between the potential short-term impacts and the longer-term benefits that we might see from MPAs.

● (0945)

Mr. Wayne Stetski: I have a bit of a follow-up question. In terms of the areas that you've looked at, I'm curious as to how many of the important areas that should be designated or are designated to protect conservation are related to commercially fished species versus other aspects of the incredible biodiversity that we have in the ocean.

Dr. Natalie Ban: I think it's a bit of a combination. In terms of the marine protected area design I was talking about, the idea is to protect all examples of both habitat types and species. That would include commercially fished species, as well as those that are not. However, the information we have about distributions of species is often focused on those that are of commercial or cultural importance, because they get studied a lot more. We tend to use habitats, the kinds of ecosystems, and different depths and so on as proxies for different kinds of ecosystems in the marine environment as a whole.

I should add, too, that one of the things we can do in MPA design and in some of the science that's been developing is to ensure that biodiversity is represented while reducing the impact or creating benefits for the fishing industry.

I did one study back in 2009 that was looking at fishing areas. We were trying to see if we kept 95% of the areas that are currently fished commercially, for which we had data.... In keeping that 95% of commercial fisheries catches—catch per unit effort—about 30% of B.C. could be outside of that footprint. That's similar to what the commercial sector has done for closing their groundfish trawl footprint. I have to give them huge kudos for the work that the groundfish industry has done in increasing their sustainability.

In MPA design, a lot can be done to ensure those biodiversity objectives are met, while at the same time reducing the potential impact on sectors such as commercial and recreational fishing.

Mr. Wayne Stetski: Thank you.

Mr. McIsaac, I want to go to a couple of things that were part of your presentation. On the page with regard to *Seeking Convergence*, point four states: “MPA reserves can sustain fisheries in an overharvested system. Impacts depend on fisheries management outside the reserve. Benefits will be greatest where the fishery is not managed.” Could you explain that a little bit?

Mr. Jim McIsaac: If you have no fisheries management in your marine space, then an MPA will benefit your fisheries in the sense that it will protect the core of biodiversity in there. Because you have no fisheries management, no effort control, no input control, no output control on your fisheries, it's a wide open fishery, so there's no stock assessment, there are no TACs being set, and there are no limits on your fisheries. That MPA will help protect your biodiversity in your marine space. That's what that means.

That's the discussion, as opposed to areas where you do have fisheries management. Canada is identified as one of the top five fisheries managed countries on the planet. We have extensive fisheries management. Most of our fisheries have either input or output controls on them. We have spatial and temporal closures on every fishery, so we have fisheries management. You're not going to get the benefits to the fishery by an MPA, a reserve, a closed MPA, as you would in an area where there is no fisheries management. That's the point that's being made there.

Mr. Wayne Stetski: In terms of Bryce Canyon Park and the point made there, isn't what they've been learning by looking at conservation in general is that the problem around trying to protect species is that the areas or the parks are not large enough? When you talk about biodiversities—and biodiversity is protected by ensuring that areas are large enough and that there's connectivity between areas—does that not argue for larger marine conservation areas rather than smaller if we really want to protect species?

● (0950)

Mr. Jim McIsaac: I would argue that on the west coast, the ecozone that was identified, the scale was PNCIMA, the Pacific north coast integrated management area of the northern shelf. Doing ecosystem-based management on the shelf is what we really want to be doing, not siloing the sectors, continuing to silo sectors.

I would say that MPAs by themselves, just doing an MPA network, is siloing again instead of managing integrated areas. We should be managing across all sectors in our marine space, and that's where we're going to reap the best benefit. We don't have enough resources to be doing the kind of management that's been called for in MPAs and then doing kind of the management that needs to be done at the integrated level. We have very limited resources and a large country.

The Chair: Thank you, Mr. Stetski, I appreciate it. You'll have another round. You'll be in the second round as well.

Ms. Jordan, seven minutes, please.

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

I want to thank all our witnesses for appearing today. I have so many questions, I'm not really sure where to start.

I'll start with you, Ms. Burridge. You made the comment earlier about driving the process with someone pushing a button. Is that your opinion or is that something you have evidence on? If you have that evidence, I would love to have it submitted to this committee, if that's possible.

Ms. Christina Burridge: We can certainly do that for you.

Mrs. Bernadette Jordan: Wonderful. Perfect.

Ms. Christina Burridge: It's been reported by the Government of Canada in its progress report towards *Canada Gazette*, II.

Mrs. Bernadette Jordan: And it actually shows on it that it's all coming from the same site....

Perfect. Could you make sure that we get a copy of that?

Ms. Christina Burridge: Yes.

Mrs. Bernadette Jordan: I appreciate that.

