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Chair

Mr. Scott Simms

Standing Committee on Fisheries and Oceans

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● (0845)

[*English*]

The Vice-Chair (Mr. Robert Sopuck (Dauphin—Swan River—Neepawa, CPC)): Welcome to our meeting where we will be discussing marine protected areas.

Before we commence with the proceedings, I'd like to acknowledge Mr. Peter Stoffer, who was the member of Parliament from Sackville—Eastern Shore. Mr. Stoffer was at a meeting at the outdoor caucus that I happened to attend last night.

It's great to see you here, Mr. Stoffer, with your lifelong interest in conservation and all things environmental.

We have today four witnesses. We have witnesses from the Canadian Sportfishing Industry Association, Phil Morlock and Angela Darraugh. From West Coast Environmental Law Association, we have Linda Nowlan. From the World Commission on Protected Areas, we have Mr. Stephen Woodley from the IUCN. As an individual, we have Dr. Sean Cox, associate professor and director of the school of resource and environmental management. We will take our witnesses in the order that I just read them out.

For our witnesses, you will each be allowed 10 minutes to speak, and I will do my best to enforce that time in the interests of fairness, so that everybody gets the same amount of time. After that, there will be a round of questioning from the members of Parliament on the committee. When you're around the two-minute mark, I'll stick two fingers up to let you all know that you have two minutes left. I will try to enforce that time fairly rigorously.

We will start off with Mr. Phil Morlock, who's chair of government affairs for the Canadian Sportfishing Industry Association.

Mr. Morlock, you have 10 minutes.

Mr. Phil Morlock (Chair of Government Affairs Committee, Canadian Sportfishing Industry Association): Thank you, Mr. Chairman. I appreciate the invitation on behalf of the recreational fishing industry. My professional background is as a biologist in criminal law. I'm here on behalf of the folks you see listed here in my presentation. They are the board of directors for the recreational fishing industry in this country.

It's a little difficult to explain all of this in 10 minutes, but I'll do my best. I'll go through my slides quickly, so please read along as we go.

We are the largest constituency for Fisheries and Oceans Canada, for that agency. If you ask eight million Canadians if they fish, the answer would be “yes”. Those are our customers, mainly middle-class Canadians, coast to coast, who like to go fishing and take their kids, families, and friends.

We're a significant economy in this country, as well. Federal stats say it's an annual $9-billion economy. We also influence a number of other economies that are partnered in this, if you will. They are listed here in my presentation.

We also have commonality between our retailers in the hunting, trapping, and target shooting area, and government policy and legislation. These are the fundamental basics upon which our industry thrives, and the related industries, as well. To put it pretty simply, without fish, people don't need much fishing tackle and people don't go fishing. The importance of a sound science-based policy is critical to the management and sustainability of our business.

We come from a pretty proud history across the North American continent, with over a century of successful examples and leadership from people from the fishing and hunting community. This even extends into the concept of parks and protected areas first advanced by our ancestors, if you will, in the fishing and hunting community. It has become today the most successful example in the world of fish and wildlife management: the North American model of conservation. Nowhere else on the planet has the successful populations of fish and wildlife that we enjoy in Canada and the United States.

That's changing, though, and it's been changing for some time. The stage is set for these changes to happen. You can see here in my presentation the threats we've been experiencing for going on 20 years now, and I'll explain why we see them as such.

Most importantly, I have here in my presentation the arbitrary national protection targets that, as far as we can tell, have no real basis in site-specific, independent science. This is what we have been confronting on the North American continent now for quite a period of time. When protection zoning is brought forward, we ask, “Protecting them from what? What's the scientific evidence? What's the hard evidence? Is recreational fishing a problem?”

Marine protected areas have a significant role in fishery management, but they're only one tool in the manager's tool box. That's changing, though. Presently, the change is one-size-fits-all. Successful fishery management has proven that many other prescriptions are successful—in fact, in some cases, even more successful than protected areas.

Dr. Larry McKinney at Texas A&M University managed fisheries for the State of Texas for 22 years. He is well respected across the scientific community in North America. I was discussing this with him a little while ago, and I asked him for a comment, which I've included in my presentation. I'll give you a second to read it.

There are over 300 marine protected areas in the Gulf of Mexico, all of which allow fishing.

In Australia, they've experimented with this for some time. There have been a couple of papers put out by some fairly well-known people in the science community that question the validity of the approach that's been taken. They ask if the prescription fits the ill. I only have them in English because they're proprietary and they're in a published document, so copyright prevents them from being translated. If anybody wants them, though, I have copies.

This is essentially how we see the situation from the recreational fishing industry. It's the North American model of science-based resource use that's under assault. It's been happening for quite a time.

● (0850)

It began on the east coast with the opposition to the seal hunt. It evolved from there with efforts against trapping, against hunting. The Ontario spring bear hunt campaign, some of the best management science on the planet with bear population, yet it was overturned and it has extended now into fishing. This is how these things are being promoted: the claims of dying oceans and no fish. In fact, we have some of the healthiest fish populations on the planet on this continent and in this country, and they're not here by accident. They're here by management based on science.

What do California and British Columbia have in common? This goes to the PNCIMA process, and I understand that this committee is pretty familiar with PNCIMA. This is California back in 2008, a healthy economy, lots of people fishing, 60,000 jobs, but when the process began for the Marine Life Protection Act there was no consideration for recreational fishing, and the state was broke. You all remember the crisis there. The environmental groups went directly to the government with money to influence the outcome, and it did. This is how it played out.

From our friends in the sister organization, the American Sportfishing Association, the money went to the Resources Legacy Fund Foundation, was managed, then went directly to the State of California process. This is how the American Sportfishing Association saw the example.

These are the people who supported it, the organizations. The only option considered was closures, no-take zones, permanent no fishing, no extractive use of any kind. That was the agenda.

This is an example, the central coast of California, and the impact was significant. Even though it looks on a map as though it's not that big an area, anybody who fishes knows that fish don't live everywhere. They are in certain prime habitat. It targeted prime habitat areas, over 40% of the best sport fishing areas in state waters out to the three-mile limit, and the impact on the economy was significant.

The boating industry and the vehicle industry had an even greater impact in a negative way. Gordon Robertson is one of the most respected people in the United States when it comes to fisheries issues, and I'll share this comment with you that he made about that process in California.

How is this relevant here? It's the same timeline. Fisheries and Oceans Canada brought the Marine Life Protection Act process to Canada. Our industry was not invited. Here it is again, a year later. You can remember the Resources Legacy Fund Foundation that managed the money in California. Here they are again, setting the template with Fisheries and Oceans for Canada.

We wrote to the minister on this and she wrote back and promised that we would be engaged. This was 2009. We're still waiting for that to happen, seven years later. The promises made to us were never kept.

Here's a press release from Fisheries and Oceans Canada talking about the money. Notice the common connection to the funding in California. This is the rest of the press release and is exactly like what happened in California, money going directly to British Columbia employees and the province. This information is all from the DFO website and this is the influence here. You can see some common names to the California process as well.

This is how the template works. The money goes into the initiative. In many cases there is purchased science, scientific opinions, which aren't the same as hard science in the field, of course, scientific data, and it influences the outcome. This is just one example of the money and how much money has been involved in this, basically from their own website.

● (0855)

There's a lot of money coming out of California, influencing the Canadian process. DFO designed the plan, and it has continued apace. Even though they backed away from the funding model, under the direction of the Prime Minister's Office, the plan has continued apace.

There's no involvement from our industry. We haven't been invited. Our participation has been declined. We've asked for copies of the memorandum of understanding. We were refused. There is a lot going on behind the scenes, and I think former prime minister Stephen Harper's comment here is appropriate and fits the situation very well.

The Vice-Chair (Mr. Robert Sopuck): Thank you very much for that comprehensive presentation, Mr. Morlock.

Now we'll hear from Ms. Linda Nowlan, the West Coast Environmental Law Association, for 10 minutes.

Ms. Linda Nowlan (Staff Counsel, West Coast Environmental Law Association): Thank you, Mr. Chair. Good morning to you, and to the committee members. I'm pleased to be here today to talk about this critical issue.

We believe that amended legal provisions in the Oceans Act can help speed up the slow pace of ocean protection. Law is one of the solutions, and you have the power as legislators to recommend and make legal changes to the Oceans Act.

Progress in ocean protection lags far behind progress in park designation on land; however, where there's a will, there's a way. Political will is the first necessity, and your government has shown that it wants to play catch-up.

Other countries have made astonishing progress in a short time frame. The U.K., Scotland, Australia, California, all the countries in the European Union, and South Africa are examples. Many of these places with successful records on MPAs share a key feature. They have introduced bold new laws or policies that compel action. Canada can learn from their experience. A strong legal foundation is one of the enabling conditions of success.

MPAs do work, as you've heard from other witnesses. I won't go over the science, because I am not a scientist. I am a lawyer.

We also need to remember what we've lost. A former fisheries minister testified to Parliament during debate on the Oceans Act and recalled what John Cabot said when he reached the shores of Newfoundland in 1497. He found the sea swarming with fish that could be taken not only with a net, but with baskets let down with a stone. There are many similar stories in our history. There's no doubt the oceans are no longer as full of fish as when John Cabot came to our shores.

I'd like to make three key points today from my expertise in law. First, there is a great opportunity now to re-establish Canada as a leader in ocean law. Second, your report can help the government with one of its five points in its action plan by recommending legal amendments for faster and more effective MPAs, and third, it's time for Canada to meet its legal obligations.

First, on re-establishing Canada as a leader in oceans law, Canada took a lead role in drafting the UN Convention on the Law of the Sea. Canada passed the Arctic Waters Pollution Prevention Act in 1970 to ensure special protection for that area, and former prime minister Brian Mulroney was the first world leader to sign the biodiversity convention in 1992, which is the foundation for our legal obligation to create protected areas on land and at sea.

At the time the Oceans Act was passed in the late 1990s, it was groundbreaking, comprehensive legislation dealing with oceans in a holistic manner, but that leadership role has been lost due to its slow implementation. We've prepared a chart comparing countries similar to Canada and their progress in designating MPAs. I apologize that I have it only in English, but I do have copies available.

