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Mr. Scott Simms

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•(1100)

[English]

The Vice-Chair (Mr. Robert Sopuck (Dauphin—Swan River—Neepawa, CPC)): Good morning, colleagues and international guests.

Welcome to our guests from Norway and Iceland, who will be speaking about the northern cod fishery and northern cod management in their respective jurisdictions.

From the Government of Norway, we have Vidar Landmark, director general, Department for Fisheries and Aquaculture; and Elisabeth Norgard Gabrielsen, director of the section for fisheries management. From Iceland, we have Gudmundur Thordarson, head of the Demersal research station in Iceland.

I should say, Dr. Thordarson, that I am from Manitoba and I know the community of Gimli very well. There are many Thordarsons and Fredericksons and Tomlinsons there. Just the week before last, I was at the Atlantic Salmon Federation dinner and I sat at the table with the ambassador from Iceland and his wife. There's a very strong Manitoba-Iceland connection, and I'm just delighted that you're able to join us today.

Normally every speaker gets 10 minutes. Given the fact that our time constraints are not nearly as they usually are, if you go over a little bit, I think the committee would welcome that, given your kindness in terms of participating in these hearings for us. There will be 10 minutes or so of speaking by our witnesses, and then there will be questions and answers after both speakers.

Who will be going first?

Mr. Vidar Landmark (Director General, Department for Fisheries and Aquaculture, Government of Norway): Iceland can start, if you want.

The Vice-Chair (Mr. Robert Sopuck): Well, the letter I comes before the letter N, so let's start with Iceland.

Dr. Thordarson.

•(1105)

Mr. Gudmundur Thordarson (Marine and Freshwater Research Institute): Thank you. I was hoping that Norway would start, but it's okay.

Voices: Oh, oh!

Mr. Gudmundur Thordarson: The Icelandic cod fishery has gone through some rocky periods in the last 40 years or so. To start at the beginning, during the cod wars in the seventies, there was a

high pressure on fishing. With the extension of the exclusive economic zone in 1976, we finally got control of our fishing shelf. That led to a decrease in fishing pressure soon afterwards, but Icelanders were quick to pick up, and in the early eighties, the situation was quite bleak in Iceland. At that time, there were various management proposals done or management measures taken in terms of trying to control fishing efforts, but it was politically very difficult. The advice from the scientists was often not heeded or was partly heeded. That led to fishing far beyond the recommended catch levels.

In the early nineties, it was apparent that things were not working out very well. In 1984, there had been a mixture of a TAC and an effort control system put in place. That was instituted for vessels larger than 10 metric tons. That really did not work well, because vessels could leave the system and then come back into it, and they somehow got new shares and so on. It really was not working. The effort option was taken out of the system in the 1990s with the Fisheries Management Act of 1990, which came into full force in the 1991-92 fishing season. Vessels that were smaller than 10 metric tons were exempt from the ITQ system, but gradually they were also taken into the system, with boats larger than six tonnes in 2001. In 2003, most of them were under the ITQ system.

As for how the quota was set up until the 1991-92 fishing year, the TAC was set at a certain level based on scientific advice, but as I said earlier, it was not always heeded. Then they made some allocations for various socio-economic factors in the system. It became apparent that this was also not really working. In the early 1990s, there was this governmental committee that was given the task of coming up with a harvest control rule, which took into account various parts.... It was based on making a sustainable profitable fishery. That was the objective. They came up with a certain type of harvest control rule for fishing roughly 22% of the "reference biomass" each year. That is a technical term that basically means cod older than four years.

However, in consultations with the stakeholders and politicians, this percentage was increased to 25%, and there was also some sort of a buffer in the rule. The rule seemed to be working in the beginning, but in the year 2000 it became apparent that the Marine Research Institute had overestimated stock size. Also, because of some technical issues in the fisheries management system, there was often quite a lot of overshoot in the fishing.

The latest amendment to the harvest control rule was for the 2007-08 fishing season, when they decreased the percentage to 20%. Since then, we have seen a rapid increase both in the spawning stock biomass and in the reference biomass, the biomass age four years and older. Of course, subsequently we have seen a lot of reduction in fishing pressure. On top of that, there has been various other effects. For example, the hours trawled inside our exclusive economic zone have decreased a lot after we managed to decrease the fishing pressure. The trawl footprint has decreased a lot.

The situation is now such that the stock will probably not get any larger. Given the current recruitment level, the stock is, at that stage, kind of in balance. We do not really expect to see more catches landed, somewhere between 200,000 to 250,000 tonnes a year, unless recruitment starts picking up again. The average recruitment in the last 30 years is considerably lower than it was in the past.

The good news is that on the horizon there are probably one or two year classes that will enter the fisheries in the next two or three years. It looks like they are going to be quite large, so hopefully we may break away from this 200,000 to 250,000 tonnes of codfish we currently have.

I think that has summarized the management history and how things have been going. In short, for the last 10 years or so, the stock has increased a lot. That has mostly been because the cod is getting older and living longer, not because of a huge recruitment.

That's the short story from Iceland.

Thank you.

• (1110)

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

Now we have our friends from Norway.

I don't know who is going to start first, but the floor is yours.

Mr. Vidar Landmark: Mr. Chair, I will start first.

Good morning, everyone.

I will pick up where our Icelandic colleague ended and say that is more or less the same situation as in Norway. The biological status of our northeast Arctic cod is at present very good. The quota sizes have increased in the last 10 years from 424,000 tonnes in 2007, to 894,000 tonnes for 2016, and with the highest size in 2013 with one million tonnes as the total quota. It's worth noting that the quota has more than doubled in these 10 years, even though this stock has been classified as fully utilized in all kinds of global statistics on stock assessments. It just goes to show that there is a possibility to increase the out-take also from stocks that are classified as fully utilized through good management in accordance with the nature of the conditions.

Unlike Iceland, this cod stock is managed jointly by Norway and Russia through the Joint Norwegian-Russian Fisheries Commission. In our commission meetings—this year's meetings are starting today—we drew up coordinated programs for surveys and research that need to be done. The information from both the Norwegian and the Russian surveys goes through the system of producing management advice through ICES, the International Council for the Exploration of the Sea. The Joint Norwegian-Russian Fisheries Commission does

not have its own scientific body as some regional fisheries management organizations have. We receive advice directly from the international system in ICES, but the advisory committee has the last word on which advice to give managers.

Having said that, I must stress that there is a very strong history of scientific co-operation between Norway and Russia on this cod stock. The scientific co-operation was formalized in the late 1950s, so we have a history of almost 60 years of formalized scientific co-operation on surveys and other kinds of oceanographic and management science-based activities together with Russia.

