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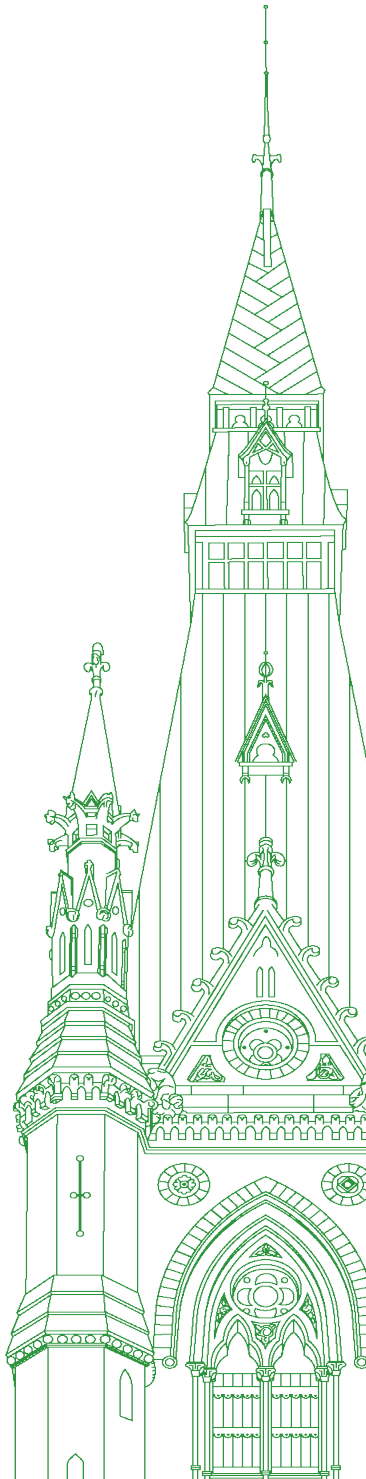

Chair: Mr. Ken McDonald

Standing Committee on Fisheries and Oceans

Thursday, March 12, 2020

● (0845)

[*English*]

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

Good morning, everyone. Welcome to our committee meeting this morning. We're studying the status of the Atlantic herring and its trends.

Today we have the officials from the department to give testimony and answer questions. I will remind everyone that we will close up this portion of the meeting at 10:30 to allow 15 minutes for committee business at the end.

Here from the department, we have Frédéric Beauregard Tellier, director general, biodiversity management; Adam Burns, director general of fisheries resource management, and no stranger to the committee; Marc LeCouffe, acting regional director, resource management and aboriginal fisheries branch, gulf region; Brian Lester, assistant director, integrated resource management; and Kent Smedbol, manager, population ecology division, maritimes region.

You have 10 minutes. I believe, Mr. Burns, you might be starting.

Mr. Adam Burns (Director General, Fisheries Resource Management, Department of Fisheries and Oceans): I will start, and then I will pass it over to my colleague from DFO science.

Good morning, everyone.

Atlantic herring are a small silvery fish, which feed primarily on phytoplankton, zooplankton and small fish and larvae. The species swim with their mouths open to filter the plankton as they move through the water. Adults stay in the deeper waters during the day and come to the surface to feed at night.

[*Translation*]

Herring are a critically important species in the ecosystem and are a key forage species for many larger fish and for marine mammals, such as harbour porpoises, dolphins, whales and sharks. Herring can grow up to 44 centimeters in length and weigh up to 750 grams.

[*English*]

In Atlantic Canada, herring is harvested and processed throughout the Atlantic provinces and Quebec. The Canadian fishing season runs from April to November. The species is harvested with purse seines, tuck seines, fixed gear, midwater trawls, weirs and gillnets.

Atlantic herring is fished for both food and bait, and the catch may be exported smoked, fresh, frozen, marinated and canned in the same way as sardines, or for their roe. Products from Canada's herring fishery are destined for markets in Japan, the United States and the Dominican Republic. One of the most valuable herring products is roe for the Japanese market.

The department recognizes the Atlantic herring's importance as a key source of bait in the lobster and snow crab fisheries, especially given the current concerns about a shortage of fresh bait availability, as the mackerel fishery is only set to open on June 1 in some areas.

The main fisheries in Atlantic Canada are in Scotia-Fundy NAFO divisions 4VWX; the southern Gulf of St. Lawrence spring and fall spawner components; and off the west and east coasts of Newfoundland spring and fall components.

[*Translation*]

For several of these stocks, DFO's science advice seeks to reduce herring harvests to meet conservation and rebuilding targets. At the same time, stakeholders in many of these fisheries want to keep fishing Atlantic herring.

[*English*]

I'll pass it over to Kent to give a bit of an overview of the science.

Dr. Kent Smedbol (Manager, Population Ecology Division, Maritimes Region, Department of Fisheries and Oceans): Thank you very much.

As he said, I will be providing a brief overview of status trends for Atlantic herring stocks, and I will also provide a little bit of an explanation on how status is defined in the department's precautionary approach framework.

The first thing is that it's important to keep in mind that Atlantic herring is a key forage species within the northwest Atlantic. It plays a very important role in the ecosystem and is a main prey species for a number of other fish species and for seals, whales and seabirds.

Atlantic herring are organized throughout the Canadian range in a series of somewhat discrete populations, and because of that, those populations are managed as discrete stocks. The organization of that management aligns with our four regions within the Atlantic zone: Newfoundland and Labrador, Quebec, the Gulf and the maritimes.

Atlantic herring that occur from basically the tip of Labrador down to the south coast of Newfoundland are organized as one stock managed out of the Newfoundland region. Herring found in the northern Gulf of St. Lawrence are managed in two separate units, 4S and 4R, out of our Quebec region. Herring in the southern Gulf of St. Lawrence are managed out of our gulf region, and that includes herring off the Gaspé, the coast of New Brunswick, around PEI and the gulf coast of Nova Scotia. Finally, herring that are located from the tip of Cape Breton along the coast of Nova Scotia into the Bay of Fundy and the Gulf of Maine are managed as a single unit out of the maritimes region, of which I'm a member.

An important piece of context is that all stocks are assessed with the best available information. When sufficient information exists, herring stocks are managed through our precautionary approach framework.

Very briefly, herring are allocated into three zones within the framework that are defined by the state of the health of the stock: the healthy zone, the cautious zone and the critical zone. There is a fourth category; it's called "uncertain". Stocks are considered to be uncertain if they are missing at least one reference point from the precautionary approach. The reference points are just defined as the boundaries that separate those three regions.

If a stock is considered to be in the healthy zone, from a science perspective there is really no concern about the status of the stock, and it's likely that most of the fishery objectives are being met.

If a stock is in the cautious zone, there is some concern from a science perspective for the status of that stock, and science advice would recommend a progressive decrease in removals from that stock as you move the boundary from the healthy to the cautious zone. That's to avoid doing serious harm to the productivity of that stock.

Finally, if a stock is considered to be in the critical zone, then its status is that from a science perspective, there is serious harm being done to the productivity of that stock. It's likely that there are effects to the ecosystem and to associated species and a lost opportunity for fishing. This can occur for quite some time, at least until that stock is able to rebound out of the critical zone.

That's a very quick overview of the precautionary approach framework.

I will go through the stock status for the various stocks very briefly.

First, starting with the southern Gulf of St. Lawrence in area 4T, there are two stocks within that unit. There's a fall spawning stock and a spring spawning stock. You will see that it is fairly common for herring to have spring and fall spawners. The fall spawning stock is considered to be in the cautious zone, and the spring spawning stock in the critical zone. It has been in the critical zone for some time, I think since 2004.

Moving on to the maritimes region in the Nova Scotia Bay of Fundy area, the major stock is a southwest Nova Scotia Bay of Fundy stock. Almost all of the harvest comes from that stock. That stock is considered to have moved into the critical zone very recently, just last year. The other components—coastal Nova Scotia, offshore Scotian shelf and southwest New Brunswick—have a status of "uncertain".

We then move to the north shore of Quebec, the northern part of the Gulf of St. Lawrence on the Quebec side. There are again two spawning stocks, a fall spawning stock and a spring spawning stock. Both have an uncertain status, but we do have acoustic indices for those stocks, and recently there has been a decline both in that index and in some of the landings.

● (0850)

Moving on to the other side of the northern gulf—the west coast of Newfoundland, area 4R—again we have a fall spawning stock and a spring spawning stock. The fall spawning stock is considered to be in the healthy zone and the spring spawning stock in the critical zone.

Finally, moving to the east coast of Newfoundland up to the coast of Labrador, there are five stock components within this management unit, and their status is considered to be uncertain.