The other question I have for you is this. You made a statement that the B.C. coast is already at 3.2%.

Ms. Christina Burridge: Yes.

Mrs. Bernadette Jordan: Is that under the FAO definition of a marine protected area? I'm trying to figure out where that 3.2% comes from.

Ms. Christina Burridge: That's using the Government of Canada's long-term reporting, so it's IUCN and UN accounting.

Mrs. Bernadette Jordan: Okay. Perfect. Thank you.

Dr. Ban, can I come to you, please? You talked about education, compliance, and enforcement. I believe when you were talking about those things, you were talking specifically about recreational fisheries. Is that correct?

Dr. Natalie Ban: I was providing the example of recreational fisheries in the RCAs, but I think it's applicable more broadly as well.

Mrs. Bernadette Jordan: Okay.

We've done a number of studies at this committee. Time and time again, one of the things that keeps coming up is the lack of enforcement. Do you find it is prevalent only in recreational fisheries, or is it something you feel is also in the commercial end of things?

Dr. Natalie Ban: I believe it's more applicable for the recreational fisheries, because they're harder to monitor. As my colleagues were saying, many of the commercial fisheries have observers on board, 100% observer coverage, and they have vessel monitoring systems. Compliance in the commercial sector is excellent.

There can be illegal fishing as well, even by commercial boats, when they turn those systems off. So it is necessary to have enforcement officers on the water, not just for the recreational fishing but also for potential other illegal activity that might happen, which damages everyone.

Mrs. Bernadette Jordan: Ms. Burridge or Mr. Turris, would you like to comment on the enforcement aspect of the fisheries?

Mr. Bruce Turris: You can't turn an observer off. An observer is on board, and they're monitoring all the activities. The vessel's electronic monitoring system includes GPS, hydraulic sensors, and cameras. If that system turns off, it is recorded that it's turned off. Enforcement officers follow up on any instances when it's turned off, because the requirement is that the vessel has to stop fishing. The sensors will show if it's stopped fishing or not.

Those are always followed up.

Mrs. Bernadette Jordan: Do you feel that enforcement on the west coast in the commercial fishery is adequate?

Mr. Bruce Turris: In the commercial fishery it's excellent.

Mr. Jim McIsaac: Specifically on RCAs, the same does not apply to commercial as to recreational. With the electronic monitoring for groundfish, as Bruce said, if you turn that off there's enforcement.

The only incidence that I know of that is of a commercial guide going into an RCA, purposely turning on his electronic monitoring so the camera can actually see recreational vessels fishing there, and hoping there will be enforcement action—not only on him, but on them.

● (0955)

Mrs. Bernadette Jordan: Thank you.

Mr. McIsaac, my last questions are to you. You have a list of recommendations here that I find very interesting. One of the things we've talked about during this study has been governance on the high seas, past the limits. Some people feel it's not an issue to our inshore fisheries; others feel that it is. Can you comment on that recommendation?

Mr. Jim McIsaac: The recommendation on governance of the high seas?

Mrs. Bernadette Jordan: Yes, on governance of the high seas.

Mr. Jim McIsaac: Certainly.

The oceans are connected, so what happens on the high seas impacts our EEZ. There's a proposal put forward to close the high seas as a large marine protected area. This would benefit inshore fisheries inside EEZs.

We don't have the governance structure to do something like that. I don't know if we would even want to go down that road, really. Our fisheries on the west coast are not just fishing inside our EEZ—we're fishing outside our EEZ. Our tuna fishery certainly goes outside. It's valuable space. There has to be better management on the high seas, but not a blanket closure.

Mrs. Bernadette Jordan: I have another question, then. The FAO definition is fascinating—and Dr. Ban, you can maybe weigh in on this too—because the biggest difference is in the no-take zones. Is that correct? Is that the main...?

Mr. Jim McIsaac: No. You can have a fully closed area under the FAO definition. The essential difference between the two is that there's one objective for IUCN, namely that conservation has to take priority. Under FAO, it could be a fisheries priority that you're doing it for, it could be a conservation issue, or it could be something else.

Mrs. Bernadette Jordan: So it depends on what you're trying to protect.

Mr. Jim McIsaac: Exactly.

Mrs. Bernadette Jordan: Dr. Ban, do you want to comment on that?

Dr. Natalie Ban: I think that's correct. I think the other difference is that the FAO definition, as Mr. McIsaac just mentioned, didn't include the requirement for long-term legal protection. I think that's another key difference. The IUCN does require that, which is why, for instance, the rockfish conservation areas don't currently qualify as MPAs under the IUCN definition.

Mrs. Bernadette Jordan: Thank you.