This stock, as was explained from Iceland, has had its ups and downs in the 40 years since the economic zones were established. The lowest point in our history of the cod fishery was in 1989-90, and that was more or less a collapse of the cod stock, which brought forward very strong management—

Ms. Elisabeth Norgard Gabrielsen (Director, Section for Fisheries Management, Government of Norway):—regulations.

Mr. Vidar Landmark:—regulations in the Norwegian fishery.

The co-operation between Norway and Russia on the cod stock and the other shared stocks in the northern areas is based on a joint setting of total allowable catch quotas, but then both parties go back to our respective countries and regulate our fisheries.

I'm not sure if it is of interest to the committee to hear a bit about our national regulations and our fleet management policies in the cod fisheries. I could say a few words on that, if that is of interest to the committee.

• (1115)

The Vice-Chair (Mr. Robert Sopuck): I can see nods around the table. Our committee would be very interested in that. Thank you.

Mr. Vidar Landmark: Okay.

We have our national quota from the Joint Norwegian-Russian Fisheries Commission, which has established a fixed sharing of this quota between various vessel groups. Altogether, we have six vessel groups in our cod fishery.

The first sharing of quota is between trawlers and vessels fishing with conventional gear. In the Norwegian fishery, conventional gear is hook, longline, nets, and Danish seine. The quota for the conventional gear group is then divided into six different group quotas: one for ocean-going vessels, four closed-access groups for coastal vessels, and one open group. This system was established back in 1990, when we had the collapse of the cod stocks, to make sure that we had at least some vessels that had enough income from this fishery to sustain us in the crisis. After the cod stock recovered, it was decided that this system should go forward with closed access to most of the quota and fixed sharing between different vessel groups.

It should also be mentioned here that the regulation of quota between the vessel groups and between the vessels inside the group is based on secondary legislation fixed by the ministry for one year only. In principle, the division of quota between groups is up for consideration each year. There is, however, a very strong political commitment to having a stable division of quota, a stable sharing of quota, between groups and between vessels, so we have actually developed a fixed system for this over the years. Very much of this work was done in the national fishermen's organization to make sure that the fishermen were committed to a compromise whereby quota for different species were divided between vessel groups.

The compromises they reached have actually been in place in the cod fishery since the beginning of the 1990s, making the situation for each and every vessel very predictable. Of course, the total quota goes up and down, but their share, the individual vessel's share of the quota, is fixed in this compromise, not legally, but by a political commitment to having this kind of system. Our system is a little different from the Icelandic system, where they have more clearly an ITQ system, making it even more predictable for the vessel owners, but making it more difficult for the minister and the ministry to make changes in the distribution if that is deemed necessary.

This system, with a very tight connection between science and the fixing of quotas and a very strict division of quota between vessel groups, has produced a situation whereby the industry really expects the authorities to be predictable. This has made it possible for the industry to invest in the modernization of the vessels, not only for the bigger ocean-going vessels, but also for the coastal vessels, where we now have a rather modern and effective fishing fleet, and also the coastal fleet.

We place very great emphasis also on control and enforcement of the quota regulations. Our coast guard is present out at sea and our control authorities are present with regard to landings of fish. We do not control all landings of fish, obviously, but we try to control a certain percentage each year to be sure that there are no irregularities in the system.

Should we add something, Elisabeth?

• (1120)

Ms. Elisabeth Norgard Gabrielsen: No. I think that's fine for now.

Mr. Vidar Landmark: Okay. Thank you.

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

Those were very comprehensive testimonies.

Our first questioner is Ms. Jordan.

Mrs. Bernadette Jordan (South Shore—St. Margarets, Lib.): It is very interesting whenever you hear what other countries are doing with regard to their fisheries. I have a few different questions.

First of all, to the gentleman from Norway, what did you say your quota was at this point?

Mr. Vidar Landmark: For cod this year it's 894,000 tonnes.

Mrs. Bernadette Jordan: Yes. That's what I wrote down.

Mr. Vidar Landmark: That is between Norway and Russia.

Mrs. Bernadette Jordan: Okay. That's the joint quota; I wasn't clear on that.

Is that evenly divided between the two countries or is it broken up?

Mr. Vidar Landmark: We break it up into three parts. First, a part for third countries. After that it's divided between Norway and Russia. I think I remember that the Norwegian quota is something like 427,000 tonnes. I can check it.

Mrs. Bernadette Jordan: Okay.

When it collapsed in 1989, what did your TAC go to? If you're fishing 894,000 tonnes, that's substantial.

Mr. Vidar Landmark: It was 130,000 tonnes or something like that. That was the advice for 1990.

Mrs. Bernadette Jordan: Okay. The division of quotas is received every year. Do you determine what the quota is going to be every year based on science?

Mr. Vidar Landmark: Yes, that is based on the advice from the International Council for the Exploration of the Sea, and then the actual quota is fixed in negotiations between Russia and Norway.

Mrs. Bernadette Jordan: Okay. Is 894,000 tonnes a sustainable amount at this point, the way things are going with your cod stocks?

Mr. Vidar Landmark: Yes, very much so.

Mrs. Bernadette Jordan: You have good growth.

Mr. Vidar Landmark: Yes, and it's more or less the same situation as was explained by Iceland. We are even seeing that the older part of the stock is surviving longer than expected. It is in the fishermen's part of the stock for more years than the model says it should be. It's a very promising situation just now.

Mrs. Bernadette Jordan: Are the fishers involved with the collection of data and the monitoring of the stocks as well, or is it strictly done through what we would call your department of fisheries and oceans?

Mr. Vidar Landmark: It is for the most part done by our Institute of Marine Research and the Russian counterparts in PINRO, it's called. Some fishery dependent data is used.

Mrs. Bernadette Jordan: This question could be for both Norway and Iceland.

What was the primary driving force of the collapse in 1989? Was it overfishing, the way it was being fished, predation, or all of the above?

Mr. Gudmundur Thordarson: For Iceland it was overfishing. People could see that the cod they were catching were getting smaller every year.

Mrs. Bernadette Jordan: In Iceland, did you say that 200,000 to 250,000 tonnes is your quota?

Mr. Gudmundur Thordarson: Our quota for the next fishing season is 244,000 tonnes.

Mrs. Bernadette Jordan: Do you feel that is sustainable?

Mr. Gudmundur Thordarson: Yes, we think so, according to our harvest control rule that has been evaluated by ICES, and so on.

•(1125)

Mrs. Bernadette Jordan: I'll go back to Norway and ask you the same question about the collapse of your stocks.

Mr. Vidar Landmark: When we talk about this as a collapse, what actually happened was that we were seeing a collapse in development. The catches were more than 300,000 tonnes in 1989, and the advice for a quota was 187,000 tonnes for 1990. That was actually a very, very fast reduction going on, which was more or less stopped by strict regulations from 1990 onward. The stock didn't collapse in the way that it did in Newfoundland, for instance.