On the next slide we have shown a few plots from stocks that are considered to be in the critical zone. The take-home message from this slide is that there are common patterns for stocks that are currently within the critical zone, in that previously they may have had a high abundance or have been in the healthy zone and over time have decreased into the critical zone and down to very low levels of abundance.

Finally, on the last slide, you see that there are a few take-home messages and key points in regard to Atlantic herring.

The first one is that biomass has steadily decreased for most stocks—not all, but most.

Recruitment, which is the number of young fish coming into the population or fishery, is currently low or decreasing for most stocks, and it's expected to remain low in the near future.

Natural mortality, which includes predation, may have increased in recent years, but this is an area of active research within the department.

Finally, the growth of individual herring in recent years is low relative to what has been measured in history further back.

That's all I have.

Thank you.

● (0855)

Mr. Adam Burns: Mr. Chair, I realize we're low on time. I have a few notes around the management status of each of the various stocks. I can provide this information or I can respond to questions now, if you'd prefer.

The Chair: There's less than a minute left, so you probably wouldn't have much time to get into it. Hopefully it will come out in the questioning, or you can provide it afterwards for the committee.

Mr. Adam Burns: It's in the prepared remarks that we provided.

The Chair: Thank you.

Going now to questions, we'll start off first on the Conservative side.

Mr. Arnold, you'll have six minutes or less, please.

Mr. Mel Arnold (North Okanagan—Shuswap, CPC): Thank you, Mr. Chair, for having such a broad contingent here this morning. We'll be able to get all of our questions answered, I'm sure.

Thank you for being here.

My first question is this: What are thought to be the major causes of the continuing stock decline?

Dr. Kent Smedbol: Thank you for the question. There isn't a simple answer to it. There are a number of things that could come into play.

One, of course, is continued fishing.

The second is that in the last decade or so we have seen general warming in ocean conditions from the Gulf of Maine into the Bay of Fundy, the Scotian Shelf and the Gulf of St. Lawrence.

In that same time, we've also seen a decrease in the weight at age of individual fish. They're skinnier than they have been in the past at the same age.

There has also been a general decrease in the length at age of herring. If they're skinny, they're also shorter at the same age. This can have a population-level effect, because the number of eggs or sperm produced by individual herring is a function of both their length and how fat they are. If you have the same number of herring and they are smaller in size, the maximum number of eggs or sperm that can be produced is less than it would have been if they were growing faster.

It's also possible, as noted in my “key points” slide, that natural mortality may have increased. It could be due to predation, or it may not be. This is an area of active research within the department, and the answer isn't settled.

Finally, the number of fish coming into the populations is fluctuating, but it has remained relatively low compared with the case in previous years. This may be a function of a number of things, some of which I've just mentioned.

There is not, however, a smoking gun, if you will.

Mr. Mel Arnold: Thank you. You've hit some pretty broad topics there. One of them is natural mortality. That can be pretty broad-ranging in scope.

Can you delve into what some of that natural mortality might be due to? Starving to death is one thing, if they're running out of food. Being eaten is another thing. What natural mortality would you be referring to?

Dr. Kent Smedbol: Thank you for the question.

This is an area of active research within the department. We don't have a strong linkage with any particular potential causal agent at this point, other than to say that there are a number of things we're looking at.

Mr. Mel Arnold: What would those things be?

Dr. Kent Smedbol: The first one is increased predation. That is an area of active research. Others are changes in the ecosystem that may be caused by climate change or just a change in the community. None of these have been directly linked to herring production or to herring changes in abundance.

We don't really have a solid answer for that question.

Mr. Mel Arnold: Have they been indirectly linked?

Dr. Kent Smedbol: They have not yet, to my knowledge. It is an area of active research.

Mr. Mel Arnold: How long has that research been going on?

Dr. Kent Smedbol: The latest efforts have probably been for the last several years. It's been off and on for.... It's a general question within fisheries science.

To my knowledge, the specific issue with herring probably has been just the last couple of years, but I don't have an intimate knowledge of all the work that's being done on herring.

● (0900)

Mr. Mel Arnold: What other measures have you taken to try to rebuild the stocks, other than reducing fishing pressure?

Mr. Adam Burns: In terms of the management tools we have at our disposal from a fisheries management perspective, managing the fishing effort is the key tool.

Mr. Mel Arnold: Is it the only tool?

Mr. Adam Burns: As my colleague from science has noted, we don't yet have specific science advice around the specific drivers of decline, other than that fishing is obviously resulting in mortality. We know that with certainty.

It really is difficult for us to implement measures to address other sources of mortality when we don't yet have a clear understanding of what those may be.

Mr. Mel Arnold: How clear does that science have to be before you could take those other measures?

Mr. Adam Burns: That's a difficult question to answer. I wouldn't have a specific policy that I could point to that speaks to the level of certainty that we'd need.

Obviously, we make management decisions based on the best available science. Once there is scientific evidence that may point to one or another additional driver, those would be things that could be considered at that time.

Mr. Mel Arnold: I'm glad you mentioned the best available science, because I believe your colleague's words were “the best available information”.

Is information from the fishermen considered in those management decisions to any great extent, or are you simply relying on the science that is being done by the department?

Mr. Adam Burns: Certainly we try to base our decisions on the best available science. However, we do engage with the fishing industry and indigenous groups on a regular basis. Their perspectives from traditional knowledge and local knowledge is absolutely taken into account and integrated into our analysis of the best possible management measures to conserve the stock.

The Chair: Thank you, Mr. Arnold.

We'll now go to Mr. Battiste. You have six minutes or less.

Mr. Jaime Battiste (Sydney—Victoria, Lib.): Good morning, gentlemen. Thank you for the presentation.

When we were talking about herring, you mentioned some of the areas of concern. Can you give me a little bit of information on the long-term solution is that is seen for the reduction in the herring stocks?

Mr. Adam Burns: As I noted to Mr. Arnold, the main tool we currently have at our disposal is related to fishing effort. Once there's additional science that may point to other sources of mortality, we could look at additional measures that could be implemented to address those, potentially.

At this point we don't have a clear scientific basis upon which we would base any other types of measures.

Marc, do you have something want to add?

Mr. Marc LeCouffe (Acting Regional Director, Resource Management and Aboriginal Fisheries Branch, Gulf Region, Department of Fisheries and Oceans): Part of the management measures that we use—and they are linked to fishing—is protecting known herring spawning beds to allow them a better chance to lay their eggs and for those eggs to develop.

Other than that, yes, we manage the fisheries. We are consulting with industry members on trying to develop rebuilding plans for the various herring stocks. Those consultations are ongoing and may end up with certain solutions. We came up with the protection of spawning beds, for example, through consultation with the industry back in 2005.

It is going to be difficult to say right now what is going to be in the future, Mr. Battiste.

Mr. Jaime Battiste: I'm not sure if I got the answer I was looking for.

You guys talked about fishing efforts. Can you clarify what you mean when you say you're looking at fishing efforts? We all want to see the herring stock go back up. We're all concerned with what's going on. I've seen that it's critical and on the decline. What are the practical solutions; what are we doing about this?

● (0905)

Mr. Adam Burns: We have implemented quota reductions in certain areas, and continue to—

Mr. Jaime Battiste: Can you tell me about those reductions? Were they in collaboration with the fishermen as well?

Mr. Marc LeCouffe: Yes, absolutely. The quota reductions are always discussed at every advisory committee meeting with industry members. That's how we arrive at the various changes that have occurred over the past few years, including major reductions in quota.

Mr. Jaime Battiste: When you say “major”, would you give a percentage of what that reduction is?

Mr. Marc LeCouffe: I'll go back to 2005 for the spring herring spawning component in the Gulf of St. Lawrence.

Quotas at the time were around 20,000 tonnes. That year, we brought it down to 2,000 tonnes, so that's a major reduction. Based on the known fishing effort, a quota of 2,000 tonnes should give landings normally of around 1,200 to 1,300 tonnes of herring. That's because some areas do not fish or don't catch their entire allocation. Last year, that quota was dropped again to 1,250 tonnes, I believe, for the spring herring quota, so quota reductions have occurred.

Mr. Jaime Battiste: These are significant quota reductions.

Mr. Marc LeCouffe: That's correct.

Mr. Jaime Battiste: With that in mind, one of the things in my riding is that a great number of fishermen out there rely on the herring for snow crab and lobster. As of right now, with these large-scale reductions in herring, what can we do? Have there been any alternative measures looked at to find other areas or other things we could use to help the fishermen in my riding, the snow crabbers and lobster fishermen, to replace what they originally would have used, the herring? Maybe it's things like seal meat or possibly Asian carp.