The Chair: That is the first round done.

I noticed, through no fault of anybody's, that we're throwing around a lot of acronyms. I've been scrambling to try to provide some clarity, as we are not all marine biologists. The closest we have to a marine biologist is not here today. Actually, he is one. I shouldn't say he's “close” to one.

I'm glad he's not here.

Voices: Oh, oh!

The Chair: No offence to him.

An hon. member: I'll tell him.

The Chair: Yes, you can tell him and let him know. I'll hear it when he gets back.

An EEZ, exclusive economic zone, is the area where we as a nation have jurisdiction, under the Law of the Sea, for 200 nautical miles, and control over fisheries plus energy production.

PNCIMA has been talked about. It's the Pacific north coast integrated management area, on the northwest coast. How large would that be?

Mr. Jim McIsaac: It's about 102,000 square kilometres.

The Chair: It's 102,000 square kilometres, so you get the idea. It's also very famous internationally for its management.

TAC, as Mr. McIsaac mentioned, is the total allowable catch.

FAO, which Mr. Hardie pointed out, is the fishing and aquaculture organization of the United Nations.

Mr. Jim McIsaac: It's “food” and aquaculture.

The Chair: Oh, it's the food and aquaculture organization of the United Nations. My apologies.

You see? I'm glad I brought this up now.

A voice: It's food and “agriculture”.

The Chair: Maybe I should just stop this exercise and let you do it: so FAO stands for the Food and Agriculture Organization of the United Nations

IUCN is the International Union for the Conservation of Nature.

So there you have it. If any more acronyms come up, please bring them to my attention and we'll try to help you out.

Now we're into the second round, beginning with five minutes to the Conservatives.

Mr. Arnold, you will start, and you're sharing with Mr. Van Kesteren.

● (1000)

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

To Mr. McIsaac or anyone else who may have some more details, who bears the greatest cost when these MPAs are put in place? Could you identify, not necessarily today, specific fishermen or fishing groups and so on that are mostly impacted by the closures and the MPAs?

Mr. Jim McIsaac: That depends on the MPA and the fisheries that it impacts. For something like the Hecate sponge reefs, the main impact is on the bottom-contact fisheries, so you're talking about longline, trap, and crab fisheries. The trawl fisheries are certainly impacted there. Then, because of the way the MPA has been put in, it will also impact mid-water fisheries there. So yes, you can identify them.

One of the other issues, though, is that fish move. If you lock off an area now, what happens when another fish moves into that area? In terms of the impact with mid-water, the hake are moving further north, so that area there will become more important as we move forward in the global warming of our oceans that we're encountering.

Mr. Mel Arnold: Thank you.

Ms. Ban, could you let us know how much time you've spent in contact with the fisheries sector, as part of your research, so that you can monitor and judge the systems that they have in place?

Dr. Natalie Ban: Most of the collaborations I've had have been with first nations fishers, some of whom are commercial fishermen, some of whom only fish for food, social, and ceremonial purposes. I would say it's been off and on since I've been involved over the past 14 years, but I haven't had any deep collaborations with the commercial fishing industry. I have also worked with the recreational fishing sector through, for instance, that study I mentioned on the rockfish conservation areas in the Strait of Georgia.

Mr. Mel Arnold: Thank you.

This is just really quickly for all of you, and then I want to pass the remainder of my time over to Mr. Van Kesteren. Is Canada's west coast fishery shouldering more than its fair share with the MPA process?

Ms. Christina Burridge: Potentially, yes, because we already account for the largest proportion of closed areas, and we'll certainly be at 13.2% by 2020. We really believe that we need a process to identify what we need to protect, and then we should protect it. You will find that the fishing industry is always willing to be a partner in that, but we don't see the value in large no-take zones. We think we've already done a huge amount toward improving biodiversity over the last two decades.

Mr. Mel Arnold: Thank you.

Can I get a quick yes or no from any of the others?

Mr. Jim McIsaac: From a fishing point of view, it would be great if the entire west coast were put into an IUCN category VI MPA, where sustainable fishing is...and no other activities, that aren't sustainable, are allowed. Right? We're not that narrow-minded that all other activities be restricted. We could live with something like that, but this idea of being fully closed is troubling.

Mr. Mel Arnold: Thank you.

Do I have any time left?

The Chair: You have about 30 seconds.

Mr. McColeman, if you want to ask a question, go right ahead.

That's no reflection on the answer. You can take your time with the answer. We're a little more strict about questions here.

Go ahead, Mr. McColeman.

Mr. Phil McColeman (Brantford—Brant, CPC): Thank you, Chair.