When you ask why this happened, this is a question that has been debated a lot in Norway since 1990. It was partly overfishing and it was partly due to predation, especially by seals—we had a seal invasion along the coast of Denmark in the late 1980s—and maybe the biological conditions in the sea changed a little bit also, making all these factors work together in the wrong direction. But the collapse was more or less stopped by very strict regulations introduced in 1990.

Mrs. Bernadette Jordan: Have you looked at climate change as a factor with regard to the decline of your fish stocks? It's something we've heard about here and I wonder if it's the same for you.

Mr. Vidar Landmark: I don't have information on—

Mrs. Bernadette Jordan: You have no information on that.

Mr. Vidar Landmark: —sea temperatures and so on.

Mrs. Bernadette Jordan: I have one last question.

We've been told by the committee that fishing gear and harvesting techniques have had an important impact on the decline of the cod stocks. You mentioned what you use for fishing techniques and I wrote it down but... What's your percentage of trawler use?

Mr. Vidar Landmark: In Norway, approximately one-third of the quotas are fished by trawlers.

Mrs. Bernadette Jordan: Are there any techniques that you find are more sustainable than others?

Mr. Vidar Landmark: Not necessarily, not in the stock management as such. In our view, that is more about the technical regulations on how to use different kinds of gear, and how different kinds of gear should be designed, and so on—minimum mesh sizes, closed areas for trawling to protect juveniles, those kinds of things, rather than the gear itself.

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

Mr. Arnold, for seven minutes.

Mr. Mel Arnold (North Okanagan—Shuswap, CPC): I'd like to thank the witnesses for their presentations.

I'll put these questions out to all of you to answer, if you could, from your respective positions.

We've been hearing a lot about recruitment, the state of the biomass, the age classes, and so on. Do you think we can expect to be able to do anything to enhance recruitment or ocean conditions and survival, or are we pretty much limited to managing the harvest in response to the resultant biomass that we have?

I'll give you the floor, Mr. Thordarson.

Mr. Gudmundur Thordarson: Well, the common wisdom in fisheries assessment is that we only control fishing mortality, really. Therefore, there is very little we can do, other than making sure that at least enough cod grows up to spawn, and then hope for the best that they will become juveniles, and so on. Of course, if you have large predators and stuff like that, like the seals or the minke whales, and so on, that's kind of a political minefield that I won't go into.

I don't think there is much one can do to really enhance things, other than simply allowing them to grow and spawn.

Mr. Vidar Landmark: I'd like to add to that.

I agree that the most important thing is to control the fishery mortality rate, but how you fish and where you fish and when you fish is also of great importance. Technical regulation to ensure that your fishery pattern is good is very important so that you actually fish the right fish from the stock. As I mentioned, this is about mesh sizes and area closures and protection of juveniles, regulation on how much fish you are allowed to have under a minimum size. Those technical details regulating the fishery pattern are a little bit boring, but are very important in managing a stock.

The question of discards also comes into this. Discarding the small fish instead of avoiding fishing the small fish is not a positive way to do this.

•(1130)

Mr. Mel Arnold: The next thing is the interactive species, whether it's cod prey species or cod predators. What have your countries done in the management of those species, whether it's catches and so on? We've recently heard about the different relationships between cod and the snow crab and other prey species of the cod.

I also want to get into the seal management and the predation by seals not only on cod but on their common prey.

Mr. Gudmundur Thordarson: For Iceland, the two main prey species for cod in Iceland are capelin and shrimp. In the initial harvest control rule it was kind of estimated in economic terms what would be the best option to do, and it was calculated purely on monetary grounds that it would be more efficient to kind of sacrifice the shrimp stock, having the cod eat the shrimp rather than fishing down the cod stock. So shrimp was kind of sacrificed on that level.

Capelin, of course, is a very important prey species for cod, and there's a correlation between the weight of cod and the abundance of capelin. In the most recent version of the management plan or the harvest control rule for capelin in Icelandic waters, it's actually taking account of the predation by cod, saithe, and haddock on the capelin stock. Yes, these prey activities have to be there.

In regard to seals, we don't have a lot of seals in Iceland. The harp seal and the grey seal have never really been in huge stocks there, and the harp and hooded seals [*Inaudible—Editor*] are not really a problem in Iceland. The minke whales are known predators of cod. We have some whaling for minke whales, but it is not large. So not much is being done about the cod predators. I think that's the story from Iceland.

Mr. Mel Arnold: How about in Norway?

Mr. Vidar Landmark: On the Norwegian side it's more or less the same story as from Iceland. We have for our capelin in the Barents Sea our harvest control rule, which takes account of the need for capelin as food for the cod stock. That is maybe the only species-by-species harvest control rule we have, where we actually manage one species according to the needs of another species.

We do not have much seal hunting along the coast or in the Barents Sea, after the Russians closed down their hunt for seal pups some 10 years ago. That is something we are a little bit concerned about. But the biggest impact on the cod stock, as far as we know, is from the whale stocks. We do have some hunting for minke whales, but not for any other of the whale stocks.

Mr. Mel Arnold: Okay.

I have 20 seconds.

Have you noted any specific changes in ocean conditions over the last 30 to 45 years? I know 20 seconds isn't enough, but speak in general terms about the ocean conditions—temperatures, salinity, those types of things—in your countries. In your research what major changes have you seen there?

• (1135)

Mr. Gudmundur Thordarson: The short answer from Iceland is yes, we have seen changes. It's getting warmer. We have seen changes in the distribution of capelin. We have seen mackerel come into our waters. So yes, there have been quite a lot of changes, and that's mostly linked to temperature.

Mr. Mel Arnold: It would be good to hear what those changes are further on, if someone else wants to—

The Vice-Chair (Mr. Robert Sopuck): Our guests can elaborate on those answers. I'll certainly give you more time.

If you have more to say on that last question, please feel free to continue.

Mr. Gudmundur Thordarson: Just to clarify, the pattern of capelin migration has changed a lot. It used to be up to the Jan Mayen area north of Iceland, but it's now more to the east coast of Greenland, and that has made it more difficult to search for because it's often under the ice. Also there is some indication of actually capelin spawning in the north, which wasn't the case. It has always spawned in the south. These are the kinds of changes we're seeing. These could have fundamental changes for the cod stock in Iceland because, as I said earlier, the cod stock is heavily dependent on capelin, so if the capelin stops migrating...

The capelin is a net energy transfer into the system in Iceland. They come to Iceland, spawn, and after spawning, most die. It's a feast in March when they spawn.

Also, with the warming of the ocean temperature and the increase in mackerel stock, we're seeing a lot more mackerel entering our waters. The mackerel actually come into Iceland to eat in Icelandic waters, so it's taking energy out of the system. How that affects all the other things is a different story. These changes can have serious consequences in Iceland that we cannot really predict at the moment, and a lot more research is needed.