The timeline shows different rates of progress. The results are quite startling. In 20 years Canada has protected less than 1% of the ocean. That is less than 1%, in 20 years, under the Oceans Act. Contrast this to progress in the U.K. In the seven years since the Marine and Coastal Access Act was passed in 2009, MPAs have grown from 6% to over 20% of U.K. waters, and they are not done. In the next year the government will legally designate another group of MPAs to its network. In less than half the time we've been at it, the U.K. has far outstripped Canada with progress. We are at 1%. They are 20%. They are also aiming higher. Their biodiversity strategy calls for 25% of English waters to be protected. Just last week their Environmental Audit Committee released a report, “Marine Protected Areas Revisited”. I urge you to look at that.

Second, the government is considering how to reach the fifth point in Minister LeBlanc's oceans action plan, which is to establish marine protected areas faster. The government pledged to “Examine how the Oceans Act can be updated to facilitate the designation process for MPAs, without sacrificing science, or the public’s opportunity to provide input.” This committee can assist with that work and its recommendations, and we encourage you to recommend amendments to the Oceans Act. The recent report from the environment committee has some excellent recommendations that this committee could repeat for emphasis.

In our view, the government can short-circuit the prolonged process, which on average takes seven to 10 years to create an individual MPA under the Oceans Act, and provide guidance by putting minimum protection standards into the act.

● (0900)

The science is clear on the need for these standards. The law should incorporate the science and be equally clear. We have three recommendations on how to incorporate these standards for more certainty for ocean users.

First, set general prohibitions against damaging activities instead of negotiating on a case-by-case basis each time.

Second, require assignment of an IUCN category to each MPA, as the IUCN guidance documents suggest. I know you heard from Dr. Dan Laffoley of the IUCN, and we have Stephen Woodley here who can also talk about the IUCN. This is the global standard, and IUCN categories, when established for each MPA, are a very good management tool.

Third, you could recommend that ecological integrity be the primary goal for the marine protected areas, as it is for land protected areas such as under the Canada National Parks Act. The law could also establish timelines. Setting out milestones and key deliverables in the law has proved successful in the European Union.

Finally, it's time to meet our legal obligations. These come from a number of sources, including treaties like the Convention on Biological Diversity from 1992, the Convention on the Law of the Sea, and targets like the Aichi targets you've heard about, and also the UN sustainable development goals.

The numerical target of 10% is a decade old. In 2006, the eighth conference of the parties to the biodiversity convention adopted the 10% protected area target. Another chart that we prepared shows the evolution of these legal provisions over the years. Canada is legally obligated to protect marine areas.

In conclusion, now is the time for Canada to regain its leadership in ocean law and ocean protection. Now is the time to make good on the promise of the 20-year-old act by strengthening it and making it more robust and effective. Now is the time for effective marine protected areas for our salmon and cod nurseries, our whale-breeding grounds, and our 1,000-year-old glass sponge reefs, among other ocean wonders.

Now is the time to take steps to ensure all three of our oceans are healthy and remain that way for future generations. As legislators, you can act. The Prime Minister has given you the mandate to ramp up ocean protection. Where there's a will, there's a way.

Thank you.

● (0905)

The Vice-Chair (Mr. Robert Sopuck): Thank you very much. You had two minutes to spare—my compliments.

Ms. Linda Nowlan: Great.

The Vice-Chair (Mr. Robert Sopuck): Now from the World Commission on Protected Areas, Stephen Woodley from the IUCN, for 10 minutes.

Dr. Stephen Woodley (Vice-Chair of Science and Biodiversity, World Commission on Protected Areas, International Union for Conservation of Nature): Thank you, Mr. Chairman, and thank you for inviting me here today.

I am a scientist and I work for the World Commission on Protected Areas of the International Union for Conservation of Nature, where I'm the vice-chair for science. Over the last four years I've been chairing an organization or a task force specifically looking at whether protected areas are effective, and if so, why? Why and when are they protected? The literature on protected areas had been, frankly, pretty messy. We tried to put some order to this and put together some global analysis based solely on data upon when and if these places are effective. It's in that context that I want to speak to you today.

I know my colleague Dan Laffoley spoke to you already. He has explained to you what the IUCN is, so I won't go over that other than to say it's a unique organization in that it has a government house and an NGO house. I don't know of an equivalent organization today. Canada is a very strong and active member of the IUCN.

In defining what a protected area is, the IUCN actually set the global definition. It was agreed to by Canada. It's equivalent to the definition used by the Convention on Biological Diversity, and it's the same on land and on sea. I don't think I need to repeat it for an audience such as this.

It's worth going over briefly the benefits of having a marine protected area, because I think that's germane to the discussion today. It is not to tie up areas that we can't have access to; it's really to allow that the management we do in the larger oceans be done correctly. MPAs provide benchmarks. How else will we know the impact of fishing and other activities if we don't have a benchmark? It's science 101. Establishing these areas as benchmarks is fundamental.

In terms of looking at protected areas as a tool, I've just done a global review on this for the Global Environment Facility. We looked at all the tools we use to protect nature: harvest management, protected areas, management of species at risk, and so on. If you look at all the literature on these things, protected areas come out as the most effective tool in terms of response ratio or bang for your buck. They are an essential part of fisheries management. In Canada, we have not taken advantage of that tool, as my colleague just pointed out. I don't need to reiterate it.

They can also raise the benefits for marine tourism, benefiting local communities globally. This has been shown all over the world. A recent study in Scotland showed, despite economic doom predictions to the contrary, that setting up MPAs actually benefited local communities economically.

There are a whole range of benefits for MPAs, the last ones being really the direct benefits of conservation in ecosystems, because there are some areas, either representative areas, areas for species at risk, or key biodiversity areas such as spawning sites, that are worthy of protection in the larger context.

Let's turn to the question of whether MPAs are effective in conserving nature. There's quite a growing amount of literature on this now. The task force I chaired has been able to contribute significantly to this literature. I'll start with a global synthesis that was done by Lester, and others, and here are the conclusions.

Overall, MPAs demonstrate statistically positive impacts on fish biomass, numerical density, species richness, and size of organisms within their boundaries. Those benefits, depending on which study you look at, are very significant. You can have 10 times more fish inside a protected area than you do outside.

Those benefits are also relevant to our ecosystems, the Canadian ecosystems. Much of the research was done in the tropics and sub-tropics, but this global review showed that the temperate ecosystems have the same kind of response. That has been a question in literature. Surprisingly to me, even small reserves can show positive impacts. Large reserves are better—the literature is clear on that—but even small reserves can show positive impacts.

● (0910)

There's variation all over the place. We tried to understand why there is so much variation in the literature.

Graham Edgar and his colleagues from Australia did another global study and they looked at what was driving protected area effectiveness. They concluded, a bit shockingly, that globally, many MPAs can't be ecologically distinguished from fished areas. There's simply no difference because they're MPAs in name only. We've had trouble translating the protected area model into the ocean because most of them are fished. Therefore, there's really no delta or difference between fished and unfished and this applies to Canada. Even if you look at some of our larger marine protected areas, like the Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, since it was declared a protected area, there's been no change in fisheries management. It's the same. We haven't taken advantage of that because of the way the act is constructed and the way that it's been managed.

Edgar, et al., found that some areas are extremely effective. They boiled it down to five key features for what's driving effectiveness. There's no-take. There's good enforcement, and globally enforcement is really poor. It probably wouldn't be the case in Canada. Also older ones do better, larger ones do better, and ones that are isolated by some biophysical feature also do better. When you have all of these five features working together, you get nine times more fish biomass on average and 39 times more large predators, like sharks, in these areas because you don't need much fishing to take large predators out of the system.

Overall, fish biomass on reefs is reduced two-thirds compared with protected areas. We published a paper in the journal *Nature* just last month. I'll refer to it as the Gill, et al., paper and I'll provide that to the clerk. That was part of the work of the IUCN task force. We found that a sobering 79% of the global sample of protected areas weren't meeting thresholds for basic management. They didn't have enough staff in place. They didn't have funding. They didn't have monitoring in place, etc. Staffing and funding gaps were the biggest predictors of conservation outcomes. Even despite these shortcomings, three-quarters of these protected areas were showing positive biological impacts. If you compare with well-managed areas, we get three times the value, so you get three times the value in terms of fish biomass for having a well-managed marine protected area.

I could go on about the benefits and I'm happy to, but I'll provide a number of key papers to the clerk should you be interested. I just have three quick conclusions.

There's ample evidence that marine protected areas work. The evidence is quite strong and interestingly enough, and it's stronger in marine areas than on land.

Protected areas need to be put in the right places for conservation, so that they actually do protect nature, and not simply put it in places where they avoid a conflict with fishing.

This committee is justifiably focused on Aichi target 11, or Canada target one. I ask you to also consider Aichi target six, which is upgrading our fisheries management, because we can't lump everything into Aichi target 11 in terms of the things that should be done in the oceans. We need a whole oceans approach.

Finally, I agree with the notion that we need some legislative review. If I look at the National Marine Conservation Areas Act, it does not have meaningful ecological end points, like ecological integrity, and I think it could benefit from strengthening, as we move this agenda forward.

Thank you very much.

● (0915)

The Vice-Chair (Mr. Robert Sopuck): Thank you. You finished with a bit of time to spare. It's wonderful to have such disciplined witnesses.

Next, we have Professor Sean Cox from the school of resource and environmental management. Which institution would that be in?

Professor Sean Cox (Associate Professor and Director, School of Resource and Environmental Management, Simon Fraser University, As an Individual): It's at Simon Fraser University.

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

You have 10 minutes.

Prof. Sean Cox: Thank you.

I just want to give you a little bit of additional background on myself. I'm also the co-founder and chief technical officer for Landmark Fisheries Research, which is a small consulting firm. We do research that supports the fisheries community, including fishing associations, Fisheries and Oceans Canada, as well as some environmental organizations. Most of our projects involve fishery stock assessment, harvest strategy analysis, survey design, as well as some ecosystem-based management strategy development.

I'm also the chair of the scientific review board for the International Pacific Halibut Commission, and I'm a member of the joint technical committee for the Pacific hake treaty.

My background lies mainly in fisheries science, stock assessment, survey design, harvest strategy evaluation, and more collaborative ecosystem-based fisheries management. I've been involved in several assessments on both the east and west coasts of Canada, in Chile, and in South Africa. I have a bit of experience, and most of it is in fisheries management directly.

I have a few points about MPAs. I'm not an expert in MPAs, but I am a fisheries scientist and can understand the role of MPAs. I do happen to work on one, which is the Bowie Seamount Marine Protected Area on the west coast. I am also involved in some of the rockfish conservation areas on the west coast.