Mr. Adam Burns: I can start, and others may want to add. I can begin by telling you we don't currently restrict, through licence condition, what can be used as bait for either the lobster or snow crab fishery. That means, in a nutshell, that if a harvester is legally in possession of something and can legally put it in the water, then it could be used as bait.

I know there have been some pilots, I guess you could call them. It's not something we've had to authorize, but there has been some experimentation done by harvesters who have used things like seal meat to varying degrees of success, depending on the type of bait that's been used. I know in the U.S.—and I'm not sure if it's been used in Canada—there are some synthetic artificial bait products being tried as well.

There are a variety of options, and as long as it's something the harvester is legally in possession of and can legally be put in the water, we don't restrict their ability to experiment on what works for them.

Mr. Jaime Battiste: You talked about what they're using in the United States. It's my understanding that they're using Asian carp that they've killed, cut up and quartered. Is that something we can explore in Canada as well to help these fishermen?

Mr. Adam Burns: There are restrictions on the possession of Asian carp, which we are the appropriate people to talk about, to a certain extent. Then beyond that, I believe it's CFIA.

Fred, do you want to add?

Mr. Frédéric Beauregard Tellier (Director General, Biodiversity Management, Department of Fisheries and Oceans): As Adam said, on our end, there are no restrictions with respect to the use of those types of bait, so under our regulations it would be possible to use Asian carp, for example, as bait, as long as the carp that is imported is dead and eviscerated. That's the rule under our regulations.

However, our understanding is that the importation of Asian carp, presumably from the United States, where there is that market, is currently prohibited under the animal health regulations that are managed by CFIA.

The Chair: Thank you, Mr. Battiste. Your time is way over.

We'll go to Madame Gill for six minutes or less, please.

[*Translation*]

Mrs. Marilène Gill (Manicouagan, BQ): Thank you, Mr. Chair.

I want to thank the witnesses for joining us today. I have many questions, so I'm very pleased to see them here.

Given the seriousness of the herring fishery issue, how do you explain the inability to properly assess herring stocks in certain areas, particularly division 4S? I know that there are several possible reasons.

● (0910)

[*English*]

Dr. Kent Smedbol: If you were to ask a scientist, we would always say we would like to do more science and we can collect more data and we can do more analyses. That said, we are confident with the science work we have. In the northern gulf, we have acoustic surveys for herring, and we have catch monitoring.

Within DFO science, it's our responsibility to undertake monitoring of projects and research programs and to provide science advice for fisheries and a suite of other ocean issues. The one thing I can say is that the advice we give for herring and the rest of our science advice around stocks is rigorously peer-reviewed. It is transparent and is available to the public.

[*Translation*]

Mrs. Marilène Gill: There's obviously the issue of budgets. You said that you're assessing this issue with the catches. However, in the documents provided by the Library of Parliament, we're seeing an increasing shift to the east.

You therefore have less and less information about the catches. You said earlier that you take into consideration the fishermen's knowledge. However, if there's less and less of it and no work is being done in the lower north shore, how do you integrate the fishermen's knowledge into your scientific data?

You may have this information, but you may not use it. I want to know how you use the information and how much it's taken into account.

[*English*]

Dr. Kent Smedbol: I'm from the Bedford Institute of Oceanography in Dartmouth and I'm responsible for stocks within the Scotia-Fundy region, the maritimes region, so I don't have all the details for the work within the Quebec region and the northern gulf. That said, I know there are ongoing collaborative projects between science and fishing organizations.

Herring is one of the good examples of that across a number of regions. We have ongoing collaborations for collection of information. We work closely with industry. As part of our science advice process, industry representatives are invited to our peer review meetings and are considered full participants. Any advice we provide has been undertaken through consensus peer review, which includes industry representation.

[*Translation*]

Mrs. Marilène Gill: You said that you generally have enough information. However, I have a question regarding one of the graphs that you showed concerning division 4T. I can see a very large confidence interval starting in 2010 for the gulf area. I want to know why that interval has increased so much.

[*English*]

Dr. Kent Smedbol: As I stated earlier, I'm a fish guy and I'm from the Scotia-Fundy region, so I'm not sure of the details related to snow crab within the gulf. I'm certainly happy to take that question back and pass it on to our experts from that region.

[*Translation*]

Mrs. Marilène Gill: I can frame the question in a more general way, without addressing division 4T in particular, because my question can apply to all areas.

Does a confidence interval mean that the stock assessment is less reliable? If so, is this the result of a lack of data for conducting an effective assessment?

● (0915)

[*English*]

Dr. Kent Smedbol: There is not a simple answer to that; a number of factors can come into play. From a science perspective, we're confident in the design of the data sampling and the surveys.

Speaking generally, not specific to the 4T case, having intermittent breaks in our sampling may lead to an increase in uncertainty in the provision of our advice, but it is unlikely to have an effect in terms of bias, in that it's unlikely to have a directional change in the advice that we would give, but it does tend to decrease the robustness of that advice. That's generally speaking, and not specific to the 4T case. As I said, I can take that question back for further advice.

[*Translation*]

Mrs. Marilène Gill: It's still 15%.

I have one last question to use up my time from earlier.

I believe that, in 2009, the Department of Fisheries and Oceans was advised to record all catches, regardless of whether the catches are incidental. This is done for fisheries, but not for bait catches. We're missing some indicators, some numbers.

We've been receiving recommendations for about 10 years, but we haven't been taking them into account and implementing them. If we've been seeing the stocks of a species reach a critical level in some places over the past 10 or 11 years, why aren't we taking into account all this data? Why isn't it mandatory to record the data in logbooks or in some other way?

[*English*]

Mr. Adam Burns: I think you are referring to the capture of data that goes beyond just the commercial fishery, and so depending on how the various other fisheries are managed—bait, recreational, etc., depending on the species—we have varying degrees of ability to make those requirements mandatory. Specifically related to herring, I don't know.

Marc, would you like to speak specifically to the requirements there?

[*Translation*]

Mr. Marc LeCouffe: Thank you for the question.

Logbooks for bait fisheries are indeed mandatory, and data is being reported. However, the data isn't considered very reliable, which could affect the confidence interval that you mentioned earlier.

We don't think that we're getting many logbooks. We do follow up, but it's almost impossible to check when a fisherman picks up their bait nets, since they often do so on a lobster fishing trip. It's impossible to ensure that all landings are reported. It depends on how the fishery is managed.

Mr. Adam Burns: I apologize for responding in English.

Mrs. Marilène Gill: There's no need to apologize. We have simultaneous interpretation.

I'm told that the submission of logbooks is voluntary. I wonder why it isn't a standard practice.

[*English*]

The Chair: Thank you, Madame Gill.

[*Translation*]

Mrs. Marilène Gill: Thank you.

[*English*]

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

Mr. Gord Johns (Courtenay—Alberni, NDP): Thank you, Mr. Chair. I'm deferring my time to Ms. Gill.

[*Translation*]

Mrs. Marilène Gill: Thank you, Mr. Johns. I'll continue in this vein.

We need a great deal of information. However, scientific activities seem to lack funding, even when the required data, which may be difficult to obtain, is available. Why can't we standardize our ways of obtaining the data so that we can have as much as possible?

Mr. Adam Burns: Unfortunately, we can't answer this question at the moment.

Mrs. Marilène Gill: Thank you for having the humility to say so.

In terms of standardization, is there a difference between catch reporting systems from one area to the next, for example, between Gaspésie and New Brunswick in Chaleur Bay?

Mr. Marc LeCouffe: Thank you again for your question.

Landings are recorded, and there is indeed a difference between the approach in Gaspésie and in New Brunswick.

In New Brunswick, 100% of the monitoring is carried out at the dock. In Quebec, only 25% of the monitoring is carried out at the dock, but hails at sea are mandatory in 100% of cases. When a fisherman is at sea, they must call to say how many herring they caught, and they have a 25% chance of undergoing dockside monitoring.

This is for logistical reasons, since there are more monitors in New Brunswick than in Gaspésie.

● (0920)

Mrs. Marilène Gill: We took the example of these two places in the same fishing area. Given the differences, why are we unable to standardize all the practices? Is it a matter of grants? Does one place receive more money than another?

I'm still talking about the need to collect the most accurate data possible for the benefit of science and to improve stocks of herring or any other species. Have there been requests for additional grants to address the situation and obtain more information?

Mr. Marc LeCouffe: The department doesn't award grants.

Mrs. Marilène Gill: I didn't mean grants. I meant requests.