Thank you.

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

We'll now turn to Mr. Donnelly for seven minutes.

Mr. Fin Donnelly (Port Moody—Coquitlam, NDP): I would like to thank the representatives of both Norway and Iceland for being here to provide testimony to this committee.

Mr. Landmark, you talked about the downturn or the collapse in 1989-90 with the cod. Could you tell us a bit about how much time it took for the cod to recover? Also, how did your country manage the cod stocks towards recovery?

Mr. Vidar Landmark: It didn't take very long. The cod stock recovered very quickly both due, we think, to better natural conditions, but not least because we got the fishery under control and reduced the fishery so much during the first years of the 1990s. When we came to 1995-96, we had total catches of cod in the Barents Sea, the Norwegian Sea, and along the coast of Norway up higher than 700,000 tonnes again. Actually it took four, five, or six years before the stock recovered to the normal situation.

Mr. Fin Donnelly: What did you do differently? Did you wait five years? Did you impose different management methods? Did you do anything different?

Mr. Vidar Landmark: We had very strict quota regulations, especially for our coastal fleet. In the 1980s we had individual vessel quotas for the trawlers in the cod fishery, but in reality it was a free fishery for the whole coastal fleet. We had about 4,000 or 5,000 vessels fishing in that fishery during the 1980s. We imposed very strict regulation both when it came to access and individual quotas for the vessels, and they went down from fishing something like 70, 80, or 100 tonnes for small vessels per year in the 1980s to something like 8, 10, or 12 tonnes per vessel during the first years of the 1990s.

It was a strict quota regulation. There was no moratorium on the fishery, but strict quota regulations were imposed.

• (1140)

Mr. Fin Donnelly: You also mentioned how you fish, where you fish, and when you fish is really important. Does your country have any marine protected areas? How does that play in with the fishery?

Mr. Vidar Landmark: They're not marine protected areas as you would think of them from most of the international discussion and the national discussions on marine protected areas, as no-take zones for all kinds of fisheries. We are very concerned about prohibiting fisheries in areas where we have too high an intermixture of juveniles from various species, so it's more a question of being able to close and open areas according to the situation, for instance, in different parts of the year.

In the Barents Sea, we will more or less at all times have huge areas that are closed for fisheries now due to the intermixture of juveniles, but in two months it could be different. We try to follow catches in these areas and send in vessels to explore the areas to see if it is possible to reopen them, but they are not marine protected areas in the meaning of a defined area where all kinds of fisheries are prohibited.

Ms. Elisabeth Norgard Gabrielsen: If I might add to that, at the same time, in the early 1990s, the joint commission made guidelines for closing and opening of areas so that we would follow the same rules.

Mr. Fin Donnelly: In your opinion when looking at the Canadian cod stock, if it were to recover, what lessons could you give Canada or could Canada learn from your country to ensure high-quality cod products on the world market?

Mr. Vidar Landmark: That is a difficult question.

In our experience, more or less fixed vessel quotas giving the vessels the possibility to plan their activities during the year is an important management tool to avoid Olympic fisheries where you are only after quantity and not after quality. At the end of the day, the important thing is how much money you are paid for your catch, not how many tonnes you have caught. A regulation that gives the individual fishermen and the individual vessels the possibility of planning their activity according to the seasons where they fish is important.

Mr. Fin Donnelly: You didn't mention gear type there. Is that not as much of a concern?

Mr. Vidar Landmark: Our policy has been that it should be left for the individual vessel and fisherman to choose what he finds most effective and suitable for his activity and pattern of fishery. It depends not only on the main catch, but also on what kind of bycatches they are after or not after.

Mr. Fin Donnelly: Thank you.

How's my time?

The Vice-Chair (Mr. Robert Sopuck): You have 40 seconds. We'll allow our guests to go on past the time.

Mr. Fin Donnelly: I'll ask Mr. Thordarson just one question.

In Iceland you have a certification program. Can you talk about how the certification has helped the Icelandic cod fishery?

Mr. Gudmundur Thordarson: Well, it's probably a bit early days on that, but it has kind of ensured that the whole chain, from fishing to the market, is traceable, and in such a way that it is caught in a sustainable fishery. It's a kind of certification for that.

I would really like to comment about your earlier question, if I may. In Iceland we do not have these restrictions about quotas going between different vessel types. It's much easier in that sense. What I would say is that the best thing for Canada is to have clearly defined rules. You may want to have set ship or vessel types, which is a political decision, but have a fairly simple system whereby you set the rules and leave the politics out of it, and do not meddle in it on a year-to-year basis.

That has been the experience from Iceland. The industry itself has developed in such a way that, because of the system, it's now one of

the most highly profitable fishing industries in the world, and the most technically advanced fishing industry in the world. Also, part of that, to get into premium markets, is the certification, whether it is the Icelandic certification program, or the Marine Stewardship Council's, or something else.

From the management side of it, which is where I come from, in terms of what this has really helped, in a sense, is that the industry is realizing that, as the Norwegians said, it's the quality, not the quantity, and that it's better to sell in a premium market where you have the certification. That really says that you do not get certification if you do not fish by the rules and if you're not fishing from a sustainable stock. In a sense, that helped the debate on management a lot, and where you should follow advice, etc.

• (1145)

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

Now to Mr. McDonald for seven minutes.

Mr. Ken McDonald (Avalon, Lib.): Thank you to our guests for appearing by video today.

I've heard the answers to the questions that have been asked, and it's very interesting material. I'm from Newfoundland and Labrador, so the cod fishery to us is very important. It was a big deal when the moratorium came in now almost 25 years ago. We still haven't recovered to anywhere near what your countries have per se. What, in your opinion, have we done wrong, and what should we do to make it right?

Mr. Thordarson from Iceland, you can go first, and then Mr. Landmark, from Norway.

Mr. Gudmundur Thordarson: That's a big question. I don't know, but what I'm gathering is that there was not really a collapse in Iceland, nor in the Barents Sea. There was a huge decrease in fishing, but there was not really a stock collapse, which is what you had in Canada. It's a matter of scale. The collapse was more severe in Canada.

The advice, what I would say, is that you may have just changed the whole ecosystem by this huge collapse. Whether you will ever get the same thing again is everybody's question, basically. It's not certain.

So, yes, I do not have any clear answer to that. I hope the Norwegians have.

Mr. Vidar Landmark: Thank you very much.

We don't have any clear answer to that, but we have some experience that is not similar yet is a little bit similar in terms of a collapse, and that was a real collapse in our herring stock back in the 1970s. That was a big fishery, where the quantities were hundreds of thousands of tonnes. It disappeared at the beginning of the 1970s. It also took some 15 to 20 years before it came back in any significant quantities.