Most of my points are not going to be very supportive of MPAs in general for fisheries management. As Stephen just pointed out, there may be benefits to closing an area to the local sedentary fish populations within that closed area, but the actual benefits to fisheries are quite minimal.

I'll just go through these points.

First, protecting land resources is very different than protecting resources in the ocean. The ocean is a transport medium. It moves nutrients, water masses, and organisms over thousands of kilometres, and it may not move them over the same thousands of kilometres from year to year. Putting a static MPA in place in the ocean will protect a particular species or group of species in a particular area at a particular time.

Looking at some of the previous testimony, there was a claim that there was overwhelming scientific proof that MPAs are beneficial and widely successful. I think that was misrepresentation of the actual science. Stephen just cited some of the studies that find that they're not broadly successful.

In fact, I was going to mention these five criteria. For an MPA to be successful, you need all five. You need 100% protection. You need very strict enforcement. You need long duration before you can detect any changes. They need to be at least 100 square kilometres in size. They need to be highly isolated. The last one—being highly isolated—is really hard to meet. In fact, only four of the 87 MPAs around the world in that study could actually be considered successful.

Just enforcing MPAs would be hugely expensive. Again, if you're looking at it from a fisheries management point of view, it's far more cost effective to do other things that don't cost that much.

A point I'm going to make later about that enforcement issue is that one of the things MPAs do is promote a lot of illegal fishing. If you look at our abalone fisheries on the west coast, they're subject to rampant illegal fishing.

Our RCAs, the little rockfish conservation areas along the coast are almost all fished. The only ones who don't fish in there are the commercial fishing vessels, which have vessel monitoring systems on them that can actually detect if they go in these areas. All the recreational boats, first nations, and anyone who wants to go out and sell fish on the black market can go in those areas. As you know, these are really remote places where it's not difficult to go in and fish illegally.

● (0920)

MPAs aren't likely to be effective scientific tools, either. They're not easily replicated. When you put in an MPA, it's subject to a high degree of what we call “location and time” effects. You can't just create a nice experiment where you have three of the same type of MPA in one place and then three control areas in another place. You just can't do that. They're wide open to outside perturbations, environmental changes that are not within our control.

The big issue is that the sampling of ecosystems, at least over a large area like 100 square kilometres, has very low statistical power. That means you have a low probability of actually detecting any kinds of changes, even if they actually exist, unless you spend a whole lot of money. Sampling marine systems is very expensive, it's time-consuming, it's technologically demanding, and it's always biased. On land you can go out and observe things or use satellite imagery. You can't do that in the ocean. You have to put some sort of sampling gear down to collect organisms, and that's always biased.

The MPA benefits to fisheries, as I was mentioning, are marginal. There's some evidence for this. Implementing Canada's sustainable fisheries framework is probably a more effective activity than using MPAs, broadly. Issues like discarding and misreporting are not, at least on the west coast of Canada, major issues, at least in the commercial fisheries. Those are either monitored directly by human observers on 100% of groundfish vessels or video-audited logbooks are used. The monitoring system on the west coast is the standard. It's the best monitoring system in the world. There are also strong limits on discarding in our fisheries on the west coast as well.

I made the point earlier about illegal fishing. The prices that are out there for sablefish and halibut are huge. In fact just this weekend I was talking to somebody who found himself fishing in a rockfish conservation area by accident this past summer. He couldn't believe how fast they were catching halibut. That was because there are no commercial fisherman in there, and somebody can get in there and fish illegally quite easily.

I just want to make a couple of points about when MPAs could be effective.

I think MPAs are needed to protect non-commercial benthic invertebrate species such as corals and sponges. These kinds of things form fish habitat. Nobody wants to destroy them. They're generally sedentary. They don't move very much. They tend to have high larval retention in the areas where they occur, and they have this isolation feature. They're mappable. They're not moving. The data you collect today will probably be relevant 20 years from now. We can build maps of where these things probably occur and actually work with them.

In fact, a lot of the fishing industry on the west coast, the groundfish industries that tend to affect bottom habitat, and all of those organizations support protecting sensitive benthic habitat. Just throughout the MPA that I work on, the Bowie Seamount, Wild Canadian Sablefish has spent over a quarter of a million dollars studying corals and sponges in that marine protected area. They developed their own custom deepwater cameras and motion-sensing systems on their gear. They're doing everything they can to try to minimize impacts on those resources.

My final point is one that was raised earlier, about just the arbitrariness of choosing 10% or 20% MPA coverage of the ocean. I think this needs to be reversed a bit. I mean, 10% or 20% is not 10% or 20% of ecosystems or of species. I think the point is to try to establish some sort of practical and feasible set of goals that can be put in place for particular species in particular ecosystems and start from there. It's much easier to sell this kind of practical and feasible set of goals than it is an arbitrary 10% or 20% approach.

● (0925)

The Vice-Chair (Mr. Robert Sopuck): I have to stop you there, unfortunately. You can bring up any of the points that you would want to bring up during the question and answer period.

Thank you very much, witnesses, for your most interesting testimony. I do regret being in the chair this time.

We have an hour and 15 minutes for questions. We will start with Mr. Hardie from the Liberal Party, for seven minutes.

Mr. Ken Hardie (Fleetwood—Port Kells, Lib.): Do you guys all want to take the rest of the day off? I have lots of questions here.

Actually, there's a great quotation attributed to Muhammad that says, “Let God subtract not from your span of life those hours spent fishing". At which point, I think, our chair will live forever.

The Vice-Chair (Mr. Robert Sopuck): We agree.

Mr. Ken Hardie: Maybe Mr. Morlock will as well.

Mr. Morlock, I want to start with you. Please keep your answers relatively short because there is a lot of ground to cover. We hear in a number of different movies about these conspiracy theories where big money comes in and tends to warp government decision-making and all the rest of it.

I'm curious why people like the organizations you mentioned would give so much money to do this. What's in it for them?

Mr. Phil Morlock: I'm not sure what's in it for the foundations that are behind it, but I think the answer is pretty clear for the non-government organizations that receive it. I think the evidence is pretty clear that, when that much money is coming into the country, there are other agendas at play here too. I don't think it's just about recreational fishing or commercial fishing. We've looked at these issues. It has to do with coastal transport, energy issues, pipeline issues to the coast and to the U.S., and so on. They're engaged in a number of areas that aren't just limited to fishing.

I think for the NGOs that receive the money, essentially it's a funding mechanism, whereby if you claim that the sky is falling and it costs money to build a pillar under the sky to keep it from falling, that's how you raise a lot of money.

Mr. Ken Hardie: Okay, we can leave it at that.

Duelling science—boy, we've heard that a lot, back and forth. Who do you trust? Who should actually be the source of the science, the evidence, so that everybody can say, “Yes, that's it”?

Mr. Phil Morlock: Fish and wildlife management have accepted scientific standards no different from medicine, chemical engineering, and mechanical engineering. They are accepted standards and they're based on independent peer review of the work that is done, the methodology, the information, the reports, and the conclusions. It's done worldwide, and the standards apply certainly to fisheries management and setting aside areas for protection zones and so on.

When the science is independently peer reviewed and confirms that's the best strategy going forward, then that's the direction that should be taken.

Mr. Ken Hardie: Mr. Cox, do you agree with that?

Prof. Sean Cox: I agree mostly. The peer review process in scientific journals meets a certain standard, but you can get bad reviews. You can get reviews that are inaccurate, you can get reviewers who have misunderstood the material, and you can get reviewers who are too busy to do a good review. It's an accumulation of material, more than if you point to one paper here and one paper there, which is harder to defend.

A lot of the government science has dwindled to the point where you have to go to outside funding, and that's what raises some of these issues.

● (0930)

Mr. Ken Hardie: There was a time when we had a separate science branch that was not part of the DFO, and of course there's always the temptation to look back on the good old days as being the good old days. What do you think about extracting the science function out of the DFO and setting it up again as something specifically separate and independent?

Mr. Woodley, maybe you'd like to comment on that.

Dr. Stephen Woodley: DFO has great scientists and has—

Mr. Ken Hardie: Are they in the right place?

Dr. Stephen Woodley: I don't think my opinion on that is worth a whole lot to this committee, frankly, about how it should be bureaucratically organized. Having independent science is really important, but if you divorce it too far from the decision-making system, you're in trouble as well.

Mr. Ken Hardie: Right.

Ms. Nowlan, you mentioned that there should be some general prohibitions on damaging activities. Can you give us examples of what those damaging activities are? This is an on-off switch you're suggesting. They just shouldn't happen. What would they be?

Ms. Linda Nowlan: Oil and gas exploration.... There is one Oceans Act MPA in Canada that actually allows oil and gas exploration in the Arctic. I think some forms of bottom-contact fisheries should be automatically prohibited, or at least prohibited according to IUCN guidance.

In 75% of the area of an MPA, the IUCN guidance is very clear that the primary purpose of protected areas is biodiversity conservation, not fisheries management. Biodiversity conservation and the 75% rule means that this portion of the protected area should be free from damaging activities. Underwater mining would be another example. Seismic testing would be another example.

Mr. Ken Hardie: So it's anything that disturbs the bottom.

Ms. Linda Nowlan: Yes, but seismic testing doesn't disturb the bottom and it's not only fish we're concerned about. Marine mammals concern us and they're highly affected. You can shatter a whale's eardrum with seismic testing, so there are a number of activities that could be restricted.

Mr. Ken Hardie: We've heard from Mr. Morlock and Mr. Cox that marine protected areas may be a tool, but only one tool in the tool box. Can you both quickly chime in with some of the others that could be equally effective or complementary to marine protected areas?

Mr. Phil Morlock: In commercial fishing it's gear restrictions. There's also season restrictions on the west coast. Salmon commercial fishing is regulated literally by the minute as to when the season opens, when the season closes. Strong law enforcement is certainly necessary, and I think somebody has spoken to that. On the recreational fishing side, it's the length of seasons, closures during spawning times in certain sensitive areas, gear restrictions on the number of rods that someone can use, harvest limits of how many you're allowed to keep. Catch and release has certainly become the North American method of allowing fishing to continue but the fish are put back. Those other methods have been proven very successful in many cases.

Mr. Ken Hardie: Are we out of time?

The Vice-Chair (Mr. Robert Sopuck): I'll allow this.