Dr. Ban, there have been some conversations here about “push-button” politics, I'll call it, happening in the background. You haven't weighed in on that issue or given your view on how appropriate that is or how meaningful or weighty it should be in making future decisions on this issue. I'd be interested to hear your view.

● (1005)

Dr. Natalie Ban: As I mentioned in my statement, I think it's really important to have a transparent and accountable process in identifying MPAs. As I think my colleagues from the commercial fishing sector have said, it is really important, if indeed.... I haven't been part of either the Scott Islands or the sponge reefs specifically, so I can't speak to the specifics, but in general, if there is a consensus decision by the people at the table and it's also supported by science, that should be what goes forward.

That said, I suppose any of the interests will try to fight for their own interest, whether it be ENGOs or commercial or recreational fishing. I suppose it's part of politics that there will always be multiple pressures by multiple groups. Ultimately the decision has to get made in the best interest of Canada.

The Chair: Thank you, Dr. Ban.

Thank you, Mr. McColeman.

Mr. Finnigan, you have five minutes, please.

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

Thank you to the panel for appearing.

Being from the east coast—this could apply to both coasts, I suppose—I have an area that's of interest right now. It has been commercially fished, I guess, by first nations and by local commercial fishers for probably at least 100 years.

Maybe I'll start with you, Dr. Ban. Would you say that an adjusted ecosystem has installed itself there over the years? If we were to put an MPA in that area, would we try to recreate what was there or would it be better to try to manage and make sure that whatever ecosystem is there now there is protected? Perhaps you could elaborate on that.

Dr. Natalie Ban: I don't know the specifics of the place you're talking about, but it's always a good question to ask what the goals are of having either an individual MPA or an MPA network. Often it is thought to be what the place was like before fishing happened, but in many cases that's not reasonable. Fishing by first nations has been taking place in some of these places for thousands of years, so there is no fishing precedent specifically. It may be appropriate to manage some of the fisheries more strictly within such a place. We also don't necessarily know all of the impacts by some of those fishing activities, or how the ecosystem has changed, as was mentioned, with climate change.

One of the things that MPAs have been shown to do is that by having less fishing effort and less impact from extractive activities, they tend to have less variability. They tend to be more consistent in terms of the fish that are there, which can be a benefit and can show us just how much change is happening in the places that are fished more severely or more intensely.

Mr. Pat Finnigan: Thank you.

Mr. McIsaac, you referred to studies in the Arctic, which we know is contaminated with mercury and all kinds of other pollutants, whether it be the air, the water, or the soil, that have nothing to do with what's going on there. Would you say it's useless to have protection there, and we could just go ahead and exploit or drill or fish? Could you elaborate on that?

Mr. Jim McIsaac: No, I wouldn't say there is no reason to have any kind of protections there. The point I was trying to make there is that drawing lines around something doesn't protect it the way you might think.

Mr. Pat Finnigan: So how would you...?

Mr. Jim McIsaac: There are other ways to protect that. In the regulatory framework we live with, one of the big issues there is PCBs and where the PCBs are coming from, why they are arriving, and how they are arriving there in the Arctic. You need the regulatory framework so that they're not being openly put into the ecosystem and then picked up in the atmospheric movements and dropped there. You need that larger regulatory framework.

On the issue about ecosystems, the fish hook has been around for 40,000 years. We've been using it to catch fish for 40,000 years. It predates the plough. We modify any system we're fishing in. They're not pristine ecosystems. They're novel ecosystems. We're modifying every ecosystem on this planet by being here. We have to be cognizant of what we're doing on land and on the water, but to think that what we're doing on the land is not impacting the water is a huge mistake. If you want to take the food production and limit that food production in the ocean. then we have to produce it on land. Most of our land production is impacting our oceans way more than fishing is. That's the issue.

The dead zones that are being created by agricultural runoff are huge. That is limiting our food production on this planet in the ocean. If you want to restrict what we're catching on the ocean, then you have to increase it on land. Then we're going to pollute our ocean more and there will be more dead zones. You have to be cognizant of the larger picture in what you do.

● (1010)

Mr. Pat Finnigan: Thank you.

The Chair: My apologies, but I have to cut you off there.

Mr. Van Kesteren, five minutes, please.

Mr. Dave Van Kesteren (Chatham-Kent—Leamington, CPC): Thank you, Chair.

It's great to be here. I'm not a member of this committee, and I have tell you, too, that I don't know a whole lot about fishing. I bought a fishing boat this spring, for the first time. My riding is Chatham-Kent—Leamington, which has the largest freshwater fishing port in the world. I feel I have at least some right to be here, I guess, in that respect.