Mr. Marc LeCouffe: Dockside monitoring is carried out at the fishermen's expense.

For the herring fishery in Chaleur Bay, more fishermen land in New Brunswick than in Gaspésie. As a result, it's easier for dockside monitoring companies to monitor 100% of catches in New Brunswick than in Quebec.

Mrs. Marilène Gill: I understand that it's difficult, but the committee can recommend the standardization of some practices.

I'll move on to a completely different topic, which is the issue of alternative bait. We're told that this bait is very expensive and that there's a shortage of bait. Currently, fishermen manage to fish with mackerel, plaice, herring or other types of bait.

Has the amount of alternative bait needed for the fishery been calculated? If so, could fishermen benefit from lower prices if the alternative bait were cheaper, for example, because of our exports to Spain and Japan?

Mr. Adam Burns: I don't think that the department does this job.

Mrs. Marilène Gill: I know.

Mr. Adam Burns: So the answer is no.

Mrs. Marilène Gill: Thank you.

I have some issues with Asian carp. We don't have Asian carp in Canada and we need to import it from the United States. However, we have other species here, such as redfish. We learned yesterday that redfish are flourishing in the Gulf of St. Lawrence at the expense of the northern shrimp stocks.

Could this issue be assessed? Some exploratory licences are already being issued in connection with alternative bait. Would it be simpler and safer to consider these possibilities rather than importing Asian carp?

Mr. Adam Burns: No regulations limit what fishermen can use as bait. I know that a number of fishermen used redfish as bait last year in their lobster fishery.

Mrs. Marilène Gill: Would that be safer? This concern may be more science-based.

Mr. Adam Burns: Redfish stocks are high and this species could be an option.

Mr. Frédéric Beauregard Tellier: I manage a program that fights aquatic invasive species. To answer your question, I would say that it's always better to use native species than invasive species.

Mrs. Marilène Gill: Okay. These invasive species would need to be farmed for supply purposes.

Mr. Frédéric Beauregard Tellier: This is precisely where the problem lies, because the farming poses the risk of introducing the species into our ecosystem.

[*English*]

The Chair: Thank you, Madame Gill.

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

● (0925)

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

Thank you to the members of the panel and to DFO for being here. We appreciate your taking the time.

I have a few question I'd like to circle back to and come back to.

Obviously in the Scotia-Fundy region, it's listed as critical stock status. I believe the stocks have been declining for some time, and there have been some measures put in place since around 2001. With those reduced allotments or reduced catch levels in place, we're not seeing, I take it, the desired outcomes of the stock bouncing back. Would you say that there must be other factors involved here at this point that need to be looked at and examined besides just the catch levels, the amounts being caught?

Mr. Adam Burns: From a fisheries management perspective, what I would say is that as we noted earlier, the science is ongoing in identifying what those other factors may or may not be. I wouldn't want to speculate on what they would be.

I can say that for the stocks in the Maritimes Region, we are, as I'm told in my notes, undertaking a management strategy evaluation of the stocks.

This is a scientific process that creates a model, and we can test various management approaches to see what the outcomes might be. It's a growing area within fisheries management globally, and it seems to be an approach that is quite effective at finding good management strategies to manage challenging stocks.

Mr. Richard Bragdon: It seems basically that once it hits the level 1 or critical zone, they go to the lowest possible levels of removal.

Do you know what that actually means? Can you put in layman's terms what “lowest possible levels of removal” means and say how long this designation has been in place and, if it is still actively in place—which it seems it is—what it looks like in tonnage terms, etc.?

Mr. Adam Burns: It is correct that our precautionary approach framework policy under the sustainable fisheries framework says that when a stock is in the critical zone, the fishery removal should be kept at the lowest level possible. It's not further defined than that in the policy.

When we look at the Fisheries Act and other considerations that the minister takes into account when taking decisions, we see clearly that socio-economic considerations are also at play. One could read that the policy of “lowest possible level” in its purest sense and say that it means zero. We know, however, that for a variety of reasons, whether of bycatch in other fisheries or for socio-economic and cultural reasons, in particular with the indigenous community, that isn't realistic.

Therefore, in making decisions, especially on forage species stocks that are in the critical zone, we look at what the term means and try to find the right place, working with science, to keep that removal as low as possible.

Mr. Richard Bragdon: In your consultations and your research and your work with those directly involved in the industry—the fishermen, for example, who are being affected—does the topic of seal predation come up, and at what level is it coming up? Can you speak to the possibility that seal predation may be having a serious effect?

Mr. Adam Burns: Concerning the contribution that seals make to the natural mortality of herring, I would turn to my colleagues from science, who will likely tell us that there isn't a lot of evidence to indicate what the level might be. Certainly, for stakeholders whom we speak with in a variety of fisheries, seal predation is and has been for a number of years a key concern.

I will say that the department authorizes the harvest of both harp and grey seals, and there is no limitation, to the extent that removals of those species have been extremely low in recent years. It has been a long time since the department has had to close the harp seal fishery. The authorization to do so exists, but we are not restricting people from engaging in a seal harvest.

● (0930)

The Chair: I'm sorry, Mr. Bragdon; your time is up.

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

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

Slide 3 says “cautious, critical, critical, uncertain, uncertain, uncertain, critical, uncertain”. There is not much positive in the full east coast map of the state of the stocks.

My question is—and I wonder whether you have made this inference—why does the department not have more detailed, specific science on how we arrived at where we are now?

Dr. Kent Smedbol: Thank you for your question.

Mr. Robert Morrissey: It's the answer that I'm looking for.

Dr. Kent Smedbol: I don't really have, I think, a direct answer for that. The one thing I can add is that as a result of implementation of the new Bill C-68, major fish stock provisions, throughout the Atlantic zones—so within the four regions—science is undertaking work that is related to this, and herring is one of our case studies.

What we're trying to do with that is we're both increasing some of the targeted surveys throughout the zone—so that includes the Gulf of St. Lawrence and Newfoundland—and also looking at ways to augment some of the information we are collecting. This is relatively new and hot off the press, so we'll have to stay tuned and see if that bears fruit.

I'll come back to one of the questions I answered earlier. You know, we are confident in the science that we do provide. When we think about what we mean by the term “uncertain”, it's not that we don't know what's going on with the stock; it's that we haven't defined the reference point under our precautionary approach framework.

We do have surveys for, I think, all of those major stock units, and we have fishery information as well, so from a science perspective we can communicate what has happened and, using our population models and forecasts, we can provide some levels of prediction of what may happen in the future under various management regimes or climate regimes. However, at the moment we are not able to diagnose directly or to link either an environmental factor or something else directly to stock decline.

Mr. Robert Morrissey: Thank you. I want to go back to that, but do you have the statistical breakdown of the primary use of the herring that is harvested? Do you have it by region? Is that information available? How much of the actual catch is going toward bait and how much is going for food? Is there a breakdown on what the resource is being used for?

Mr. Adam Burns: I think we would know, certainly, what the commercial removals are.

Marc, do we have specifically how those subsequently break down into the various uses?

Mr. Marc LeCouffe: What we have is what's exported, so based on the exports, whatever is not exported is probably used either as bait or—

Mr. Robert Morrissey: Do you have it? I would like to establish what the dependance is on the stock for bait versus what is being used to export, because there would be limited consumption within the country. Most would be exports.

Could you get that information?

Mr. Adam Burns: We'll provide what the department holds.

Mr. Robert Morrissey: Okay. I would like to have that.

The next question is about, and I quote, “predation...is an area of active research”. Could you describe “active research” for the committee?

Dr. Kent Smedbol: There are two aspects to that. It breaks down into two themes.

Some of it relates to fieldwork, meaning field studies, mainly targeting.... It's very difficult to determine what eats what in real time in the ocean, so there are a few techniques that one can use. If we are linking back to seals, it's basically lavage. You check their diet, and there can be some fatty acid approaches. It's diet work, consumption, across a suite of species, and we usually use our ongoing surveys to collect that kind of information.

The second piece is a modelling piece, a simulation piece, so you take what information you have in terms of consumption and you try to build that into population models and harvest models. It's more of a simulation approach. It's two streams.

● (0935)

Mr. Robert Morrissey: I'm sure we'll have time to come back to that.

The Chair: Thank you, Mr. Morrissey.

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

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

I have quick questions here. What happens to the fish? Of the herring that are harvested and used for roe, what happens to the remainder of the fish? Does it go to other uses?

Mr. Marc LeCouffe: I have part of an answer. The carcasses that are left over are used sometimes for bait, frozen for bait, or they're sent to fish meal plants.