Mr. Ken Hardie: Thank you.

Mr. Cox.

Prof. Sean Cox: Generally we need to limit exploitation. A lot of fish stocks have been over-exploited. Some would call it sustainably over-exploited to the point where they're held at a really low level. At least on the west coast of Canada and to some degree on the east coast as well, there are huge gaps in stock assessment. Some of our flatfish on the west coast haven't been formally assessed in over 20 years. That's just basic. That would be my big recommendation.

Mr. Ken Hardie: Great.

The Vice-Chair (Mr. Robert Sopuck): Time is up.

Now we have Mr. Doherty for seven minutes.

Mr. Todd Doherty (Cariboo—Prince George, CPC): Mr. Chair, through you, I would like to thank our witnesses for being here today. I thought the testimony was incredible. Mr. Woodley, Mr. Cox, thank you for bringing that very refreshing perspective.

I'm going to direct my questions to Ms. Nowlan and Mr. Morlock today. Ms. Nowlan, has West Coast Environmental Law now or ever received monies or funding from Tides Canada, the Gordon and Betty Moore Foundation, or WWF?

Ms. Linda Nowlan: Not from WWF, but yes it has from the Gordon and Betty Moore Foundation and Tides Canada. I should be clear that I'm testifying here today as a representative of West Coast Environmental Law Association, which is not a charity. It is a non-profit.

● (0935)

Mr. Todd Doherty: Thank you.

Ms. Linda Nowlan: The other organizations that are associated—

Mr. Todd Doherty: Thank you.

Ms. Linda Nowlan: I'm just explaining that—

Mr. Todd Doherty: I appreciate that. You've answered my question. That's perfect.

Ms. Linda Nowlan: The research foundation has accepted funds.

Mr. Todd Doherty: Thank you.

Mr. Morlock, we hear a lot from many groups about the urgent need for vast networks of MPAs, plus biodiversity from overfishing, the need for adjacent buffer zones to protected areas, declining fish stocks, etc. But we haven't heard much from anyone else about the points you made earlier today, which challenged much of what we've been told with the exception of Mr. Cox and Mr. Woodley.

I'm wondering why that is and why we aren't hearing more about those points that you made earlier about the MPAs and the protection zones.

Mr. Phil Morlock: As an industry we're not a lobby organization per se. It's a series of businesses across the country of all sizes, from large retailers and manufacturers to small mom and pop operations. We don't get hundreds of millions of dollars from industrialists or foundations to put things forward. Historically, we have trusted the natural resource agencies—provincial, state, federal—in both countries to speak to these issues on our behalf and to manage the resource responsibly.

Certainly in the case of the senior bureaucracy at Fisheries and Oceans Canada I think the evidence is pretty unequivocal over the last 20 years that they've become about the only anti-recreational fishing agency on the continent. We don't experience that anywhere else. Now, that's not down in the ranks of the people who do the work in the field, but there's clearly an agenda going on here, and the PNCIMA process is a good example. When things are conducted behind closed doors there's probably a reason that somebody is hiding something.

Mr. Todd Doherty: That leads me to my next question. That's a great segue into this. You made reference to the California MPA process and how DFO has adopted that into the PNCIMA plan. Can you elaborate on what occurred in California, and why you feel this government has moved so swiftly with PNCIMA?

Mr. Phil Morlock: I don't know if they have moved quickly with PNCIMA or not. It's gone on since 2008 and 2009 when DFO first brought in people from California to talk about this. I'm not sure how fast the process has proceeded, because we haven't been allowed to be part of it. It would be inappropriate for me to comment on that, I think.

The California example is pretty clear that in a down economy in that state, in the first year after the MLPA process was concluded and the no-take zones were established in coastal waters, there was a 20% loss in sales to the recreational fishing industry over those in other regions in the state in those coastal areas. I think I mentioned earlier that the boating industry and engines to propel boats and the truck industry to pull boats suffered even more so in that period. Those areas are closed forever. There are also economic impacts from anglers not going fishing anymore.

There were multimedia campaigns by the proponents, and they spent millions of dollars advertising that the sea was dead and that there were no fish in the ocean, which wasn't true. Out of 96 species in coastal California, only seven were in trouble and they were recovering under the federal legislation, the Magnuson-Stevens act, so the MPA really had no impact on that at the time. But it definitely impacted the economy and the people who made a living from it.

Mr. Todd Doherty: I really appreciate your testimony.

Mr. Cox, in your testimony today, if I have it correctly, you said that out of the 87 MPAs worldwide, only four of them would be deemed successful. Can you elaborate on that?

Prof. Sean Cox: There are more than 87 MPAs worldwide. These were 87 MPAs that were studied in the same ways using the same methodologies, and so on. There were measures of biomass, the number of species, species diversity, and different things like that. Some of these things you expect. If you close an area, then you're going to have an accumulation in that area. If you don't have removals, there will be an accumulation. If you see increases in certain large sharks within a 10-year period, it's not likely those were due to local production of sharks. It's because sharks moved in there and they haven't moved out yet, depending on the size of the MPA.

The particular study looked at having one criteria, two criteria, three criteria. It wasn't until you had all five criteria in place did you actually see a large effect in these metrics in biomass and standing stock, and so on.

● (0940)

Mr. Todd Doherty: Can marine conservation be done without upsetting the balance between local economies that depend on fishing aquaculture and the environment?

Prof. Sean Cox: I think so. One of the things we're trying to create research to support on the west coast is using things like technology to help the fishing industry avoid places that really do need protection—corals and sponges in particular.

Mr. Todd Doherty: Real quickly, would you say that the government's target of 20% is reckless and unobtainable?

Prof. Sean Cox: Is it reckless? I don't know.

A colleague of mine has tried to track down where the 20% came from. Maybe Stephen knows better, but it's not based on any theoretical measure. It's a fairly arbitrary number. I don't really know. I think if it were possible to map where corals and sponges are, for instance, or other sedentary species that we don't know about yet, it's possible that our fisheries could avoid them and 20% might be fine. As long as they were adequately mapped, the industry could avoid as much as possible targeting those areas, a few of which we have around.

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

Mr. Donnelly, go ahead for seven minutes.

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

Thank you to all our witnesses for providing their testimony today. We've heard a number of witnesses over the weeks on this. I know we're going to hear more, and we're going to go on a field trip to a couple of areas and get more information from others who live in areas that are impacted or potentially impacted by MPAs.

I have lots of questions as well. I'll start with Dr. Woodley. You talked about the benefits of MPAs, and you said they do work. I asked your colleague Dr. Laffoley, when he presented earlier this year, to submit to the committee any evidence, reports, and/or studies that demonstrate that they are effective at conserving nature. I'm wondering if you can do the same. You made reference to submitting a report or some evidence. That's what I think the committee would appreciate.

Dr. Stephen Woodley: Yes. I will submit what I consider to be the key papers on this.

The interesting thing is that when you start extracting a lot of fish biomass out of an ecosystem, you change the ecosystem rather fundamentally because you change the trophic structure of the ecosystem. You often take the large predators out of the system first. We all know from land examples that when you take large predators out of the system, the system is different. Having an area unfished as a reference benchmark system is kind of fundamental.

Our recent study in *Nature* showed that we get strong benefits, even in lightly fished areas—though not as large as in an unfished area but significant—and we saw that throughout.

That would disagree with Edgar et al., who said that you have to have all five—and I don't think Edgar said that you have to have all five. You get better results when you have all five of those factors, but simply reducing the pressure on an area gives you significant benefits. There is no question about that.

The benefits aren't merely that you're catching fewer fish. The benefits are broader in the ecological sense.

Mr. Fin Donnelly: You also talked about the need to put them in the right places. Could you elaborate a little more on what that means? What is the right place? You were alluding to the trophic levels. Could you talk a bit more about that?

Dr. Stephen Woodley: Biodiversity is not distributed evenly on the planet. It's distributed very unevenly. We've heard about sponge reefs and coral accumulations. They're distributed. They are obviously important to protect, and on that I think we're in absolute agreement.

There has been a tendency to establish marine protected areas in places where there is no conflict. Generally, in places where there is no conflict there are no fish and no marine productivity, so you're not going to make much difference. Why bother?

If you're going to use marine protected areas as a tool—and I agree that it's only one tool in the tool box—then they should be put in places where they make a difference, so that your investment counts toward the broader health of the oceans.

● (0945)

Mr. Fin Donnelly: Mr. Morlock, I'll shift to you for a second. In your testimony, you talked about the Gulf of Mexico and the 300 MPAs there.

Mr. Phil Morlock: That's right.

Mr. Fin Donnelly: I'm not sure whether you said that they all allow fishing, but I think you referenced that they allow fishing. I'm wondering if you could talk about whether they have seen recovery. Have they seen fish or marine species recovery in those areas?

Mr. Phil Morlock: Yes, I believe they have. The point is recreational fishing as opposed to commercial fishing, and the State of Texas deals with that differently. Because Texas was a country before it was a state, the limit is nine miles out into the gulf for the state of Texas, as opposed to three miles for most of the coastal region of California, for example. They have a little more real estate to look at. I was referring to Texas coastal waters in that example.

They are there for a specific reason, because the science shows that they are required for a specific habitat reason—protection area, reefs, and so on—and there is also a sunset clause on them. They are required to review them periodically to see whether the desired goal has been achieved. If it has, then in many cases they are removed. They are not necessarily put in place permanently. Some are and there is justification for doing that. We certainly support that, but not in all cases.

Mr. Fin Donnelly: You started by saying that you believe there was recovery. Is there evidence of that? Can you also submit to us the committee reports and studies that show evidence of recovery. I think you mentioned that was critically important, that the science needs to show that.

Mr. Phil Morlock: Yes. The Harte institute for Gulf of Mexico studies is at Texas A&M University in Corpus Christi. Larry McKinney and Greg Stunz look after their oceans policy program. I will ask them if they can, because they would be the experts on that. They can certainly speak to it better than I can.

Mr. Fin Donnelly: Great. Thank you.

The committee has heard from DFO officials in the past about the definition of MPAs, and they talked about sustainable use. Ms. Nowlan, do you concur that MPAs are set up for sustainable use, or is there a different definition?

Ms. Linda Nowlan: The Oceans Act is pretty clear. That's what your study is about: the Oceans Act MPAs. Section 35 gives five reasons for establishing a marine protected area for “special protection”. That's special protection of habitat or species, or for any other reason the minister designates. It's not sustainable use. It's for special protection.