But I have to tell you, I'm the average Canadian, and I too am repulsed when I see these pictures. I think you have a little bit of a problem with just perception, and let's face it, the world is mostly perception.

Mr. McIsaac, I appreciate what you said about the runoff. I didn't know that—all these things we don't know—but when I see pictures of deep-bottom trawling, I do wonder why we are doing that.

Dr. Ban, you mentioned something that I had never thought about, the fact that there are different levels, with young fish, what we'd call baby fish or baby crabs or something. I would suspect that they rely on the fish that are being caught—this is just an assumption—and the bits and pieces that drop to the bottom; that's what they eat. If those big guys are gone, then the little guys can't eat.

These are all things that we start to pick up, as the Canadian public, and then we start pushing those buttons. That is our perception.

So why do we do bottom trawling at all? Why is that allowed?

Mr. Jim McIsaac: I'll take a stab at it, and then I'll pass it over to Bruce. He's more of an expert on this.

What I would do is compare that to land and what we do in farming. In farming, we typically replace an entire ecosystem. We take out whatever is there, till the soil, and then plant whatever we want. We're putting in a new ecosystem.

On the ocean, what bottom trawling does is that, at most, it modifies the ecosystem. It doesn't replace the ecosystem. It doesn't do the kind of damage to an ecosystem that we're doing on land in food production there.

If you want to compare it with food production, what we're doing with trawling is nowhere near as bad on the ecosystem as what we're doing on land.

The worst kind of fishery out there is not bottom trawling. There are places where dynamite is being used to fish. It's not as bad as some of these other places.

Mr. Dave Van Kesteren: I would assume, too, that.... I don't want to pick on the Chinese, but I've dealt with them in terms of carbon usage. They flat out told me, listen, we've not been part of this for the last 100 years, you guys have the mass responsibility, and we have lots of time where we can do lots of polluting before we're caught up to you.

Where's the biggest problem, or who are the biggest problems on the open seas as far as fishing is concerned?

Ms. Christina Burridge: It's Asia, Africa—places where there are no management systems.

Mr. Dave Van Kesteren: What can we do? For instance, does the United Nations have no teeth? Is that why we're not seeing any movement in those areas?

Ms. Christina Burridge: We have to do more of what we've started to do, and that's better high seas management, more enforcement, and bringing countries like China into the world order so that they start to do some of these things.

Bruce has been to China to help tell them how to manage fisheries better.

● (1015)

Mr. Dave Van Kesteren: Before he answers that question, I'm almost out of time, and one more question is burning in my mind. Is there any indication yet of nuclear contamination of fish on the west coast, from Fukushima?

Mr. Jim McIsaac: From Fukushima? No.

Ms. Christina Burridge: I think there has been one salmon with very low levels of one of the cesiums found in Okanagan Lake, but all the research that has been done by Alaska in particular, which has done a massive amount, and in Oregon, and to some extent by the CFIA, shows there's no contamination.

Mr. Dave Van Kesteren: Mr. Turris.

Mr. Bruce Turris: I wanted to respond to your earlier question about bottom trawling. You do have to protect certain habitats from all gear types, including bottom trawling, and that has been done. We talked earlier about the extensive protection that has gone on.

You also have to realize that bottom trawling is also the best way to catch some fish. Some species you can't catch by hook and line or by trawl. The greatest volume of catch comes from bottom trawling or mid-water trawling. This is necessary if you want to have the productivity to feed nations the largest volume of fish. But you have to do it carefully and protect habitat and have selective fishing activities, which includes mesh size and grates and things that will allow for selective fishing, much as Jim said.

You're right, perception is out there. It's certainly not well informed, especially in modern-day fisheries in Canada. We have to do a better job of educating people.

The Chair: Mr. Van Kesteren and Mr. Turris, you seemed anxious to get several questions put. Are you done?

Mr. Dave Van Kesteren: Yes.

The Chair: Okay.

Mr. Van Kesteren, just as a point of interest—bear with me, folks—what's the name of that port? Pardon my ignorance.

Mr. Dave Van Kesteren: That's Wheatley, the largest freshwater fishing harbour in the world. That's in my riding.

The Chair: Very nice.

Before we go to Mr. Morrissey, I want to say welcome to Ms. Lockhart from the riding of Fundy Royal. Thanks for joining us.

Mr. Morrissey, you have five minutes, please.

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

Dr. Ban, in your opening comments you mentioned that MPAs should be strongly protected, well enforced, large, and bold in design. Could you elaborate on bold in design?

Dr. Natalie Ban: In that comment I was referring to a study that showed the five criteria that have been shown to create the most effective MPAs. The last one was that they should protect whole ecosystems or be, as the study says, isolated by deep water or sand. In other words, it means if you protect a whole rocky reef or a whole ecosystem, that's going to be more effective than only protecting a tiny proportion of it.