Mr. Mel Arnold: Did you say “fish meal”?

Mr. Marc LeCouffe: That's right. Yes.

Mr. Mel Arnold: Which is the best value of that product?

Mr. Marc LeCouffe: I can't answer that question.

Mr. Mel Arnold: Could we get that answer for the committee, please—not necessarily today, but provided back to us for the study? I think that's a key component. If they're simply being sent for fish meal when they could be better used for bait, we need to look at what's happening with the supply chain.

Recently the MSC certification for herring on the international market was voluntarily given up by Canada because of the state of the stocks. What effect is that going to have on the value of the stocks that are being marketed when they lose that certification? It troubles me to see that this stock has just continued to decline, yet we see no sound efforts to rebuild it.

Mr. Adam Burns: I would start by saying that the decision as to whether or not to seek an eco-certification is one taken by industry, and a variety of factors play into that. Depending on where harvesters or exporters are sending a particular product, there is more or less dependence on eco-certification. Suspending or not seeking eco-certification has varying degrees of impact depending on the market, and it can sometimes be a commercial decision to no longer pursue that because of costs associated with maintaining that certification. If the market to which you're exporting doesn't really require it, then there can be commercial reasons for not seeking it.

Mr. Mel Arnold: There must be negative effects on the value of the export without that certification.

Mr. Adam Burns: Again, there are certain markets where this has no impact at all.

Mr. Mel Arnold: But there must be markets that we were selling to that require it, I would assume.

Mr. Adam Burns: I don't know the specifics.

Mr. Mel Arnold: Wow. Okay.

One of you mentioned that there are no limits on the seal harvest, so there's no restriction on the number that could be taken, but we know that there is a limited market because of the European ban on seal products for no ecological reason. It's simply for a social reason that the market has been shut down.

Is the department working on any sort of an education plan to remove that European ban on seal products?

Mr. Adam Burns: Certainly that is an ongoing issue. There are—

Mr. Mel Arnold: We're hearing so much about ongoing issues and ongoing science. With all due respect, I see members around the room rolling their eyes. What is actually being done in concrete steps?

Mr. Adam Burns: I can't speak to that. My part of the department is not engaged in market access.

Mr. Mel Arnold: Who could we bring in who could speak to those aspects?

Mr. Adam Burns: The department could identify someone who could do that.

Mr. Mel Arnold: I'm going to go back to some of the questions that were provided to us by the analysts.

What factors can explain the lack of stock rebuilding despite reduced fishing pressures? Why isn't the stock coming back? You reduced fishing pressures and you think that's the biggest cause, so you've taken that step. Why aren't they coming back? Is it too much of a precautionary principle being applied and you're not able to experiment with other opportunities?

Dr. Kent Smedbol: To date, science has not identified a single issue that would explain that result. There are a number of things that come into play.

There is continued harvest, so there are continued removals both in the commercial fishery and in the bait fishery.

Then there's a second aspect, and that's the productivity aspect of the population itself, the ability of herring stocks to rebound on their own. We have seen relatively low recruitment of new individuals coming into the population. We've seen low individual growth. In fact, in southwest Nova Scotia and the Scotian Shelf, the Gulf of Maine and the southern Gulf of St. Lawrence, we've seen some of the lowest growth rates in our time series.

If you think about it from first principles, if animals are growing more slowly, they're taking longer to age, and they're not producing as many young. It's possible that the overall ability of the populations to replace themselves is lower than it has been in the past.

● (0940)

Mr. Mel Arnold: That's pretty obvious, but what are they feeding on—

The Chair: Thank you, Mr. Arnold. You are way over time.

Mr. Cormier, you have five minutes or less, please.

[*Translation*]

Mr. Serge Cormier (Acadie—Bathurst, Lib.): Thank you. I'll speak in English or French.

When I think of that fishery, I think of my father, who was a fisherman all his life. I even had the chance to fish with him on his boat.

I have two questions about the stocks.

What was last year's quota for area 16B, in my region? Was it met?

Mr. Marc LeCouffe: If we're talking about the spring spawners—

Mr. Serge Cormier: I'm more interested in the fall spawners.

Mr. Marc LeCouffe: Okay.

In the fall, in area 16B, the quota was almost met.

Mr. Serge Cormier: Okay.

We've talked a great deal about scientific surveys. You're saying that the activity constitutes more of a rough estimate of the resource, that the catches arrive at the dock and that everything is calculated. However, I gather from your statements that we don't necessarily have the scientific data to analyze the herring stocks.

That said, fishermen are noticing that, even though the season starts, like other years, around August 15, the water is getting warmer and warmer and they almost never meet their quota. Some fishermen even stop fishing after one or two weeks because they aren't catching herring.

Why not postpone the season by a few weeks to see whether it's possible to catch more herring? Fishermen who make it to the end of the season often say that the herring is there at that time. If we were to postpone the fishing season, maybe we could have a better sampling of the herring stocks.

You're telling me that you haven't had scientific data for many years and that we have only a rough estimate of the stocks. Given the lack of reliable information, how can we say that the stocks are in critical condition?

If we were to postpone the fishing season by two or three weeks, we would probably see a little bit more herring. Fishermen have been asking for this for years. They don't necessarily want to catch all the remaining herring, but they want to see whether the herring have moved a little bit from week to week given the warming waters and climate change.

Could we look at this possibility?

Mr. Marc LeCouffe: In the southern gulf, since area 16B is located there, scientific activity isn't limited to counting landings at the dock. A scientific survey is also conducted each year, during which a cruise ship equipped with a trawl and sonars measures the herring biomass in the area.

Mr. Serge Cormier: When is this survey conducted?

Mr. Marc LeCouffe: It starts in September. Depending on the weather, it can take four to five weeks. It takes place throughout the southern gulf. Our scientific data for the southern gulf is actually very reliable when it comes to herring.

[*English*]

Mr. Serge Cormier: To go from the critical zone to the cautious zone, how low does it need to go to be in the critical zone? Right now at this stage, it is in the critical zone, right?

What is the TAC amount for it to be in the critical zone? Have you set a number to say that this is in the critical zone and there will be no more fishing this year or we have to make some plans to get back on track?

How do you monitor that?

● (0945)

Mr. Adam Burns: Those levels have been established for some of the stocks, including Gulf fall herring. I don't have the exact threshold. It's something that we could easily provide.

Mr. Serge Cormier: For this year, what numbers are you looking at for the TAC? Do you think it is going to be lower?

[*Translation*]

Mr. Marc LeCouffe: I believe that the stocks are being assessed this week and that the advisory committee will be meeting next week.

Our next steps for the minister will be based on the information provided and on what the fishermen tell us.

Mr. Serge Cormier: What would you need to conduct more scientific assessments?

[*English*]

Mr. Marc LeCouffe: I will defer to Kent.

Dr. Kent Smedbol: Right now, in the southern gulf, we have an acoustic index. We have a catch rate series, meaning catch per unit effort, and we have some gillnet information. By and large, from a science perspective, we have a fairly robust picture of current status.

Trends are a little more difficult to work on, particularly projections into the future. There is a pilot study that is being started in the southern gulf, looking at expanding and integrating some of our other acoustic surveys. That's a new piece that we're rolling out. It's very new, so it'll take a few years for enough information to come to us through that survey to allow us to add it into the science advice we provide.

We are also looking at standardizing how we undertake our acoustic surveys throughout the gulf and the Scotian Shelf, actually, with the idea of using the same techniques throughout. The way it works now is that a lot of our acoustic surveys, particularly for herring, are done in collaboration with industry groups, so they're done from industry vessels. They basically collect the information for us. We standardize the gear and all that. We standardize information and then we work it out, but a lot of the work is done in direct collaboration with industry. We're looking at ways to sort of standardize how we undertake that.

However, I would want to circle back and say that we are fairly confident in our understanding of the stock in the southern gulf.

The Chair: Thank you, Mr. Cormier.

We'll now go to Madame Gill, for a total of five minutes or less, please. I believe Mr. Johns is sharing his time with you or giving you his time.

[*Translation*]

Mrs. Marilène Gill: Thank you.

Is there a coordinated research plan on the decline of herring?

[*English*]

Dr. Kent Smedbol: Again, I'm responsible for stocks that occur within the maritimes region, so I'm not up on all the particulars that are occurring within the northern gulf and their science planning, but more broadly speaking—and I refer back to the question we just answered—the science sectors within the regions are working more closely together, particularly around acoustic surveys. We're trying to standardize some of our sampling approaches from the commercial fishery as well.