As I've said, so far under that act, it's less than 1% of Canada's oceans. For 99% of the oceans it's business as usual.

The 10% target by 2020 may seem arbitrary, but targets are often used in conventions and laws, and this one is in law.

Mr. Fin Donnelly: Thank you.

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

Ms. Jordan, you have seven minutes.

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

I'd like to thank all of the witnesses for appearing today. It's been very interesting testimony.

Mr. Morlock, I'd like to start with you, please. You made a statement at the very beginning of your testimony that fish stocks in Canada were actually healthy. We, as a committee, have heard that's actually not the case. We've heard from the environmental auditor that there are196 aquatic species at risk, and that's a non-complete list. We've also done studies on the state of the Atlantic salmon and on the cod fishery off Newfoundland. I'd like to know where the evidence is to back up your statement that species in Canada are not at risk.

Mr. Phil Morlock: It's the health of our industry. We'd be going out of business if those statements were actually true. People don't go fishing if they don't catch fish.

Mrs. Bernadette Jordan: Do you have the scientific data to back that up? You want us to make our decisions based on science, but I would really like to see where that is. If you have that, would you be willing to submit it to the committee, please?

● (0950)

Mr. Phil Morlock: No. That would be the responsibility of DFO.

Mrs. Bernadette Jordan: The statement, then, other than the fact that people are going fishing, doesn't have scientific backup. You don't have a scientific basis for saying that fish stocks in Canada are healthy.

Mr. Phil Morlock: I think the evidence is pretty clear that they are. It depends where you look, of course.

Historically, when science has been followed, and solid science has been followed, fish stocks were in pretty good shape. When politics gets in the way, and that's irrespective of whether it's NGO politics, government politics, or whatever, things go off the rails. I think the Atlantic cod collapse is an example of that. There are certainly problems in some places. The question is, what prescription fits the ill? Science gives us the answer, credible science, not agenda-based science, not hyperbole, but factual science.

Mrs. Bernadette Jordan: Let's go to your credible science, then. You mentioned the science that you believe when Mr. Hardie asked you the question about what do we believe, or who do we listen to. Can you tell me who funds the science that you follow? Where does the funding come from for it?

Mr. Phil Morlock: Tax dollars.

Mrs. Bernadette Jordan: So it's funded through...?

Mr. Phil Morlock: Through all of us.

Mrs. Bernadette Jordan: Yes. Can you elaborate on that, please?

Mr. Phil Morlock: If it were true that, to use the term, “the sky is falling” and that these fisheries are in such dire straits, and if it were true across the country in terrestrial and aquatic areas, then I would say that the agencies responsible for the management of those resources have abysmally failed at their mandates.

Mrs. Bernadette Jordan: Do you trust DFO science?

Mr. Phil Morlock: Do I trust DFO science?

Mrs. Bernadette Jordan: Yes.

Mr. Phil Morlock: Yes.

Mrs. Bernadette Jordan: Thank you.

The other question I had for you was this. You said that you had requested from Gail Shea a chance to appear about recreational fishing and that you're still waiting for a response. There has, obviously, been a change in government. Have you reached out to the current government for that same opportunity?

Mr. Phil Morlock: Yes, and had the same no response.

Mrs. Bernadette Jordan: There was no response. Okay.

Mr. Phil Morlock: What we asked Gail Shea for was a memorandum of understanding with the recreational fishing industry that the California example would not be translated into this country and that private funding would not drive it. They rushed to have an MOU with the U.S.-based organizations that were funding the process in PNCIMA, but they refused us having one with the Canadian organization.

Mrs. Bernadette Jordan: Was that the same request you made of the current government?

Mr. Phil Morlock: That was the request made of her government, to Gail Shea directly.

Mrs. Bernadette Jordan: No, of the current government.

Mr. Phil Morlock: No. We've just written to them and said that we wanted to be engaged. We've also written to the Minister of Environment and have not heard back on that either.

Mrs. Bernadette Jordan: Okay. Thank you.

Ms. Nowlan, I would like you to finish your comments that were cut off earlier with regard to the difference between research funding and....

Could you please elaborate on that?

Ms. Linda Nowlan: Sure.

I work for a non-profit that has several associated organizations. One is an association, and that's why I'm testifying here today. It does not receive money for advocacy. There's also a research foundation that has received money from the foundations that were referred to earlier.

Mrs. Bernadette Jordan: Thank you.

Dr. Cox, you've heard Mr. Morlock on the health of species in Canada.

As a person who deals with fisheries management, would you agree with that statement, that the fish stocks in Canada are actually healthy?

Prof. Sean Cox: With every stock assessment I've been involved in, the main recommendation is to reduce fish mortality. Most of the stocks I've been involved with in the sustainable fisheries framework have been very close to the cautious zone, and some of them actually below limit reference points. These are big commercial fisheries.

Earlier in my career, I did a lot of work on recreational fisheries. We published a paper in 2003 called “Canada's Recreational Fisheries: The Invisible Collapse?” about Canada's recreational fisheries. It was basically that a lot of our recreational fisheries have quietly made the transition from wild production to hatchery-supported production. That's the invisible part. People are still fishing, but they're fishing for fish that come out of hatcheries more than they're coming out of wild production.

Mrs. Bernadette Jordan: Thank you.

Dr. Woodley, I have two questions for you.

With regard to Aichi target six, could you expand on that a little, please?

Dr. Stephen Woodley: There are 20 Aichi targets, and the purpose of the Aichi targets is to halt biodiversity loss globally. Aichi target six is on good fisheries management. There has been a huge focus on target 11. It kind of rose as the tall poppy for protected area and received a lot of attention. The other Aichi targets are equally of importance, and it's equally important that Canada reports against them.

What counts under the different targets.... We shouldn't assume that things like good fisheries management measures have to count under the protected areas target. They should count under target six. That's the point I was trying to make. There's a rush to show that we've met target 11, but it's also important to show that we've met target six.

● (0955)

Mrs. Bernadette Jordan: Do you think that target six should be a priority over target 11?

Dr. Stephen Woodley: No. I think all 20 targets are important.

Mrs. Bernadette Jordan: How is my time?

The Vice-Chair (Mr. Robert Sopuck): The time is up. Time flies when you're having fun.

Now, Mr. Arnold, you have five minutes.

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

I thank all the witnesses for being here today.

I just want to confirm that we have their reports and presentations, or we will be able to get them from the clerk.

The Vice-Chair (Mr. Robert Sopuck): Yes.

Mr. Mel Arnold: Thank you.

First of all, Ms. Nowlan, you mentioned that Canada presently has less than 1% of the waters protected under the Oceans Act.

Can you tell me what percentage of waters are protected under other protections, such as the national marine conservation areas, the marine national wildlife areas, fairly restrictive fishing closures, and so on?

Ms. Linda Nowlan: I don't have the numbers in front of me. They're in the environment committee's recent report, “Taking Action Today”. It has a lot of good up-to-date figures.

I think it's less than 2% when you put all of the federal marine protected areas together. The Oceans Act is actually less than 1%. I think it's 0.8% percent, and the total of everything is about 2%.

Mr. Mel Arnold: That's an interesting answer.

When I pull up DFO's rockfish conservation protection areas, it shows basically the entire west coast, other than the west and north coasts of Vancouver Island, as rockfish protection areas. It's interesting that those areas wouldn't be considered as protected areas in some way.

Ms. Linda Nowlan: They're not designated under one of the federal acts. That's why they're not counted.

Mr. Mel Arnold: Exactly, but we do have a lot greater than 1% protection for our marine waters in one form or another, maybe not simply under the Oceans Act.

Mr. Woodley, you quoted a much higher biomass within MPAs. How do we determine an optimal biomass, or is it simply that the sky is the limit? At what level would you consider, or how is it considered that there is a sustainable or a harvestable surplus to maintain sustainability?

Dr. Stephen Woodley: Can I address your first question on the rockfish conservation areas, first?

Mr. Mel Arnold: Okay.

Dr. Stephen Woodley: The rockfish conservation areas are actually quite small. I'm sure Sean can elaborate on this, but they are included in that 1%, all the rockfish conservation areas. There's not a huge area that's protected that is uncounted at this point. I wanted to make that point clear.

In terms of how much biomass, there is no optimal number. We could spend a lot of time going into ecosystem theory here, but the biomass is based upon the productivity in the system, the perturbations that happen to that system, and how long it has been around. That's one of the reasons you want to have some areas that you don't fish, so you know how these systems function. They can act as reference points so you can calculate how much fish you're going to take out of the system without doing significant injury. You can calculate these reference limits, for example.

Mr. Mel Arnold: Thank you.

Mr. Cox, you made the statement that ocean sampling is always biased. Could you elaborate a little bit more on that? It was an interesting statement.

Prof. Sean Cox: The only way to sample fish is to pull them up to the surface, so you need a net, or you need hooks, traps, or whatever it is that fish will go into. We have an entire sablefish fishery on the west coast that's one of the most valuable in Canada. It's highly selective because only sablefish go into traps that they set on the bottom—not only. They get sablefish. They get some rougheye rockfish, but that's about it. If that were your sampling method, you'd think the world was only made of sablefish.

If you take a trawl net, for instance, here on the east coast we found that when the trawl moratorium was put in place, in 1992 I believe, there was such a strong reduction in trawl fishing that the halibut took off—Atlantic halibut took off—because that trawl fishery tended to catch small halibut, and every new year class of halibut that would come out was getting taken out by the cod fishery.

Gill nets are the same. They're very selective for size. With hooks, you can control the size of the fish and the species that you catch, depending on the size of hook you use.

● (1000)

Mr. Mel Arnold: Your statement that there's bias, it's bias towards one species that might be targeted—

Prof. Sean Cox: Species, sizes....

Mr. Mel Arnold: Okay.

The Vice-Chair (Mr. Robert Sopuck): Time's up.

Mr. McDonald, you have five minutes.

Mr. Ken McDonald (Avalon, Lib.): Thank you Mr. Chair. Thank you to our witnesses for appearing here today.

It's interesting to hear some comments. I think it was Ms. Nowlan who said when John Cabot came here, his boat literally got stuck in cod. You could scoop them up in a basket. Twenty-five years later, since the cod moratorium, we still don't have a viable commercial cod fishery, still with no rebuilding plan for a fish that's been listed in the “cautious” or “critical” zone for quite some time now, probably 25 years or longer, because the stock that was still fished commercially prior to 1992 was very low as well, yet a commercial fishery continued.