If you're thinking about a whole ecosystem, then making sure you don't just slice the ecosystem into small pieces and protect a tiny portion of it is what leads to more effective biodiversity conservation.

Mr. Robert Morrissey: Okay.

As a follow-up question, you referenced that if there's fishing activity in an MPA, the MPA is less effective. Two areas that are under future consideration on the east coast have very large, successful commercial fisheries in the species of lobster and crab, which are bottom crawlers. These two fisheries have been very well managed and highly successful. Lobster is MSC certified. Those fisheries do not have much impact on the diversity of the other resources in the area. Do you see where fisheries like that, which are highly managed, can operate in a successful MPA?

Dr. Natalie Ban: It depends on the MPA and the specific objectives. Science shows that those no-take areas are most effective, but I was talking about the fact that in MPAs that allow some fishing but still provide more protections than areas that are not within MPAs, they still provide additional benefits over and above conventional fisheries management. So it's not like MPAs that allow fishing are not effective at all; they're just not as effective as no-take areas. Partially that's a trade-off that needs to be discussed in specific MPAs and specific places.

All fishing does impact the ecosystem. Science shows that. That may be a trade-off that in that place is appropriate to make so that those sustainable fisheries can continue.

● (1020)

Mr. Robert Morrissey: So from a scientific perspective, designating an area as an MPA but allowing for a commercial fishing activity under a controlled environment that is sustainably certified—it's still an effective MPA versus no MPA?

Dr. Natalie Ban: It can be. If you're looking at the IUCN criteria, there are different categories of MPAs. Those are the ones Mr. McIsaac was referring to as the category IV, or sometimes category IV if the fishing is quite limited.

Mr. Robert Morrissey: Thank you.

Mr. Turris, you stated that for a fisher in the west coast, the TAC is under-fished annually by roughly 50%. Why is the TAC consistently being set year after year at a certain amount when it is known historically that it cannot be achieved? What impact is that under-fishing by 50% having on the stock? If you set a TAC at a certain amount and you consistently only achieve half of it, then there should be some implication. I'm curious to see what that implication is. The stocks should be expanding.

Mr. Bruce Turris: The TACs are based on the best available science, not on the exploitation levels. The assessments are done periodically, in either five-year or longer intervals. In some cases, yes, these are long-lived species. Most groundfish, as Natalie referred to with yelloweye rockfish, live over 100 years. Many of the species live to 40 or 50 years of age, and some of them don't become reproductive until their teens. So it takes 20 or 30 years to see the impacts. In fact, with rockfish, the science believes that you might get a strong year class once every 25 years.

It takes extended periods of time to see those increases in productivity, but in some cases we have. We have been managing these systems in a similar way for approximately the last 20 years, and in many of the cases we are seeing increases in abundance. In part, we don't know if it's strictly because of under-harvesting or if it's because of good environmental conditions for reproductivity and strong year classes, but there have been some signs of increases.

The Chair: Thank you, Mr. Morrissey. I appreciate that.

We have Mr. Stetski for three minutes, please.

Mr. Wayne Stetski: Thank you.

I have a question about 8% of B.C.'s coastline being protected and concern that we may get to 13.8% protected. From a science perspective, does it not make sense that if 15% or 20% of Canada's most valuable ecosystems or marine ecosystems are on the west coast, you might want to get to 15% or 20%, if you're actually using science to make your decisions, rather than limiting it to 8%?

Ms. Burridge.

Ms. Christina Burridge: We're at 3.2% at the moment. As I said, I think we'll get to 13.2% by 2020.

We really haven't done that work. I think we're pretty comfortable with the general direction here, but we think the trade-off between increased protection when you haven't decided what it is that you're going to protect, and you're going to lock off areas that are important for food production, simply doesn't make much sense.

● (1025)

Mr. Wayne Stetski: Okay. But if science suggests it should be higher levels, then you're fine with that....

I have a question for Dr. Ban, and I'm running out of time.

When you look at the history of fishing along the west coast, the perspective is that it's a boom and bust cycle: species decline, closures are put in place, and then there's hopefully recovery to bring it back up again. Do you think having a good system of marine protected areas could provide some long-term stability for commercial fishing opportunities, when you look into the future?

Dr. Natalie Ban: I do believe that's one of the benefits that MPAs will provide into the future. It wouldn't be an immediate effect, because, as Mr. Turris was saying, some species do take a long time to build up that level of biomass in the number of fish.