The whole idea there is to try to be more consistent in the techniques we use throughout the zone, not just with herring but with most of our major fish stocks. Through that, we are hoping there may be emergent properties that come out of the assessment.

Other than a case study looking at expanding that acoustic survey, I'm not familiar with any specifics or changes in the northern gulf, but I can get that information for you.

[*Translation*]

Mrs. Marilène Gill: I was really talking in general terms. I understand that there isn't really a research plan, either on a regional basis or on a broader basis. We're talking about a species for which borders don't mean anything. Research is being conducted, but there isn't any plan.

Is there a deadline for the results of the current approach? Since we're talking a great deal about time and since this involves rebuilding a stock, is there a time limit for presenting the results of ongoing research and taking action?

● (0950)

[*English*]

Dr. Kent Smedbol: The ongoing work within the northern gulf will be available on a regular basis through the provision of our science advice. Some of the new projects that I'm talking about are very new. They started in the past year or so. The information can be publicly available, but we usually need a few years before we can build an analysis on it.

Certainly the ongoing work, historically—like the acoustic survey and the catch monitoring work that's done in the northern gulf—will continue, as far as I'm aware, and that work is made available through science advice on a regular basis.

[*Translation*]

Mrs. Marilène Gill: We talked about your needs earlier. In terms of research, can you identify the specific indicators that you're missing and that you need so that we can make consistent and useful recommendations?

[*English*]

Dr. Kent Smedbol: Generally speaking, within fisheries science, if we're providing advice on an allowable catch or trying to evaluate the status or trends within a population, we do need a time series of catches. Usually we would like to have something that's independent of the fishery, but we do use fishery information as well.

It's usually something that gives us an idea of change in abundance. I'm not going to get into survey design, but you understand what I mean. Certainly there is catch from the fishery, but there are other sorts of environmental indicators that we would collect that we could use to try to evaluate productivity.

These actually help us—

[*Translation*]

Mrs. Marilène Gill: I'm talking about the indicators that you're missing and that you need right now.

Dr. Kent Smedbol: Yes.

[*English*]

There's actually a relatively new program, going back four or five years, within DFO science. It's not directly related to fisheries science, but it is looking at climate change and climate change adaptation. There is a new national working group that's looking at ways of improving the incorporation of environmental information into our stock assessments. This national group is supported by regional groups. I'm a member of one of the regional groups.

We are continually striving to improve the advice that we give. Certainly, techniques evolve through time as well. New technology comes on board, and that sort of thing.

[*Translation*]

Mrs. Marilène Gill: I want to ask one last question. We were saying earlier that we didn't know exactly what was eating what.

I want to know how this decline in herring stocks is affecting the ecosystem. What are the threats and what are the associated risks and concerns?

[*English*]

Dr. Kent Smedbol: Thank you for your question. That's a difficult one to ask.

I would reiterate that herring is a key forage species in the northwest Atlantic. It plays an important role in the ecosystem in transferring energy from plankton and zooplankton up to larger animals. Some studies have suggested it's a so-called keystone species.

I don't have a solid answer for you, but herring is an important forage species.

The Chair: Thank you, Madame Gill.

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

Mr. Richard Bragdon: Have integrated fisheries management plans been completed for the remaining Atlantic herring stocks? Have any plans been put in place?

Mr. Adam Burns: We actively manage all of the herring stocks. There are fisheries management decisions that get incorporated into IFMPs, integrated fisheries management plans, and are based on the best available science for all of those stocks.

Mr. Richard Bragdon: If we've reached that critical stage and they're a key building block for the whole region in Atlantic Canada and the coastal waters off Atlantic Canada, do you feel that the plans that are in place now are adequate?

Has it reached the stage that you have to look at even further actions, recommendations, plans or enhancement of the plans in order to rescue the stocks that are at risk?

Mr. Adam Burns: As we've mentioned a few times, one of the key tools at our disposal is fishing effort. In a number of those stocks, we have reduced the total allowable catch based on science. Those reductions have occurred over a period of time.

I guess I would answer that we have taken additional actions and will continue to do so and establish management plans based on that science. If the science indicates that the stocks continue to decline, then our management actions would reflect that.

● (0955)

Mr. Richard Bragdon: Of course, those management studies are ongoing, I'm sure.

One thing we've been discussing, for example, is that herring is also used as bait. Can you give us a percentage of how much of the herring harvest is utilized for bait as compared to what is used for commercial purposes?

How much of a factor would it be if we could find a suitable replacement for herring as bait? Do you feel that would have a substantial impact as well?

Mr. Adam Burns: We will be able to provide the committee with data. It's not my area, but I believe the department would have information around the level of export of the commercial catch.

My colleague Marc noted earlier that the portion of the commercial catch that isn't exported is almost certainly used for bait within Canada. We don't actually have any data collection. We don't ask industry what the end use is of the herring that they've caught today.

I believe we would track what the exports are, though. You could then infer that really the rest is used for bait.

Mr. Richard Bragdon: For example, if there are other types of healthy stocks out there that could be used for bait purposes, is there a way for them in a subsidiary fashion to take that extra amount of harvest out of the equation? Would that provide substantial relief without detrimental effects on the industry?

Mr. Adam Burns: It is absolutely, I suppose, a statement of fact that if the harvest is further reduced, then there's less fishing effort, which benefits the stock. There are other species out there that could quite likely be used as bait. Whether it's the best use of those species or not is frankly a commercial decision, primarily in terms of the net value, for example, with redfish.

The short answer is that certainly other species can be used as bait in lobster and crab fisheries, and there are currently no restrictions that would prevent harvesters from using redfish or something else as bait in their traps. That is something that is currently allowed today.

Mr. Richard Bragdon: I have one final question. At what point of the critical status are the necessary recommended changes that need to be made brought forward to the minister so that action can then be taken to rescue these stocks or help these stocks to rebuild?

Mr. Adam Burns: That occurs every year when we bring forward advice around the management of each of the stocks. It's based on the best available science, so we provide advice around what we believe to be a sustainable level of harvest.

The Chair: Mr. Hardie, you have five minutes or less, please.

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

There's an old joke that you can lay all the economists end to end, and they'll never reach a conclusion. I think we can say the same thing about marine science as well. That's not meant to be a knock; it's a deep ocean, it's big, and you don't know everything that's going on. Based on that, you're never going to have the definitive data you need. You're never going to have the scientific control of adjusting only one variable to see what happens.

What we've heard so far today is really kind of mushy. We don't see anything coming forward from you guys that gives us a really clear way forward. With that in mind, do we need to look at another approach?

We've been doing the same thing for a long time and we've been hearing the same kinds of responses for a long time. That and two bucks gets you a big coffee at Starbucks.

What other approach can we take—fuzzy logic, or whatever it takes—to give us a better path forward than we're seeing now?

Mr. Adam Burns: One of the things I mentioned earlier that I would point out is that the stock within the maritimes region.... Kent can probably speak more completely—

● (1000)

Dr. Kent Smedbol: I am the chair.

Mr. Adam Burns: He has chaired the meetings, so there you go. He has chaired the meetings around a management strategy evaluation, which is a different way of basically bringing the science discussion into how we decide on management measures. It's a way that allows us to test our management decisions, essentially in advance, using scientific models of the stock in the order of the ecosystem in some ways, in order to identify whether or not the specific management actions that we're taking work.

Globally, it is a growing area of fisheries management and fisheries science, and it seems to be a very effective way of identifying the best possible management approaches. We can respond with further details on that. Kent is an expert on that.

Mr. Ken Hardie: That will be definitely worth a try.

As well, listening especially to comments on the east coast and the west coast, whenever somebody brings up seals, the artful dodging that goes on would make Charles Dickens kind of pale, because nobody wants to give a really straight answer. I understand that, again, where the science and the data might be short, it's hard, especially given your responsibilities, to give a definitive answer, but we would like something a bit more than we've heard so far today.

You say that there's a scientific harvest of certain seals. Are they eating herring? Do they eat herring?

Dr. Kent Smedbol: This isn't my direct area of expertise, but I am aware of some of the work.

To my knowledge, herring are a part of the diet for seals on the Scotian Shelf and in the gulf.

Mr. Ken Hardie: What else eats them?

Dr. Kent Smedbol: What else eats herring?

Mr. Ken Hardie: Yes.

Dr. Kent Smedbol: I don't want to sound facetious, sir, but a lot of things, just about everything.

Mr. Ken Hardie: That's fair enough.

If we look at the population trends for all of the things that eat herring, where would we see the most risk to herring existing?