Where do you think we've gone wrong in that particular fishery, for it to be 25 years later...? Have we ignored predation, and I'll mention Mr. Morlock and his comments about the seals, because we can't get anyone to tell us what seals really eat. We have no proof they eat cod. We have no proof they eat salmon. If they're not eating those fish, they should be skinnier than my pin, but every seal you see is as fat as can be. They're eating something out there, and I suggest they're probably eating a lot more cod than anyone thinks they're eating, or anyone is willing to admit they're eating.

Again I'll go back to my question, where do you think we've gone wrong with that particular species, for it to be 25 years later and we're still in a very critical zone?

Ms. Linda Nowlan: Thanks. I'm really not the person to answer that question, unfortunately, but I do appreciate your focus on what is known as shifting baselines. You heard from Dr. Daniel Pauly who invented that term. I just want to say it wasn't only when John Cabot came here. When the habitat provisions of the Fisheries Act were being debated, an MP from Nova Scotia's south shore said that the stocks were so depleted that it was almost cause for a national holiday if salmon was caught in his river.

Minister Roméo LeBlanc in the same debate over the Fisheries Act and new habitat spoke about how Atlantic salmon that used to crowd the banks of eastern rivers had been reduced to a fraction of their former size, and how over 70% of habitat had been lost from the world's most important salmon river, the Fraser.

I'm not the cod scientist. I'm not one of the Fisheries management experts we have here, but I do think that this phenomenon of shifting baselines is really critical. If you look at historical photographs, you see the size of fish that people caught compared to today. We need to establish MPAs so we can get this baseline information. Actually, we're too late for that in a lot of cases. How can we get the original historical baseline? It's pretty hard.

Mr. Ken McDonald: Do you have any comment on that, Mr. Cox?

Prof. Sean Cox: I have a couple.

There's a general rule in fisheries stock assessment, population dynamics, and so on that you cannot know the optimal size of a stock until you overfish it. Letting a stock grow to its largest size tells you nothing about the optimal productivity of that stock. That's a mathematical kind of thing.

Over the past couple of years, I've been working on two of the cod stocks, the northern cod in 2J3KL and the southern gulf. The southern gulf stock is about to be extirpated. No marine protected area is going to help it because it probably is the seals. The stock is so low that even a small amount of predation by seals is enough. That seal population has gone from about 9,000 in the 1970s to in the hundreds of thousands now. It's a completely different ecosystem in there.

The northern cod, it turns out.... A year ago DFO put together a competing stock assessment type of meeting where two people, Noel Cadigan and I, both developed independent stock assessments for northern cod. One of the things that came up—DFO scientists at the time thought it was going on but nobody really believed it—was that there was an increase in natural mortality just prior to the collapse. Both of these models are showing this. It's the same thing that we see in the southern gulf, high natural mortality. It's a different type. It's a high, persistent, natural mortality in the southern gulf, but it was some sort of mortality event in northern cod.

Then there was another event in the late 1990s soon after the moratorium. There was another one of these relatively high natural mortality events. That could have been one of the things that prevented recovery following the closure.

The issue here is that we have a really hard time predicting anything about nature. That's one of the arguments in favour of MPAs. If you can't predict anything, then just close it, which is fine if that's what you want to do. Some of the predictions of what MPAs are going to do and how they're going to benefit, I think, are not quite as robust as they could be.

● (1005)

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

This is just an anecdote of my own to follow up on Professor Cox's thing. I'm a fisheries biologist myself. We were doing an Arctic char study south of Rankin Inlet. In the first year we counted 40,000 fish. It's very easy to count Arctic char. The next year, we counted 40,000 fish. Each year it was 40,000 fish. The next year 80,000 fish showed up. Where did they come from? The next year it was 120,000 fish. Again, I think what Professor Cox is saying is absolutely true. It's fiendishly difficult to predict what goes on in marine and freshwater environments.

With that, I'll turn it over to Mr. Doherty and Mr. Arnold for five minutes.

Mr. Todd Doherty: Ms. Nowlan, do you expect that there will be economic impact for coastal communities as the government pursues their MPAs?

Ms. Linda Nowlan: I think my colleague referred to a study that just came out from the Scottish government that showed that the socio-economic impacts were not as great as predicted, so I'll look to that study. They've established a lot of MPAs in Scotland over the past five years, I think, and that study is some evidence. I also wanted to point out that, in Atlantic Canada, fishing organizations themselves have proposed MPAs. With the Eastport MPA off Newfoundland, it was lobster fishers who came and proposed an MPA because they were concerned about lobsters. In Gilbert Bay in Atlantic Canada, again, to protect the golden cod, the fishers came—

Mr. Todd Doherty: In your testimony earlier, I believe, you said that there should be absolutely no activity in an area where an MPA is. I believe that's what your testimony was. Is that correct?

Ms. Linda Nowlan: At least 75% of an area should be free, but yes, I'm referring to the fact that some fishing communities also want MPAs to protect their valuable fishing resources.

Mr. Todd Doherty: For the fishermen off St. Anns Bank in the eastern Scotian Shelf, do you believe there should be no fishing in that area if there is the proposed MPA?

Ms. Linda Nowlan: The 75% rule is according to IUCN guidance, and in almost every single one of the 10 MPAs established under Canada's Oceans Act, I think, there is fishing. There is a core zone, maybe, that's a no-take zone, but there are zones around in which fishing carries on.

Mr. Todd Doherty: On the west coast of British Columbia, we have a considerable amount of international shipping as well as our commercial fisheries. Do you believe we should limit that to 75% as well?

Ms. Linda Nowlan: Limit shipping to 75%...? I think—

Mr. Todd Doherty: Or 25%, I guess, would be your number.

Ms. Linda Nowlan: No, not quite. If you establish an MPA in an area, 75% of that area should be free from activities that are going to harm the biodiversity conservation objective.

● (1010)

Mr. Todd Doherty: Do you believe we should allow certain exemptions for indigenous groups and commercial and recreational fishermen?

Ms. Linda Nowlan: Yes, and they are allowed now in almost all MPAs. It's just the size of the zone that you allow the fishing in. Ocean is different from land, as Dr. Cox said. The trend is to multi-zoned MPAs, but the largest part of the zone of that special area that's for protection should be for protection.

Mr. Todd Doherty: Good.

Mr. Mel Arnold: Thank you, Todd.

Mr. Morlock, we often hear about examples from other countries in regard to MPAs and fish conservation. Do you have any evidence of how other countries are dealing with recreational fishing and their successes in the marine environment?

Mr. Phil Morlock: I think one of the better examples would probably be Australia as far as saltwater fisheries are concerned. I think they're recognized as being very progressive. There are always problems. There's never a perfect solution, but they've been very progressive at addressing problems and correcting them, and so on. The two studies I referred to earlier are taking a look at that in an objective way, I think, and reporting on that.

One of the things that I took from the one study I was reading was that MPAs are not necessarily effective at addressing the problems that plague the oceans—things like sedimentation, acidification, pollution, and so on. Certainly recreational fishing has no role in that yet. Both commercial and recreational fishing are often targeted more as a feel-good exercise, I think, as opposed to an effective solution. Australia would certainly be the example I would look to. Many countries have failed miserably in fisheries management, Europe being the notable example.

Mr. Mel Arnold: Thank you.

I want to get one quick question in for all of the witnesses here today, so I'll ask for a quick answer from each of you.

Should Canada be looking further at what other countries around the world are doing, and should this committee look closely at what other countries are doing in this study in regard to MPAs?

Mr. Phil Morlock: My answer would be that certainly the United States is an example of excellent fisheries management. There are problems again, but Presidents Clinton and Bush both reaffirmed that recreational fishing should be a priority in all waters managed by the federal government.

Ms. Linda Nowlan: Yes. Definitely look at MPAs, not just fisheries management around the world. Look at how much progress people have made very quickly—Australia, the U.K., the EU, South Africa, and many other countries.

Dr. Stephen Woodley: Clearly, yes, and I could offer to help you make contacts on that, because the IUCN works with countries, and it's the 187 members of IUCN that can help provide that information.

Prof. Sean Cox: I agree. It's always good to look at how other countries are doing things. I think you would also look at the structures that are in place to help them do what they're doing. Australia, for instance, has a fisheries management authority that's at arm's length from government. That has a big effect on what they can do and how they do it, as well as how their fisheries management is funded.

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

Mr. Finnigan, you have five minutes.

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

Thanks to our panel for being here today. It's a very good conversation and it's certainly going to help us with our report.

I'm curious. In Atlantic Canada, where I'm from, we have a zone that I think is called the “Shediac zone” or the “Shediac area”, and it has been looked at for several years. If you look at the history of that zone, you can see that it's been fished commercially and recreationally for hundreds of years. We have lobster fishing, crab fishing, and all the groundfish and the shellfish. It has been managed. Lobster is now abundant because of some of the measures that have been taken there.

What would trigger, I guess you could say, this zone of interest right now for an MPA? How would it improve that zone? What do you see happening to all the fisheries that go on there? I'll leave that for anybody from the panel.

Prof. Sean Cox: You're looking at me.

Voices: Oh, oh!

Prof. Sean Cox: I don't know this area at all.

Dr. Stephen Woodley: I do. I'll at least start.

Mr. Pat Finnigan: Here we go.

Dr. Stephen Woodley: I'm from Moncton, so I know that area really well.

The Northumberland Strait was once one of the most productive marine systems on the planet. It's a shallow water system with a lot of benthic production and, at least in my lifetime, we've seen dramatic changes in the kinds of fisheries that have occurred in the Northumberland Strait. There used to be a massive herring fishery. We exported herring all over the world from there. We don't now. At best, there's an artisanal fishery in herring.

We've flipped the system. It's very productive for lobsters now, but it's not that productive for much else. We've changed the system, and we're taking advantage of that highly changed system, but it's a long way from where it was in terms of being highly productive.

I think your question is, how could an MPA fix that system? That's a good question. I don't think there's a really simple answer, but I think that fisheries management, as has been pointed out, is an imperfect science, and it has to be somewhat experimental. We could set up an MPA in that area to see what would happen in that system, and you would have to carefully consider how to do it. I know a bunch of fishermen from there, and there's a lot of interest amongst the fishermen in doing that, in setting up an MPA to see what would happen.