It's impossible from this side of the Atlantic to give any advice on the biological questions, but the advice must be to be very careful when the fisheries start to come back, as I understand that in the last couple of years a little bit of improvement has been shown. My advice would be to be very careful now in the starting up and be very careful on how you design a management policy, and at least a fishing fleet policy, on how to utilize this stock in a very careful manner when it starts coming back. That was what we did in the herring fishery back in the 1990s. We did it very carefully and very slowly and tried to take care of the herring as it came back not only to rebuild the stock but to rebuild the fishery in economic terms. It has to be done with very careful thinking on how to utilize and who should utilize this resource.

• (1150)

Mr. Ken McDonald: Thank you.

Again to both individuals, how often do you do a full stock assessment not only on the cod stock itself but on what they prey on, whether it be shrimp or capelin, and on the predators as well? Is it yearly, every second year, every third year? How often do you do that type of assessment?

Mr. Gudmundur Thordarson: From Iceland, the cod stock is assessed once a year, in the spring, like in Norway. Once they've done the assessment, then the advice goes through the ICES umbrella. For most of the commercial stocks, it's annual. During the fishing of capelin there are lots of searches of the capelin, so you could say that the assessment is done maybe two or three times during the fishing season. It's mostly annual for the top predators. Whales are part of the IWC, International Whaling Commission, system, and it's every five or seven years, something like that. So, yes, it's annual, I would say.

Mr. Vidar Landmark: Yes, that's the same in Norway for the fish species. This is an annual assessment. On the whales in the IWC system, it's every six years, if I'm not mistaken.

Mr. Ken McDonald: Thank you.

Mr. Thordarson, you mentioned shrimp versus cod. In looking at it, which would you put a higher value on, cod as a supply or shrimp?

Mr. Gudmundur Thordarson: Kilo for kilo, the price of shrimp is often higher, but the amount of cod is much greater, and it's also.... Yes, I would put all my money on cod and have that rather than shrimp.

Mr. Ken McDonald: Thank you. That's it for me.

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

We now have Mr. Viersen for five minutes.

Mr. Arnold Viersen (Peace River—Westlock, CPC): Thank you to our guests for being here today. It's much appreciated.

In a similar vein to the last question, when you're dealing with shrimp versus cod, is that a fair assessment? Is it that when you take one, you lose the other? Is that a fair assessment?

Mr. Gudmundur Thordarson: In Iceland, not really. There's also been a change in oceanographic conditions. It has been warming up in the northwest where shrimp were abundant, so that's not helping the shrimp. The peak fishing for shrimp was when the cod was low.

Now we have a big cod stock, and also a fairly big haddock stock, and all of these are feeding on the shrimp.

The juveniles feed a lot on shrimp. Shrimp is caught both on the northern shelf and also inside the fjords along the north and west coasts. These fjords are grounds for juvenile cod and haddock to a large extent, so the shrimp fishermen complain a lot. We have a similar area, like in Norway, of closures where there are juvenile fish, etc. The shrimp fishery is often closed because of juvenile cod and haddock.

The shrimp stocks have probably never been really large to begin with, if that answers your question.

Mr. Arnold Viersen: Mr. Landmark, would you say that shrimp and cod are inversely proportional, or is that not a fair assessment?

Mr. Vidar Landmark: Yes, the feeding pattern of cod is more or less the same in Norwegian waters, but we do not have that advanced multi-species management, as I understand, that Iceland would have, except for the example of the managed northern capelin, where we tried to make sure that the cod gets what it needs before we open up for commercial fisheries, both for Norwegian and Russian vessels in the Barents Sea for capelin.

As far as I remember, we have closing criteria for juvenile cod and for intermixtures of shrimp, I think. It goes both ways. The cod fishery is not allowed to take too much shrimp, and the shrimp fishery is not allowed to take cod juveniles and some other species, such as Greenland halibut and redfish, I think. We do not have a very clear management policy on the prioritization between cod and shrimp.

• (1155)

Mr. Arnold Viersen: You mentioned that last year you had 800,000 tonnes of fish coming out of the North Sea. I'm wondering, what proportion of the cod would be high-quality value versus more of the mass production, processed cod? Where is the proportion of those 800,000 tonnes going? Is it going into fish sticks, or is it going into whole fish on ice in the supermarket?

Mr. Vidar Landmark: The total quota of the northeast Arctic cod this year and in 2015 was 894,000 tonnes. That is divided between Norway and Russia, and some foreign third countries also. I do not have figures on the utilization of the 400,000-plus tonnes in the Norwegian quota, but most of it would go into two different markets. It is either sold as fresh roundfish or fresh fillets, or it is salted or dried cod. Those are the two main markets that this Norwegian quota goes into. A very small portion of it goes into fish fingers and so on.

Mr. Arnold Viersen: Okay.

Mr. Vidar Landmark: It is a clean cod product, most of it.

Mr. Arnold Viersen: That's exactly what I was wondering about. It's more the high-value cod products.

Mr. Vidar Landmark: Yes.

Mr. Arnold Viersen: What would that 894,000 tonnes equate to in dollar value?

Mr. Vidar Landmark: That is a good question. The Norwegian quota is something like 420,000 tonnes.

Mr. Arnold Viersen: Did you say 420,000?

Mr. Vidar Landmark: Yes, and a little less than half of it is the Norwegian quota. You have to divide by three and multiply by two, and then we have something like 280,000 tonnes of fish after heading and gutting them.

If we multiply 280 million kilos, and I'm not sure I can do that—

Mr. Arnold Viersen: Okay.

Mr. Vidar Landmark: —280 million kilos multiplied by 20 kroner should be something like 5.6 billion Norwegian kroner. In Canadian dollars, it would be divided by six.

Mr. Arnold Viersen: So it's \$1 billion.

Mr. Vidar Landmark: It is \$900 million Canadian.

Mr. Arnold Viersen: So it's a \$1-billion industry.

Mr. Vidar Landmark: Please do not use these figures.

Mr. Arnold Viersen: Thank you for your time.

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

Mr. Pat Finnigan (Miramichi—Grand Lake, Lib.): Thank you so much for taking the time to appear in front of this committee. It's a very interesting topic for us, especially on the east coast with the northern cod.

Do the northern cod migrate outside? Right now Russia, Norway, and Iceland are the main fishers in that area. Do the cod migrate outside those waters? If so, are other countries fishing and affecting the cod population?

Mr. Gudmundur Thordarson: For the Icelandic cod, a very small fraction is caught by the Faroese on the border of EEZ. It's been known for a long time that young cod from Iceland often drift over to east Greenland, where they grow up and then sometimes go back and spawn when they're adults in Icelandic waters. It's been quite a long time since that happened. At the moment, though, there are cod coming up in east Greenland that are most likely of Icelandic origin.