Dr. Kent Smedbol: Historically, the largest source of predation on Atlantic herring was groundfish, meaning cod, haddock and halibut. Other fishes were the main source of predation.

Of course, we've seen changes in the ecosystem and the community structure such that groundfish don't exist in the same numbers. I'm not sure of the situation—

Mr. Ken Hardie: You kind of answered my question. If groundfish populations are going down, that means their impact on the herring population probably is also going down.

What's going up versus what's going down? We know seals have been going up.

Dr. Kent Smedbol: There are a number of current—

Mr. Adam Burns: I'm going to have to buy him a coffee.

Mr. Ken Hardie: Okay, we'll leave it at that, but you know—suspicions confirmed.

Of course, the management of the fishing pressure on the stock is one thing. What about the habitat, particularly for the processing of the roe? Out on the west coast, we have some problems with certain types of grasses that the herring like to spawn in. What about the status of the habitat in eastern Canada?

Dr. Kent Smedbol: I'm aware of spawning grounds in the habitat for herring in the gulf and the Scotian Shelf area, and I'm not so sure for the coast of Newfoundland and Labrador. For stocks within the southern Gulf of St. Lawrence and along the Scotian Shelf into the Gulf of Maine, herring spawn on sandy bottoms, on banks. On the west coast, specific herring, by and large, as we're aware, spawn on algae, so on very sandy bottoms. In most of those areas during the spawning season, other types of human activities are curtailed through management measures.

From a science perspective, we don't have a concern—at least, about the spawning beds themselves.

The Chair: You're over your time, sir.

We will go to Mr. Arnold for five minutes or less.

Mr. Mel Arnold: Thank you, Mr. Chair. I'm going to get to this really quicky because I want to share some of my time with Mr. Fast.

Have integrated fisheries management plans been completed for these herring stocks?

● (1005)

Mr. Brian Lester (Assistant Director, Integrated Resource Management , Department of Fisheries and Oceans): I'll try to answer the question the same way I answered the commissioner of the environment and sustainable development. An IFMP needs to be taken in two parts. The first is an IFMP as a piece of paper, and the second is the integrated fisheries management plan as a process.

As for whether there is a piece of paper defining the process for each stock, I can't tell you off the top of my head. We can look that up for you and get that for you.

As Adam noted—

Mr. Mel Arnold: Please provide that information to the committee.

Mr. Brian Lester: Sure. We can provide you whichever ones are currently available, but the process itself doesn't change.

The science assessments are undertaken, advisory committees will meet and industry and indigenous partners provide their views. Those views are considered as part of the recommendations going to ministers. Ministers make decisions, we do post-season evaluations, and science redoes its science and goes through the process again, so the integration is there.

Mr. Mel Arnold: These plans haven't been completed, then.

Mr. Brian Lester: The piece of paper? I can't tell you off the top of my head because each region does its own, but we can get those for you for sure.

Mr. Mel Arnold: Okay. I'm surprised you don't have that information, knowing you were coming to this committee to talk about herring management and the management of the resource.

Mr. Adam Burns: I would just interrupt a bit. In the prepared remarks I had, there is, region by region, a description of the current status of the management for each of the stocks.

Mr. Mel Arnold: Okay.

I'll go to a few things that are in the brief we were provided.

One is that an “inability to estimate population sizes has precluded the calculation of stock status zones and reference points.” Also, “no analyses have been conducted to assess the effect of fishing pressure” on the stocks. “The lack of information on herring population structure in the northern Gulf of St. Lawrence is the main source of uncertainty.”

Mr. Burns, as the director general for fisheries resource management, can you explain why you're not able to manage this resource?

Mr. Adam Burns: I think the references that you are making relate to the science. Certainly we are making active decisions on the management of all of these stocks based on what is generally reasonably good science, so there is an active management regime in place for all of the herring stocks.

Mr. Mel Arnold: I'm going to pass the rest of my time to Mr. Fast.

Thank you.

Hon. Ed Fast (Abbotsford, CPC): Gentlemen, you'll understand why we're frustrated over here, because even on the government side we heard statements like the information that's coming from you is mushy. My colleague Mr. Hardie referred to you as artful dodgers.

I'm confused as well. According to the 2018-2019 stock update for the coast of Nova Scotia, and I'm quoting from it, there is no basis for evaluating the current catch allocation due to the absence of recent information about stock status.

Based on that, how do you make a determination and approve an allowable catch? Every year you approve an allowable catch. There's more and more of this stock being taken, and yet you've admitted that there's no basis for evaluating the current catch allocation.

You can sense the frustration around this table that somehow the department doesn't have a firm grasp on this issue, and right now I have no confidence, based on the testimony we've heard from you, that we're going to see an improvement here.

Dr. Kent Smedbol: I can address the science aspects of that.

As I said, I'm a scientist with maritimes region, and Atlantic herring does fall under the responsibilities of my division. In maritimes region, the vast majority of the catch comes from the southwest Nova Scotia Bay of Fundy stock complex, and that is the target of most of our science effort because the majority of the catches are derived from that unit.

There are several other components within the Scotia-Fundy region, particularly along the coast of Nova Scotia and offshore. The amount of fishing that occurs in those areas is very low compared to the efforts targeting the southwest Nova Scotia Bay of Fundy stock. Within science, we've made a strategic decision to focus our efforts on the stock for which the majority effort occurs.

Hon. Ed Fast: Okay, but there's no easy fix for this. Finding other sources for bait is an ongoing process. We don't have that really available yet, so there may not be an improvement for some time. Is that a correct assessment?

● (1010)

Mr. Adam Burns: An improvement in the...?

Hon. Ed Fast: The stocks.

Okay, your pause says it all.

The Chair: Your time is—

Hon. Ed Fast: I have one other question. We're talking about the northwest Atlantic fishery, correct? That includes the United States, if you expand. Is there a herring bait fishery in the United States as well?

Dr. Kent Smedbol: I know there's a herring fishery; I'm not sure about a bait fishery.

Hon. Ed Fast: Okay, now, the bait itself and the general herring commercial fishery are different, but they're the same fish. Is that correct?

A voice: Yes.

Hon. Ed Fast: All right. Is there any coordination taking place between the United States and Canada to make sure we get a real handle on this problem and find a fix?

Dr. Kent Smedbol: The herring that are targeted south of the border in U.S. waters are separate stocks, and there's very little exchange of individuals between those populations. Among U.S. stocks and among U.S. stocks and Canadian stocks, there's limited exchange of individuals. There is one area, coastal New Brunswick, that does see a fair bit of movement of individuals across the border. In fact, that fishery targets—it's a very small fishery, a weir fishery—mainly migrant U.S. juveniles, but other than that, the stocks are managed separately, and there's very little exchange across the international boundary.

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

Mr. Jaime Battiste: You said that at some point that you people are going to have a meeting that gets some of the answers we're lacking here. We're all trying to get to recommendations for the species and trying not only to do what's best for the species of fish but also to look out for the best interests of the fishermen in our ridings.

I'm going to ask a few questions all at the same time, because I want them on the record and want to see what kinds of answers you can get, if you don't have them today.

Basically, how many species of fish are deemed critical or in decline in the east? How are we monitoring the question? What are the first indicators—do we hear it from the fishermen, or is the science the first indicator? Can you take us through the process whereby we're realizing that there's a problem and will find a solution to fix that problem?

The last one is, how much consultation are we doing with the fisheries industry and indigenous populations to figure out solutions to some of the problems we're facing here today?

Mr. Adam Burns: We collect and capture the stock status as to whether it's known or not known, and if it is known, what the status is.

All of that information is captured in what used to be called the fisheries checklist—and that's the name that's coming to my mind right now—which we make publicly available. It provides all of the data you're looking for as to how many stocks are in the healthy zone, the cautious zone, the critical zone or are of unknown status.

We can certainly provide to the committee the link to this information. It's all on the web.

Mr. Jaime Battiste: Would you say that herring is unique in terms of the state of criticality and decline, or is this a kind of global thing that we're seeing in the east that is problematic for all species?

Mr. Adam Burns: Globally I think the status of herring is a lot better than it currently is in the northwest Atlantic.

As for answering your other question, about consultation, for all of our major fish stocks we have regular consultation with industry and indigenous groups in which we discuss the state of science and the performance of the fishery in the previous year and seek views on the best approach for management going forward. We have an active engagement process, and that information is always brought into the decision-making process around how a particular fishery should be managed.

Mr. Jaime Battiste: Is there anything you could share around the best approaches being brought forward by the industry and indigenous groups that would give us some viable recommendations we can take back as recommendations from this study when we conclude it?