● (1015)

Mr. Pat Finnigan: Would anybody else care to comment on that?

Prof. Sean Cox: I think that if you were to do something like that, you would always want to consider an alternative of reducing the fishing mortality. As I've mentioned, we have a lot of stocks that are pretty heavily exploited, and a lot of times I don't see the benefit of a spacial closure versus reducing fishing mortality, especially for stocks that move. These are big, non-replicated experiments, so there's a lot of work that has to go into looking at not just one alternative but a couple of them and putting a lot of resources into seeing whether it would be worth doing the experiment.

Mr. Pat Finnigan: Thank you.

We had Ms. Susanna Fuller of the Ecology Action Centre here. She said that first nations and small fishing communities “may not have the capacity to meaningfully engage” in consulting when DFO or the government consults. In addition, we had Mr. Nickerson from the island here, from the commercial fisheries, who said that it can be very hard for fishers to take part, because they're certainly busy people.

In your view, how should meaningful consultation be measured or defined? How can we make sure that everybody, including first nations and commercial fisheries, is part of the dialogue?

Mr. Morlock, you've alluded to that, I know, so maybe I can start with you.

Mr. Phil Morlock: I guess it's poignant to mention that in my 30 years in this job, this is only the second time we've been invited by this committee to come forward. We've never been invited by the committee on environment and sustainable development. If you look at their recent report, you see that everybody who is trying to run us off the water and out of the woods was testifying, but nobody asked us. I think there is definitely an important aspect to including industry in these discussions, because it's part of the big picture.

The Vice-Chair (Mr. Robert Sopuck): We're out of time.

What we're going to do now is this. We normally have three-minute rounds, but our time is quite good so I'm going to allow five-minute rounds for each of the next questioners. We'll go in the appropriate order. We just had a notice that the bells will go at 10:40 for a vote at 11:10. I think we should just stay until our allotted time, a quarter to, and we'll still have time to get there, if the committee is fine with that. It's only five minutes.

Now the next questioner is Mr. Donnelly for five minutes.

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

Ms. Nowlan, you referenced the environment committee and their recent report where they produced a number of recommendations on MPAs. I'm wondering if you could talk about those and what you think about those recommendations.

Ms. Linda Nowlan: Yes. I think that committee did a very thorough study. It's 120 pages long. They heard from a number of witnesses. They took a site visit out to B.C., and maybe the Arctic, too, I'm not sure, and they made a number of recommendations. The part that interested me was the part about law reform, not surprisingly, and recommendations 24 to 30, I believe, are the ones that I found particularly interesting. I think your committee could look at those recommendations and repeat them, if you so chose. I think that would have a big impact on the government.

Recommendation 24 is to explore more effective and innovative mechanisms to expedite protection. Recommendation 25 is to designate multiple protected areas concurrently. Right now, it's one by one, an ad hoc approach. For example in the U.K., they designated 26 marine conservation zones at once in 2016 and they're set to do their third round or their third tranche this year. Doing a whole bunch at once can actually make sense, especially in a defined geographical area where you have the scientific basis. I won't go through recommendations 27, 28, and 29.

In recommendation 30, the committee recommends that the Government of Canada amend and strengthen the National Marine Conservation Areas Act and the Oceans Act in order to enable interim protection before the areas are legally established, and I believe DFO is working on that.

Another one that I think would be great is to put right in the law a shortened timeline for the development and implementation of MPAs. There are timelines used in other acts, like the Species at Risk Act. In all sorts of acts we use timelines to get action, and people pay attention. A representative from the provincial Government of Nova Scotia testified to the environment committee and said that Nova Scotia's provincial act was actually very helpful for them to increase their number of protected areas. Then the last one under recommendation 30 is to enshrine the restoration and maintenance of ecological integrity as the overriding priority for Canada's marine conservation areas.

I think that would be an excellent way to get at the main purpose of marine protected areas, which is to conserve biodiversity and to maintain ecological integrity.

● (1020)

Mr. Fin Donnelly: Thank you.

Mr. Morlock, you mentioned that you thought fisheries were pretty healthy. Last Parliament, we had a commission, a judicial inquiry on the decline of the Fraser River sockeye salmon. I am very familiar with a report that came out by leading marine scientists around the world in 2012 talking about large predators in serious decline, including sharks, which were estimated at 30 to 70 million a year. Those are just a couple of things that come to mind, and they are definitely not healthy fisheries. Certainly, there are questions about fluctuations in levels and you have to look at the entire context in a historical global context, and you have to get, I think Dr. Cox mentioned, enough scientific evidence that is in agreement, because you can come up with differences.

Do you still feel that there are no fisheries that are unhealthy?

Mr. Phil Morlock: No, and if I gave that impression, I didn't intend that. I think the answer is that it depends where you look. The former Speaker of the House in Congress, Tip O'Neill, once said all politics is local. I think that analogy applies to fisheries management, as well, and wildlife for that matter, and the two gentlemen next to me both commented about essentially trying to manage a moving target, and that nature is never static. When you pull on one string, the others are attached. But I think it's important to take a look at what the causal factors and what the potential solutions are, and whether, in this conversation, MPAs are that solution in a given scenario.

For example, on the west coast, I've had the opportunity to tour some of the streams where salmon spawn on the west coast of Vancouver Island. Due to human encroachment, subdivisions and so on, many of those areas are the length of this room and you could jump across the stream at certain times of the year. It's a minimum of what's left of what once existed. It's not as the result of recreational fishing in that case. It's a result of habitat issues where the fish spawn. I think looking at the overall picture, but on a local basis, is really where the answers are found, realizing that on the global stage a lot of these things are spoken about in a very general fashion but the specific is more important in fisheries management.

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

We'll go to Mr. Morrissey, for five minutes.

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

One of the interesting aspects of this particular topic—MPAs—has been the almost, at times, totally contradictory evidence given by witnesses, from one that government is moving too fast on MPAs, to the other that MPAs are the salvation of all that ails the worldwide oceans. Somehow, we have to walk the middle.

I have two questions, one of which I want to begin with briefly, and which a couple of my colleagues picked up on. The comment was made that setting up MPAs benefits local communities. One of the issues of concern has been heard from communities directly aligned with fishing activities, where MPAs may curtail those activities. I'm curious.... I believe it was you, Dr. Woodley, who made the comment that MPAs have been identified as improving local economies. Could you just briefly explain it a bit more?

● (1025)

Dr. Stephen Woodley: Yes. I think it's important that we separate commercial and recreational fisheries, first of all.

Mr. Robert Morrissey: I'm referring to commercial.

Dr. Stephen Woodley: Lots of things can affect commercial fisheries, and as we've already seen across Canada, if you have major fluctuations in fish stocks—declines in fish stocks—coastal communities are devastated by that. Setting up marine protected areas that attract people for tourism, for viewing whales, for diving, or for whatever, can have enormous benefits. That's one economic benefit of it.

There are recreational fisheries in so-called “no-take” marine protected areas in many cases in the world. That applies in many areas of the United States that are no-take, and there's a huge economic benefit there.

The third is that communities.... There is something called a "spillover effect", which we could debate scientifically for a long, long time. If you look at something like the haddock box, which is a big marine protected area on Georges.... You guys talked about the haddock box? You must have. The fisheries benefit of that closure—which is, in effect, a marine protected area—is enormous. That's where all the haddock is being caught.

Those are three examples of economic benefits to local communities.

Mr. Robert Morrissey: My other question relates to the issue that moving to increase the area of marine protected areas in itself will not protect much. Somebody elaborated on the fact that the people benefiting from one marine protected area were those who were not licensed to fish there. They didn't have black boxes, so they couldn't be detected going in. This issue was raised by commercial fishers as well, who commented that increasing the size of marine protected areas without the ability to enforce them really does not accomplish a lot.

I believe it was you, Dr. Cox, who made the comment that protection could be more important in protecting a stock than the symbolism of appointing a marine protected area. Could you elaborate a bit? I agree with that point, and fishers have raised the concern that DFO no longer has the capacity to protect or enforce normal fisheries adequately, let alone an enhanced marine protected area.

Prof. Sean Cox: You can very easily enforce marine protected areas for commercial fisheries. As I mentioned, on the west coast they're all tracked. I'm not sure what it is on the east coast. I think they're working on VMS systems on the east coast, but you can always detect when a commercial vessel is fishing.

If you want to create MPAs, and you want to consult and include people like the commercial fishing industry—which is a huge economic component—they're looking at this with a very skeptical eye, and they're not going to be onside when they see these kinds of things going on. Reports of people fishing in RCAs are rampant. It's not just people fishing in RCAs. When they hear that first nations are fishing in RCAs, then it becomes a political issue.

It's just this barrier that keeps building all this negative energy towards marine protected areas. That creates a real enforcement, political, and management nightmare to try to get it to work, so I don't know.

● (1030)

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

Mr. Doherty, you have five minutes.

Mr. Todd Doherty: Ms. Nowlan, in your testimony earlier with Mr. Donnelly's line of questioning you referred to the environmental committee's recommendations 24 through 28, I believe, or 27. One of them that you mentioned was your hope that this committee would have looked at those recommendations and adopted one of them that called on the government to speed up the process of the MPAs. Is that correct?

Ms. Linda Nowlan: Yes.

Mr. Todd Doherty: When evaluating MPAs and the communities that they will potentially negatively impact, do you not believe that the government should actually take its time? We've heard testimony from Mr. Cox, Mr. Woodley, Mr. Morlock, and others who have stated that MPAs could indeed have a negative impact on those local economies. Some may have a positive impact. Don't you think we should take the time to actually evaluate and study this rather than rush it through?

Ms. Linda Nowlan: I think it's taking far too long right now.

Mr. Todd Doherty: Whose agenda are we working with? Are we working with the communities or are we working with outside interests' agendas? Whose timeline is it that's taking far too long?

Ms. Linda Nowlan: I think the government is taking too long if it takes seven years on average to create one MPA. That's a really long time. In Australia, the grandfather of all marine protected areas, the Great Barrier Reef Marine Park—

Mr. Todd Doherty: Ms. Nowlan, regardless of the local impact, do you believe the government should be speeding up their process on the MPAs?

Ms. Linda Nowlan: No, I didn't say that.

Mr. Todd Doherty: You kind of did.

Ms. Linda Nowlan: No. I said seven years is too long. That's what I said.