In terms of the history of fishing, what we see now, as my colleagues are saying, is that the management of the current fisheries is quite good in British Columbia. However, that doesn't consider some of the fisheries that are no longer commercially viable, and that we, hence, don't talk about; some of the species that are considered as concerns by COSEWIC; and some of the ones we don't know anything about. It does mean that there is still some concern about some of the stocks, such as eulachon. The reduction fishery in the forties and fifties caught a lot of the small pelagic fish, including some that haven't recovered since. It even goes back to whaling. We used to have a lot more species of whales and fur seals and so on. Some are recovering, and some have not recovered. The ecosystem now is quite different from what it used to be.

MPAs can provide potential recovery for some of those species, and they do provide some added certainty and less variability into the future, including, potentially, under climate change. It has been shown that MPAs tend to be more resilient to additional stressors, such as changing temperatures. They don't prevent climate change, of course, but they can be another safety mechanism, like putting your money into a bank where you get a bit of the interest every year. This is the kind of spillover you might get from MPAs.

The Chair: Thank you, Mr. Stetski.

Thank you, Dr. Ban.

Just to return to COSEWIC, it's the Committee on the Status of Endangered Wildlife in Canada, which determines threatened and endangered species.

We have time left. We have about 15 minutes in total. Instead of doing a structured round, why don't we just do short questions, if you have any. Have a question and a quick supplemental. I'm asking committee members to be very focused. I'm more or less looking for questions, not opinions—no offence, but it tends to be an occupational hazard with us. Nevertheless, I'll venture to say that we'll proceed.

Does anybody have a question?

I'm going to go to Mr. Arnold, then Mr. Stetski, and then Mr. Hardie.

Mr. Arnold.

Mr. Mel Arnold: Thank you, Mr. Chair. I will try to be brief.

Earlier I asked about Canada's west coast fishery and whether it's shouldering more than its fair share. I'd like to get a bit of feedback on the U.S., on the south coast—Washington, Oregon, California—versus Alaska. Do you feel the U.S. is doing enough in those two areas or have they done too much? Have they gone through the right process in their systems?

Mr. Jim McIsaac: I'm somewhat aware of what's gone on in California. The process there for MPAs is inside the state's jurisdiction. It took them quite some time to arrive at where they're at. Again, their approach was what I would call “stovepipe separating”, going along with focusing on MPAs and the interaction with fisheries rather than a larger integration across their whole marine space.

There were a lot of resources put to that, both for engagement and for science to try to get it right. They've come out of that on the other end. Where it's impacted their fisheries, it's certainly changed their fisheries, and changed the winners and losers there.

Again, the approach we have, the thought of the Oceans Act, that kind of integrated approach, ecosystem-based management approach, is not the approach they've taken there. They're starting to do that, or they started under the Obama administration on that, and they're still a long ways away.

● (1030)

Mr. Mel Arnold: Does anybody else have input on what's happening in the Alaska area?

Mr. Bruce Turris: Yes.

They haven't done a lot. They have what they call a large “donut hole” area that's protected, but it's relatively small compared with the area that's fished.

Alaska as well as, I would argue, Washington, Oregon, and California rely heavily on fisheries management and staying within sustainable harvest levels, especially on doing increased science and research activities to ensure that they know about the changes. They do assessments every year on most of their stocks. We might do them every five years on most of ours.

The Chair: Okay.

Mr. Stetski.

Mr. Wayne Stetski: I would like to know whether your organizations have taken a position at all on oil and gas or undersea mining or some of those real commercial-industrial activities occurring in general, or even oil tankers moving through important commercial fishing waters.

Have your organizations taken a position on that and—if I were going to extend it—on whether they are appropriate in conservation areas? Apparently those activities can happen in some marine conservation areas.

Mr. Jim McIsaac: There's a moratorium on oil and gas exploration on the west coast, so taking a position beyond that is kind of pointless. There are some huge opportunities on the west coast with undersea mining. Most of that is not being pursued. There's nobody out there who is actively doing that right now.

On the tanker issue, we face this with Kinder Morgan being approved in the Gulf Islands, which I would identify as one of the top 10 fishing areas in British Columbia, value-wise. It's close to communities and close to market. There's a proposal there for an NMCA, a national marine conservation area, which is likely going to shut down the little boats that are fishing there and allow these big tankers to go by.

That's the kind of picture we have. We don't think we're anywhere near the risk that these big tankers pose, so it's a huge issue.

The Chair: Thank you.

Ms. Burridge, go ahead, please.

Ms. Christina Burridge: We have not taken a formal position. Clearly, though, we have concerns about all those kinds of things. It depends to some extent on how you do them. However, we certainly share Jim's view that if we look at a southern Strait of Georgia NMCA, probably the sector that would be most hurt would be commercial and recreational fishing. Those are areas that are close to communities that like their sustainable seafood.