Mr. Adam Burns: Depending on the advisory committee, there are various levels of minutes, as distinct from records of decision, and in some cases that information is put directly into the decision document itself. In other cases, we have completed rebuilding plans, and industry and indigenous perspectives are laid out there as well.

There are thus a variety of places in which those are captured, and certainly some of that information can be pulled together for you.

● (1015)

Mr. Jaime Battiste: There are, then, plenty of answers out there for best approaches, but you can't share them right now because...?

Mr. Adam Burns: What I would say with respect to the herring stocks themselves is that we know, as Kent has pointed out, that the role of natural mortality and the reproductive state, the productivity of the stocks, the impacts of climate change—all of those factors—are having a significant impact on the recovery of these stocks.

There are no silver bullets. There are no easy answers. We work with the fishing industry to identify a harvest level that's appropriate for the stock, recognizing that fishing mortality is the primary lever at our disposal, but equally recognizing, as Mr. Fast pointed out, that herring continues to be a key source for bait in the lobster and crab fisheries. It continues to provide an economic benefit to coastal communities.

While one could look at the state of some herring stocks and say that the harvest should be set to zero, there are various other factors that need to be considered on a stock-by-stock basis. Such consideration is what we do, and it is what has led to the management decisions currently in place.

Certainly they are all informed by the best available science. As Kent pointed out, science always wants more data and more information, but a prioritization has to take place as well. No one has infinite resources, so DFO science distributes the resources at our disposal across stocks, trying to allocate them to the stocks in a manner that achieves as robust a suite of scientific information as possible by which to manage all the fisheries.

The Chair: Thank you, Mr. Battiste.

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

[*Translation*]

Mrs. Marilène Gill: I have a yes or no question.

Would you allow the Department of Fisheries and Oceans to appear before the committee to talk about the specific indicators required to further our knowledge of herring? We're not talking about time or space here.

[*English*]

The Chair: Madame Gill, I don't know if they would be the people to ask the minister come.

[*Translation*]

Mrs. Marilène Gill: I wasn't talking about the minister.

[*English*]

The Chair: I thought you meant for the minister to come.

[*Translation*]

Mrs. Marilène Gill: I want to know whether department officials would be allowed to come and speak about the specific indicators for herring stocks. I wasn't referring to the minister.

If the herring quotas are supposedly not being met and the stock in area 16B has reached a critical level—which we saw earlier—how come the entire quota in area 16B was fished in less than two weeks last spring?

[*English*]

Mr. Marc LeCouffe: I don't have that information with me.

[*Translation*]

Mme Marilène Gill: I have another question.

Do you have any information on how the use of the seine, non-selective fishing gear, is affecting the herring stocks?

[*English*]

Mr. Marc LeCouffe: There are lots of studies on purse seines.

[*Translation*]

Mr. Adam Burns: I don't know whether I fully understand your question.

Mrs. Marilène Gill: I don't have the technical term in English, but it's a seine, *s-e-i-n-e*.

Mr. Adam Burns: I understand, and I'm familiar with this gear.

Mrs. Marilène Gill: Do you have any data on how the use of non-selective fishing gear is affecting the herring stocks?

Mr. Adam Burns: You're asking about the impact on bycatch.

Mrs. Marilène Gill: Yes, but I'm interested in the impact of fishing gear.

Mr. Adam Burns: We have many indicators for bycatch, because scientists are looking at this issue.

● (1020)

Mrs. Marilène Gill: Do you mean as part of their assessments?

Mr. Adam Burns: Yes. This issue is taken into account.

Mrs. Marilène Gill: Could you talk about these effects or provide figures?

Mr. Marc LeCouffe: I can talk about the impact of seining, but I can't provide specific figures.

Herring caught by seine are a variety of sizes, ranging from young herring to older fish. In contrast, gillnets catch only herring that are four years of age or older. Seining does have an impact, and we have protocols in place to address it. In the case of herring that are smaller or that are less than four years of age, their landed value is multiplied by the number of herring caught.

Mrs. Marilène Gill: So there's an impact.

[*English*]

The Chair: Thank you, Madame Gill.

Mr. Johns, you have two and a half minutes or less, please.

Mr. Gord Johns: Thank you.

Most of our six major Atlantic herring stocks aren't doing well, as we know. Three are critically depleted and two have uncertain status. As forage fish, they play a hugely important role as prey for so many fish and other species. Rebuilding our herring stocks is vitally important for coastal communities that fish them or use them as bait for other fisheries as well.

According to the department's own survey, “Sustainability Survey for Fisheries”, or SSF 2018, only half of the stocks have estimates of targeted fishing mortality. Only one stock has a harvest control rule. Only one stock has removal reference points. These are key components of the precautionary approach framework.

Can you tell me what the department is doing to ensure there are accurate estimates of total fishing mortality that are targeted in incidental fishing mortality, and whether other elements of the PA framework are in place for all Atlantic herring stocks? These are elements like limit reference points, upper stock reference and harvest control rules with removal references for each stock status zone.

As well, how are you planning to accelerate rebuilding these stocks?

Mr. Adam Burns: There's a lot built into that question.

What I can certainly say is that the precautionary approach framework and establishing reference points and harvest control rules is an important component of our sustainable fisheries framework, but the absence of those reference points and harvest control rules does not mean that we are not managing the stock sustainably. There are other tools that we can use, and certainly, in all of the cases of all of those stocks, we do receive peer-reviewed science advice to inform management decisions.

That said, we are certainly moving forward with the development of harvest control rules and reference points for each of the stocks for which they don't currently exist—not just for herring, but across the board. In fact, as you know, amendments to the Fisheries Act in the last Parliament created some legal framework for that as well. I would say that as a first point.

In terms of the specifics around the work plan and when we anticipate having certain reference points in place for given stocks, we publish those work plans on the DFO website, and they are part of our response to the Commissioner of the Environment and Sustainable Development, including the development of reference points. Those annual work plans are put on the web. We are trying to bring forward increased transparency around how we're progressing and implementing those policies.

The Chair: Thank you, Mr. Johns.

That concludes the round of questioning.

With the permission of the committee, I'd like to ask a question or look for some information on this as chair.

Mr. Burns, in a previous question about seals, you mentioned that there was no quota as such, no limits. I think that there's a difference in that, because to my understanding, the limit that's announced each spring.... In the last report I saw, there are about 7.5 million harp seals on the east coast or the north and whatnot. The allowable take each season, I think, is about just over 400,000 seals. Nowhere near that gets taken, but nobody—and there's no one government at fault—has taken seriously in quite a number of years the growth of the seal population and its effect.

Do they eat herring? Yes, I would suggest they eat herring. They eat cod, they eat mackerel and they eat everything that swims in the water. I think they eat somewhere up to about 30 pounds of fish a day.

To say we don't know the impact on any stock from the predation of seals is a bit ingenuous, I think. I know the minister has appointed a seal task team and I'm looking forward to the results coming back from it. There are some really good people on it, and some of them I know.

As for the seal population, I can talk to any fisherman, and they can show me pictures from when they're out fishing. They're tearing up their gear and they're doing everything possible. There are thousands and thousands of seals floating around on the top of the ocean with a cod fish or some other species in their mouth, and something has to be done, whether it's driven by the department or driven by the minister. If something is not done soon to control the seal herd, we'll lose species that we'll never get back again.

I would suggest that if there was a predator similar to this on land, and it was devastating a beef farmer's herd or a dairy farmer's herd, government would find a way to go out an eradicate that predator, and you'd never hear tell of it again. Vegetable farmers in Newfoundland have permission to shoot nuisance moose if they're eating the cabbage and the turnip.

Seals haven't moved to that yet upon land, but they're doing the same thing in the water, and nobody—government, department officials, and minister after minister after minister—has taken it seriously. It's time for somebody, whether it's through science or whatever other information is needed, to give the minister the information that forces their hand to make a decision on seals once and for all. That's my final statement.

I'll thank everyone for their appearance here today. I know it wasn't easy at times, but again, you've always been available to come and appear before the committee, and we appreciate it very much. I'm sure we'll see you again in the future.

Mr. Arnold, you have just 30 seconds.

● (1025)

Mr. Mel Arnold: Thank you, Mr. Chair, for your indulgence.

I'd like to just take 30 seconds to relay that we as elected members representing our constituents, the fishermen, the people on the ground, posed some very hard questions to you. That's because these are the hard questions we get from our constituents. These aren't personal questions from us at you. Please understand that they're coming from our constituents, so thank you very much for being here.

The Chair: We'll suspend for a few moments to go in camera to deal with some committee business.

[*Proceedings continue in camera*]