Mr. Todd Doherty: Mr. Cox, I'm going to change my line of questioning away from MPAs.

You and your colleagues studied northern cod. We're very proud of the great study this committee did. My colleague Mr. McDonald referenced it. I'm curious. Did you or your colleague, through the course of your study, study the northern cod's food source as well, the capelin?

Prof. Sean Cox: No.

Mr. Todd Doherty: It's just out of curiosity because it's one that we've talked about that perhaps—

Prof. Sean Cox: As part of the study that we were working on, there was a group out of the St. John's office that was studying links between capelin and northern cod. It's an interesting—

Mr. Todd Doherty: Is it possible to get a copy of that, by any chance?

Prof. Sean Cox: I could look it up for you, yes.

Mr. Todd Doherty: That's great. Thank you.

I'm going to turn the rest over to—

Mr. Mel Arnold: I have two minutes.

I have a question for Ms. Nowlan, and then Mr. Morlock to answer afterwards.

Why is there such a strong foreign interest in Canada's MPA process?

Ms. Linda Nowlan: I'm not sure I would agree with the premise of that question. In terms of the foreign funding, I think that a lot of extremely large charitable foundations in the United States—and there are a lot of them, way more than we have in Canada—are interested in protecting the environment over the entire globe.

Mr. Mel Arnold: Why Canada's environment and not the U.S. environment?

Ms. Linda Nowlan: The majority of the Gordon and Betty Moore funding goes to the U.S.

Mr. Mel Arnold: Why are they spending so much on Canada?

Ms. Linda Nowlan: They spend their money globally. They have a lot of money to spend. Gordon Moore was one of the founders of Intel. He has a lot of money, just like a lot of the other big U.S. foundations. The Rockefeller brothers are selling their oil. These are big sources of money. They pick health care; they pick the environment; they pick public education.

Mr. Mel Arnold: You happened to mention U.S. oil. Thank you.

Mr. Morlock, can you answer that? Why is there so much foreign interest in Canada's MPA process?

Mr. Phil Morlock: Over my career, I've seen Canada used as a test case by U.S. environmental and animal rights' organizations many times. It started with the seal hunt on the east coast by the International Fund for Animal Welfare, out of Yarmouth, Massachusetts. We saw that expand to the animal cruelty legislation that was just defeated in second reading in the House of Commons here last fall. It was the same proponents.

We've seen it in bear hunt campaigns where Ontario was the test case, and then it was exported back to Montana, Maine, Alaska, New Jersey, Maryland. We've seen it in issues around lead: lead ammunition, lead sinkers. as though the sky is falling due to thousands of loons dying from that. There's no scientific evidence to support that. That was attempted in Canada and then exported back to the U.S. states and so on.

We've seen example after example. If you look at this over a timeline, dominoes connect and there's a common direction here. I think the end game, with regard to the MPA scenario, and I would say the agenda-based MPA scenario as opposed to science-based, is to get all the recreational and commercial boats off the water.

● (1035)

The Vice-Chair (Mr. Robert Sopuck): We'll stop there.

We have a bit of time, and this discussion is so interesting. With the committee's indulgence, if you'd like to ask a few more questions, we'll give three minutes to each party starting with the Liberals, and then Mr. Donnelly, and then the Conservatives.

Is everybody okay with that?

Go ahead, for three minutes.

Mr. Pat Finnigan: It's just a quick question, Mr. Morlock. Do you think decisions should ever be made tied to the economy? Do you think that should ever be the reason to put an MPA in place or not?

Mr. Phil Morlock: Yes. I think that's part of the equation. Certainly, with the PNCIMA example, one of the reasons we're so concerned with that is that according to DFO, that's the template for the rest of the water in Canada, including the Great Lakes. Twenty-five per cent of the recreational fishing in Canada occurs in the Great Lakes. If those agendas go forward the way they were implemented in California, it'll pancake the whole industry and the related economies that go with it.

Yes, there should be a consideration for that in all cases, not just for recreational fishing but for the other economies that are affected as well. That's responsible management.

Mr. Pat Finnigan: Thank you.

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

Mrs. Bernadette Jordan: Mr. Morlock, I'm going to go back to you again, because I maybe didn't phrase my question right the last time. I'm going to try again.

Can you tell me who the groups are whose science you support? You said that it's the taxpayer. Who is doing the science that you are going by?

Mr. Phil Morlock: It's done all over the continent.

Mrs. Bernadette Jordan: But by who?

Mr. Phil Morlock: They're not groups, ma'am. They should be—

Mrs. Bernadette Jordan: Okay. Who's doing the science then?

Mr. Phil Morlock: The Harte institute for Gulf of Mexico studies, the Province of Ontario, the Ministry of Natural Resources in Ontario....

I live at Algonquin Park, one of the world's great wilderness parks. It allows sustainable use under a very well-constructed management plan based on the Kentucky park system 40 years ago. The science depends on who conducts it and how it's reviewed. It's not that there is a static entity, if you will.

Mrs. Bernadette Jordan: Thank you. That does answer my question.

Do I have time for another quick one?

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

Mrs. Bernadette Jordan: Okay. I'm going to go back to Dr. Woodley with regard to the five criteria that make a sustainable MPA.

One of the things we heard from another witness was that you'll probably just pick a big area because it'll meet your target, and it doesn't actually do anything. You're saying that a larger area is one of the principles of a successful MPA. I'm trying to weigh those against each other, looking at the Arctic specifically. The other witness said, "Oh, you'll just...," yet that seems to be what might be a successful MPA. Is that correct?

Dr. Stephen Woodley: Yes. If you're trying to protect representative ecosystems, larger is definitely better. I think there is pretty good consensus on that. We know marine systems are dynamic and they shift, so larger is better.

We set up protected areas for a number of reasons, for example, to have representative benchmarks to protect particular sites that we know are of importance, such as sponge reefs; to protect species at risk; etc. It depends on why you're setting these things up. If you're setting up large representative ecosystems, as is the prerogative for Canada, then large is important.

The Vice-Chair (Mr. Robert Sopuck): The time is up.

Mr. Donnelly, you have three minutes.

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

Dr. Cox, you gave interesting testimony. In your introduction you talked about your background and some of the benefits of MPAs or protection. You said also that you're not really sold on the idea of MPAs, and that they may have limited success.

I was struck by your example that you gave. It seemed counterintuitive to me, the example of the person in the RCA who caught halibut. Can you talk a little bit more about that? If they don't work, why was there so much halibut there? It strikes me that if it's a protected area, and you're saying that doesn't work or they have limited success, although this person went in there and was catching halibut, no problem.... Can you square that circle a little?

The other comment is on the precautionary approach, and I'll come back to that.

● (1040)

Prof. Sean Cox: Anytime you put a closure in place, you have fish coming in and fish going out. Halibut move both shallow and deep during the year, so when you put an RCA in shallow, which tends to be where they are, the halibut that have moved in there over the last couple of months have not been fished. They haven't seen any bait. They haven't been disturbed. It's all what people want MPAs to be. It doesn't mean that the halibut are not going to leave, but that's basically what happens. They accumulate over a couple of months, or it could even be a couple of weeks. It's that short a time scale for halibut. Anybody who goes in there is the first one in there. Anybody who goes fishing knows that if you're first, you're going to do really well.

Mr. Fin Donnelly: Would the argument be that the area of protection needs to be larger?

Prof. Sean Cox: That was the point that Stephen just made. You have to make these things really large to get that long-term benefit within the area, but then the larger you make it the less spillover you get to benefit fisheries. Basically, the bigger they are, the more they're taking away from the point of a fishery.

My skepticism is in terms of benefits for fisheries.

Mr. Fin Donnelly: That becomes a political issue of how—

Prof. Sean Cox: It's very difficult, because as you make these things bigger, you start forcing fishermen into a smaller and smaller area. Then you get multi-species issues going on where you get higher bycatch rates because everybody is shifting around.

On the west coast, as I was saying, it's the gold standard in terms of multi-species—

The Vice-Chair (Mr. Robert Sopuck): We'll have to stop it there. We're very tight for time. Do we have unanimous consent to go for a couple of minutes?

We have a couple of minutes left, Mr. Arnold, until 10:45.

Mrs. Bernadette Jordan: No.

Mr. Todd Doherty: We're still dealing with the round.

Mrs. Bernadette Jordan: Are we still doing the round?

Mr. Mel Arnold: Yes.

Mrs. Bernadette Jordan: You said to keep going.

The Vice-Chair (Mr. Robert Sopuck): No.

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

The Vice-Chair (Mr. Robert Sopuck): It's all so interesting that we get confused.

Go ahead.

Mr. Mel Arnold: My question is to Mr. Morlock and Mr. Cox. Looking at overall wildlife management, do you feel that it's possible for these potential marine protected areas to be naturally continuing or without need for any intervention, considering that we are attempting to so intensively manage other species?

What I'm referring to is that we always seem to manage our fisheries species by limiting our catch on fisheries, but we don't do anything to deal with other predators on the species. Do you think that's possible within these MPAs, that we won't have to go in and intervene in some way?

Prof. Sean Cox: We haven't been very successful at that anywhere, in predator control, introducing predators to control things. A lot of those things have gone badly in wildlife management. There is more and more attention being paid to culling marine mammals because the marine mammal protection legislation has been wildly successful and we have lots of marine mammals.

Those are difficult questions. I don't know.

Mr. Phil Morlock: I would concur with that. One point to be made is that the terrestrial paradigm for protected areas has been extrapolated into the MPA discussion and they're an apple and a pear. In fact, they might not even both be a fruit. I think sometimes things cross over that maybe don't belong. They're unique to themselves.

Mr. Mel Arnold: Thank you. I think that's all I have.

The Vice-Chair (Mr. Robert Sopuck): We'll have to cut it off there.

I would commend to the committee an article I came across in *The New York Times* of April 30, 2017. Some of you might have seen it. It's entitled “China's Appetite Pushes Fisheries to the Brink”. The article talks at great length about the subsidized fishing that is going on from China. They have 2,600 vessels subsidized by the government, traversing the globe, scooping up fish in international waters.

All of us have different views on management of fish, but we all care deeply about the health of our fish stocks. That is the same for our four witnesses. I want to thank you very much for this extraordinarily interesting testimony. We kept you right to very end. We could have kept going even more. Thank you for being here and we look forward to talking to you again sometime.

The meeting is adjourned.