The Chair: Do any of our guests want to comment very quickly on Mr. Stetski's question?

Seeing none, we'll move along.

Mr. Hardie is next for a question, please.

Mr. Ken Hardie: Ken would like a question.

The Chair: You can share, but rather quickly.

Mr. Ken McDonald (Avalon, Lib.): I have a quick question, I guess for Ms. Burridge.

When you started off, you mentioned the independent fishers that you represent. I'm just wondering, do the independent fishers on the west coast operate under the owner-operator policy?

Ms. Christina Burridge: No, we don't operate under that on the west coast. We never have. The degree of corporate concentration or corporate ownership hasn't changed in the last two decades.

Mr. Ken McDonald: Is that because it's not enforced or you just chose not to operate under that?

Ms. Christina Burridge: We've always thought, on the west coast, that investment in fisheries is a good thing, and sometimes that investment has to come from corporations.

Mr. Ken McDonald: Okay.

Thank you.

The Chair: Mr. Hardie.

Mr. Ken Hardie: We've heard some converging interests this morning. It has been excellent testimony from all.

Getting back to the pure MPA, if you like, is there an argument to be made just for the scientific value of having at least a limited number of absolutely zero-activity MPAs, acknowledging that other fisheries management practices have kept the west coast in pretty good shape otherwise?

Dr. Ban, would you say that there is at least scientific value, if not preservation or conservation value, in having a pure no-take MPA?

I'll ask the others for reflection also, if there is time.

● (1035)

Dr. Natalie Ban: Absolutely I agree with that—for instance, scientifically to understand the impact of all other activities that might take place within the ocean that can then be protected within a no-take area. That can help us understand some of those impacts. It can also help us with the stock assessment and fisheries management to understand what the biomass levels might be without fishing.

Mr. Jim McIsaac: In the context of integrated ecosystem-based management, no-take MPAs have a place and a role to play. I think there is room for that, definitely, but you need to be thinking about the bigger picture when you're doing this.

The Chair: Mr. Arnold, did you want a quick question? Be very quick, please.

Mr. Mel Arnold: Thank you, Mr. Chair. I think it's quite relevant to our study, because we undertook this study to look at the processes in place for the MPA establishment and consultation and so on.

I believe it was you, Mr. McIsaac, who spoke about the consultation, the multiple processes taking place on the west coast right now, and the fishing sector's ability to participate in all of those different processes at the same time. Would it be better to have a west coast process looking at all of them at the same time, or at least in conjunction, rather than spotifying all over the place?

Mr. Jim McIsaac: The capacity to deal in multiple processes at the same time is a huge issue. The objectives in each of these processes are different. You don't have any kind of overarching framework that they're being fit into. That's a challenge. You need people who are knowledgeable at each one of these levels and who are bringing in the local knowledge. It's not housed in one person anywhere on the west coast. It's thus a huge challenge.

A lot of the knowledge that needs to come into play is held by folks who are fishing, who are out most of the year on the water earning their living, and who then, when they come in, are involved with fisheries management planning processes. This adds another.... They want to have family, have kids, and do other things. The capacity issue is a huge challenge.

The Chair: Thank you, Mr. Arnold.

Mr. Finnigan is next for a quick question.

Mr. Pat Finnigan: I'll start with a very quick question to Dr. Ban.

Do you think an MPA could have a detrimental effect by way of protecting an invasive species, whether plant or animal—or a predator, for instance—that would create a potential imbalance? Do you know anything about that? Or do they look at that? I'm just curious.

Dr. Natalie Ban: MPAs can have effects on the food web. If, for instance, there's a lot of fishing of the top-level predators, they are likely to recover when the fishing pressure is taken away, and then they eat the smaller fish. You might then get a very different food web inside a protected area from the one you see outside. You may get less abundance of the mid-level fishes than you would see outside. That's not necessarily a detrimental impact of an MPA. I would say it just shows us how much fishing has changed the actual structure of our marine ecosystems.

In terms of invasive species, we don't know as much. Generally speaking, ecosystems that are healthier tend to resist invasion more than ecosystems that are more disturbed. It might, then, provide a beneficial impact, but it's not going to prevent invasive species either.

The Chair: Thank you, everyone. We'll have to come to an end.

Dr. Ban, thank you so very much for joining us at this early hour.

I suppose, considering that you're all from B.C., it's still rather early for all of us, even though you are in Ottawa, isn't it?

Mr. McIsaac, it's good to see you again, and Ms. Burridge and Mr. Turris also.

Thanks, colleagues. We'll see you next week.

The meeting is adjourned.