There is no agreement between Iceland and Greenland regarding that. Understandably, the view in Greenland is that they should fish it before it goes back to Iceland. There is obviously another view in Iceland on that. These cod do not respect borders, but they are not a huge part of the cod stock.

• (1200)

Mr. Pat Finnigan: Is there any response from Norway on that?

Mr. Vidar Landmark: Yes, these are different cod stocks. There is, as far as I know, no intermixture between the Icelandic areas and the Norwegian and Russian areas in the eastern part of the North Atlantic.

The northeast Arctic cod between Norway and Russia do not migrate outside Norwegian and Russian waters, except for a small area in the Barents Sea in international waters. Over the years, we have had some problems with third countries fishing outside the quotas in that international area in the loophole, as it's called. I am looking at my Icelandic friends who have a bit of history there.

Today Norway and Russia have bilateral agreements with our neighbours in the North Atlantic and eastern Atlantic so that there is no fishing outside the fixed total quota by countries in the northeast Atlantic. Now and then we have vessels from other third countries in

the loophole area in the Barents Sea, but it's not a problem anymore. There are very few; it happens once in a while but not more than that.

Mr. Pat Finnigan: Moving on, if I understand correctly, the quotas are attached to the vessels, i.e., the fishermen own the quotas. Are there any quotas attached to processors and corporations, or do those quotas belong to the fishermen? Are they able to pass them down to the next generation? Can you elaborate on how that's being done?

Mr. Gudmundur Thordarson: I think that's where the difference between Iceland and Norway is greatest. In Iceland it's actually owned by the company. The company can move the quota from any vessel they choose. It belongs to the owner of the company and it will be inherited by his children, not the fishermen's children. The political sticking point in Iceland is that you can actually move all the quota from one fishing village and put it in the next.

Mr. Pat Finnigan: Are there any comments from Norway?

Mr. Vidar Landmark: Yes.

The system in Norway is a little bit different. We give out licences to companies owning vessels. This is a licence that allows you to fish according to the regulations that might be set each year, but nothing more than that.

The quota, meaning a quantity of fish, is given out in a yearly regulation set by the ministry. The licence can be sold from one vessel owner to another vessel owner, but only if the authorities approve and the new owner meets the requirements to hold this kind of licence.

The system does not have that high degree of privatization that you have in the Icelandic system, but the quantity of fish each and every vessel can fish is given out in yearly regulations.

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

Now Mr. Arnold, for five minutes.

Mr. Mel Arnold: I have a couple of quick questions. I'll ask both of them at once and I'll ask both officers for the answer.

The total allowable catch is determined from the percentage of the biomass, from what I understand. I believe, Gudmundur, you mentioned that it had been up as high as 25%. It's back now around 20%. Please correct me if I'm wrong on that.

• (1205)

Mr. Gudmundur Thordarson: Yes, that's right.

Mr. Mel Arnold: How do you determine how and what time of year that biomass is measured?

The second question, when we get to it, is how is the catch monitored? Do you have observers on the vessels? Are there patrol boats that do spot monitoring, and so on?

Perhaps we could start off on how the biomass is measured, what time of year, and how that's determined.

Mr. Gudmundur Thordarson: Of course, we do the stock assessments, which are based on two surveys and a collection of data from the commercial catches. It goes through an age-based assessment.

The biomass is estimated at the beginning of the year. It's basically just a fixed point in time. The biomass is basically estimated from a model. They assume certain natural mortality and stuff like that, of course, over the year. It's fairly standard stuff.

The catches are monitored. When a vessel comes to harbour, the catch has to be weighed by the authorities there, the directorate of fisheries, which monitors them. They are also of service from both... There's not 100% coverage, far from it, actually. The coast guard sometimes enters vessels and is the law enforcement along with the fisheries directorate.

You have to land in a legal harbour, so to say, or in a registered harbour, and have the catch weighed. There are various bookkeeping checks that are run routinely to check whether the amount you report for exporting is the same as the amount you landed, and so on.

Mr. Mel Arnold: Okay.

Mr. Vidar Landmark: Yes. For Norway it's rather similar to what was explained by Iceland when it comes to the estimate of the biomass. It's more than two surveys. Depending a little on how you count, it's a different kind of survey, looking for different things: the spawning, the results of the spawning, the number of juveniles we find in the Barents Sea, and the more general ecosystem surveys, both Norwegian and Russian.

I'm not sure if it makes sense to say that we estimate the biomass at a certain point during the year, but it is a question of estimating how big the biomass ready for spawning will be this year. That is the most important figure in this.

We have a little higher fishing mortality in our management harvest control rule as it stands now. I'm not sure if it corresponds directly to percentages, but the fishing mortality rate we have in our management, together with the Russians on cod, is at present 0.4% and that will be 30-something per cent, I think. I'm looking at the Icelandic scientist who knows more about this than I do from Norway.

We are currently working together with Russia on a new management rule for the cod fishery, the third generation for our cod, and have been looking into even higher fishing mortality rates for the cod stocks as the conditions have been so very good the last five, six, seven, eight years.

We have our coast guard controlling the activities of that sea. The coast guard has something like seven or eight vessels, I think, that are more or less constantly patrolling the waters under the Norwegian fishery's jurisdiction. We also have a system of control with landings of fish, both physical controls and more automatic controls, as we have a system of landing notes, which are processed through our first-hand sales organizations and into the directorate of fishery, where they have a number of automatic controls trying to find the landing notes with something in them that differs from a normal pattern.

Different kinds of automatic controls line up on the computer screen with a red flag saying this should be looked into.

Mr. Mel Arnold: Thank you.

The Vice-Chair (Mr. Robert Sopuck): Mr. Morrissey, you have five minutes.

Mr. Robert Morrissey (Egmont, Lib.): To the witness from Iceland, you have a beautiful country. I visited Iceland, and it's unique.

You stated that you were fishing at 22% and then you moved it to 20%, and had a rapid increase in the biomass. That seems like a small adjustment for such a significant.... Could you expand on that, please?

Mr. Gudmundur Thordarson: Yes. The original proposal was for 22%, but through negotiations with stakeholders and through Parliament it went up to 25%. It's a small difference, but because of, can we say, implementation [*Inaudible—Editor*] in the system, the resulting harvest rate was around 30%, rather than the 25% that was set.

Not only when they lowered.... To make it clear that we are catching off the reference biomass, which is age four and older, that resulted in this increase. We went roughly from 30%, which is an F of almost 0.4 to an F of 0.3. That seems to be working in Iceland in a sense that we saw a rapid increase, but I think half of it is the lowering and half of it is because of better enforcement of the total allowable catch.

• (1210)

Mr. Vidar Landmark: May I add something from Oslo on that point?

Mr. Robert Morrissey: Sure.

Mr. Vidar Landmark: I think it's important to work on these issues of fixing fishing mortality according to knowledge about the stock and the conditions of the sea at present. These things worry us quite a lot, depending on the situation in the area that the stock utilizes for spawning or for feeding, and so on.

For instance, in the last five, six, or seven years, we have had a temperature increase in the Barents Sea, which is the important feeding ground for the cod stock. The ice cap has retreated quite substantially in the Barents Sea, and this has made it possible for the cod stock to utilize a much greater area of the Barents Sea for feeding, and so on, than it did only some five to 10 years ago. This meant that the cod stock grew more than we expected, which also makes it possible to fix a higher fishing mortality rate in our management regulations of the stock.

It's important to follow the development of the conditions for a stock and use the knowledge from historical periods for the stock to fix a good harvest control rule. It's not something done once and for all.

Mr. Robert Morrissey: Could you expand a bit on the fishing mortality rate? I have a definition of that, but what's the definition you're using?

Mr. Gudmundur Thordarson: That's the standard fishing mortality definition that is in the fisheries biology, where it's basically on a logarithmic scale. It's not the same as percentages. For example, a fishing mortality, or F, of 0.2 is roughly 18%, and the difference increases as you go higher up. You can fish at an F of 1.0, and that is not 100% of the stock. You can even fish at 1.2.

This kind of confusion, or the technicality of that term, was one of the main reasons it was decided to go with harvest rate in Iceland, which is this 20% of some reference biomass. It's much easier for people to understand that as a technical fishing term.

Mr. Robert Morrissey: Time does not permit, but I find that a bit intriguing.

I have a question for the Norwegian witness. You made a statement that at one time, maybe it was in conjunction with the low point in your cod stock—and did I hear you correctly, that you said there was a seal invasion?

Mr. Vidar Landmark: Yes, that's correct.

Mr. Robert Morrissey: How did you get rid of the invasion, or how did you change the invasion?

Mr. Vidar Landmark: They went away.

We had serious problems from, let me say, 1984 or 1985, in our northernmost county of Finnmark, with the huge numbers of seals coming in both from the east in the Barents Sea and the Russian side, and from the northwest from the Svalbard area coming in to the coast, and feeding on the cod along the coast, and also on other species. We had big problems with this for four, five, or six years. We paid the fishermen money, with a hunting premium. We paid them to shoot seals.

• (1215)

Mr. Robert Morrissey: Did that clear up your invasion?

Mr. Vidar Landmark: I think it was nature that took care of it.

The Vice-Chair (Mr. Robert Sopuck): Thank you very much for ending on that positive note.

We will turn to Mr. Donnelly, for three minutes.

Mr. Fin Donnelly: One of the elements this committee is studying is looking at the sustainable harvesting technologies for northern cod. I'm just wondering if there are any other suggestions or recommendations either delegation could give us with regard to sustainable harvesting technologies. It's just a general question.

Mr. Vidar Landmark: Sure, I can start.

Norway tried to put some emphasis and spend some money on developing more selective gear, both when it comes to the trawl fishery and other kinds of fisheries. The Danish seine fishery, for instance, needs also selectivity. We do try to develop better gear to ensure a better pattern of harvesting from the stocks. In my opinion, that is an underestimated area when it comes to modern fisheries management. It is not the same if you fish in that way or in this way, both when it comes to the impact on the environment and when it comes to how you harvest and manage a stock. Putting some emphasis on developing more selective gear, gear that is more precautionary and does not have that kind of impact on, for instance, bottom habitats and so on, is an important issue.

Mr. Fin Donnelly: Before we hear from Iceland, I just want to say that's consistent with what witnesses have told this committee, that fishing gear and harvesting techniques can have an important impact on the sustainability of the cod fishery. We have information here that in 2013 the Norwegian cod fishery was known to use several different types of fishing gear. According to the Norwegian Ministry of Trade, Industry and Fisheries website, it was 30% bottom trawl,

30% gillnets, 15% longlines, 15% Danish seine, and 10% handline. That's the basis for my question.

In the remaining time I'd like to ask Iceland to comment about their gear type recommendations.

Mr. Gudmundur Thordarson: It is very similar in Iceland. There's about 45% bottom trawl, 35% longlines, 8% gillnets, 6% Danish seine, and handline or jiggers is 6%. Of course, everything the Norwegians said is correct about the selection pattern, etc., but what I would say is in some cases the theoretical best fishing pattern is not really achievable in normal ways. Sometimes it's not economically feasible to go that theoretical way. Also I would like to reiterate what my Norwegian colleague said when he was talking about the herring fishery, which is that when you have the prospect of starting a commercial fishery for your cod, go slowly. You have nothing to lose by going really, really, really slowly, and do not start with too much force on it. I think that's the fundamental thing you have to take into account. The technical measures, important as they are, I think they are second to just going really slowly.

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

Now to our last questioner, Mr. Hardie, for three minutes.

Mr. Ken Hardie (Fleetwood—Port Kells, Lib.): Thank you to the guests.

I've been sitting here taking notes throughout this study. I'm from the west coast of Canada, where it's more salmon than it is cod. But the thing that you seem to have both keyed in on is the management and protection of the juvenile stock.

Can you expand on why that's important? Can you also define what you call a juvenile cod? Sometimes I suspect that we may define things differently, and that could lead to quite different results.

• (1220)

Mr. Gudmundur Thordarson: Norway first?

Mr. Ken Hardie: Both of you, please.

Mr. Vidar Landmark: I'm just checking up on our minimum size for cod. We have a minimum size, which is, I think, 41 or 42 centimetres, if I'm not mistaken, something like that. We have minimum sizes for most of the species caught in Norwegian fisheries. Let me just check.

Mr. Ken Hardie: I gather, then, it's the harvesting techniques that would tend to take the right-sized fish and allow reasonable escape of the others.

Mr. Vidar Landmark: Yes, that's correct. For instance, mesh sizes in nets is an important issue here. It's not only about the technical regulation like mesh sizes and so on, but it is also about, as we touched upon a little bit earlier, protecting areas where the amount of real juveniles, to call them that, is too big and should be left alone. The theory is rather simple. It's better to fish one cod of eight kilograms than four cod of two kilograms. The four cod of two kilograms should be allowed to grow up and spawn a couple of seasons before you fish too many of them. Both the question of the quality of the fish and the question of stock management leads in the same direction: you should direct the fishery to the right year classes and the right sizes each and every year.

Mr. Ken Hardie: Thank you.

Can we get some reflections from Iceland, please?

Mr. Gudmundur Thordarson: A juvenile in Iceland is caught younger than the age of four. There is no minimum landing size of cod, but if 25% of the catch is smaller than 55 centimetres, that's considered juvenile overfishing, or something like that. That's the definition of juvenile. A cod that is smaller than 55 centimetres is hardly considered worth taking.

I'd like to raise a point about what my Norwegian colleague was saying about having large cod, and that it's more valuable than a small cod. Our problem now is that we have so much large cod that it actually has a lower value than a medium-sized cod. They are actually starting to say that we have too many of the old ones; we need medium-sized because we get higher premiums for them.

It's not that simple. It's the same as with flatfish species. They're supposed to fit on a plate. If they are larger than that, they are not as valuable.

Mr. Ken Hardie: Thank you.

Mr. Vidar Landmark: Let's agree on six to seven kilos then.

The Vice-Chair (Mr. Robert Sopuck): That is a wonderful problem to have, when your fish are too large.

I'm going to break a bit with convention here. Given how stimulating and interesting the testimony is and given the rare opportunity we have to ask questions of witnesses from overseas, I'll throw the floor open to any member, if they have an extra question or a point of clarification, but keep it very short.

We have Mr. Arnold, and then Mr. Finnigan.

Mr. Mel Arnold: Can you manage the fisheries to protect the juveniles in season, or is that only able to be done on an annual basis?

Also, has there been any indication of disease or pathogens being the cause of the collapse in the past?

Mr. Vidar Landmark: From Norway, I think I would answer the first question with, yes, and the second question with, no, not as far as we know.

Mr. Mel Arnold: Okay.

Mr. Gudmundur Thordarson: It would be very similar in Iceland as well.

Mr. Pat Finnigan: Water temperature in our part of the world has been identified by scientists as one of the main causes of a lot of species, including cod, salmon, and other species moving from our waters.

I think I've heard one of you, or maybe both of you say that was not measured. Does it mean that you don't believe that theory?

I'll leave that question at that.

Mr. Gudmundur Thordarson: I think, for Iceland, we have seen changes in temperature, but it has not really affected the area, open or closed for cod, like it has in the Barents Sea. I don't know the Canada case, but you have much colder water than we have. Cod grows slower in Canada than it does in Iceland. It probably is in a more difficult climate than it is in Iceland, or than probably in the south of the Barents Sea. That may very well be the case in Canada.

●(1225)

Mrs. Bernadette Jordan: One of my colleagues made a good point and I'd like to expand on it a little.

We've heard Iceland talk about the collapse and Norway talk about the collapse, and then of course, there's our collapse here.

How do you define "collapse"? We seem to have really had a much bigger decline than what you seemed to face. I'd like to know what you considered a collapse of the industry was.

Mr. Gudmundur Thordarson: For Iceland, I tried to backpedal out of that because it's not really a collapse. It was considered a collapse when we had been fishing 300,000 to 400,000 tonnes every year, when the advice was for 120,000 tonnes. That was considered a huge collapse and a huge blow to the industry. From that, it grew pretty quickly.

Mrs. Bernadette Jordan: Norway?

Mr. Vidar Landmark: I also apologize for using the world "collapse". Our cod stock in 1989-90 was declining but we were lucky enough to see it in time to do something about it. As I said, we had the same history with herring back in the 1970s. Then it took some 15 to 20 years before it recovered, so I understand for that it was a collapse.

The Vice-Chair (Mr. Robert Sopuck): We'll go to Mr. Finnigan for a very short question.

Mr. Pat Finnigan: I think I've read or seen somewhere that there is an aquaculture industry for cod, that you are starting to farm cod. I don't know whether that's right or not, but is that something you see in the future? What kind of success did you have with that, if it is an industry?

Mr. Vidar Landmark: In Norway, we spent quite a lot of money up until 2008 trying to develop aquaculture for cod, but we really didn't succeed, and then there came a financial crisis upon us, which led to a collapse in the prices for cod, which led to an eradication of the cod farming. After that, it hasn't recovered, and I would say there have been no serious attempts to take it up again.

In the future, there are certainly possibilities for cod farming, especially for a country like Norway, with a very big cod fishery and a very season-based activity. We take approximately two-thirds or three-quarters of our cod during the four or five months from January to April, and there should be room for cod farming delivery to the markets in the second half of the year. We are positive that sooner or later it will come back.

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

Given that we have come to the end of our questions, I was wondering whether our guests would like to give us a summary statement of some extra thoughts that we would benefit from, based on their experiences.

We'll start with Iceland.

Mr. Gudmundur Thordarson: It has been an honour to spend this time with you, and it has been informative.

As I said earlier, if you are starting to have cod back in Canada, go slowly, tread slowly, and base all decisions on scientific advice. It is not perfect, but this is the best you have.

Also, try to make an environment for the industry so that people can kind of see what the future holds for them, and that it's not going to be changed from year to year. Try to avoid too much political inference in the system.

It's also a real political question whether you have fisheries mainly for creating jobs, or whether you are making profit. In Iceland, it was decided to make profit. It had a lot of political ramifications, but today we have a really powerful fishing industry. It has resulted in quite dramatic social changes, but the end product is a vibrant fishery that is making profit, which is why we are actually fishing. On the Canadian cod, just go slowly.

I think that's what I have to say from my side.

• (1230)

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

Norway, go ahead.

Mr. Vidar Landmark: Thank you.

I would follow up what was just said from Iceland by saying that in the Norwegian fishery policy, we have tried to combine the two—an industry making money and an industry supplying jobs. We have a stronger rural policy element in our fisheries policy.

I think I would also take this opportunity to mention one more thing that we haven't touched upon, and that is the co-operation among management authorities, scientific bodies, and the fishing industry. In the development of our management policy, it has been

very important to work together with the fishermen's organizations and with the scientists to be sure that we are working for what is best for the fishermen and not against the fishermen. Our experience has been that when the fishermen are allowed into the discussions with the scientists and with the management authorities, we are able to sort out the problems we have, setting the right quotas and fixing the right regulations for a good fishery.

The three party co-operation among authorities, scientists, and fishermen's organizations has been very important in developing a modern fishing policy in Norway.

The Vice-Chair (Mr. Robert Sopuck): On behalf of the Standing Committee on Fisheries and Oceans, I want to thank you very much for doing us the honour of spending some time with us. Your testimony was extraordinarily interesting and will be very useful as we write our report. I know I am speaking on behalf of all my colleagues when I say thank you so very much for a most informative testimony, and I am sure that much of your testimony will form a very big part of our final report.

Thank you so very much.

Mr. Gudmundur Thordarson: Thank you.

Ms. Elisabeth Norgard Gabrielsen: Thank you.

Mr. Vidar Landmark: Thank you.

The Vice-Chair (Mr. Robert Sopuck): This meeting is now adjourned.

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