

HANSARD

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**COMMITTEE ON
NATURAL RESOURCES AND
ECONOMIC DEVELOPMENT**

Tuesday, June 22, 2021

Video Conference

Lobster Quality Research and Innovation Centre

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**NATURAL RESOURCES AND
ECONOMIC DEVELOPMENT COMMITTEE**

Hon. Gordon Wilson (Chair)
Rafah DiCostanzo (Vice-Chair)
Hon. Leo Glavine
Hon. Ben Jessome
Bill Horne
Hon. Pat Dunn
Tory Rushton
Claudia Chender
Lisa Roberts

[Hon. Gordon Wilson was replaced by Hon. Tony Ince.]

[Bill Horne was replaced by Hon. Patricia Arab.]

In Attendance:

Heather Hoddinott
Legislative Committee Clerk

Gordon Hebb
Chief Legislative Counsel

WITNESSES

Department of Fisheries and Aquaculture

Geordie MacLachlan,
Director of Marine Services

Université Sainte-Anne

Michelle Theriault,
Director - Marine Research Centre

Daniel Lane,
Interim Director - Lobster Quality & Innovation Research Centre



House of Assembly
Nova Scotia

HALIFAX, TUESDAY, JUNE 22, 2021

**STANDING COMMITTEE ON
NATURAL RESOURCES AND ECONOMIC DEVELOPMENT**

1:00 P.M.

CHAIR
Gordon Wilson

VICE-CHAIR
Rafah DiCostanzo

THE CHAIR: I call the meeting to order. This is the Standing Committee on Natural Resources and Economic Development, and I'm Rafah DiCostanzo, the MLA for Clayton Park West, the Vice-Chair, and chairing this meeting today.

I would like to do a few reminders, if you don't mind. The witnesses and the members are to keep your video on at all times, and please, if you have to leave, try not to leave your seat unless it's important or urgent. Keep your microphones muted until you are called upon to speak, that's for everybody, wait after the Chair has recognized you, then mute your mic right after as well.

If you have something to say, just raise your hand quickly so I know. The questions mainly will go Mr. Geordie MacLachlan, and then he will decide who he would like to forward it to after as well, unless the members themselves will choose somebody in particular. If you could make sure that your cellphones and any other devices are off - I think I did all of them.

Next I'm going to introduce the members, starting with Mr. Ince.

[The committee members introduced themselves.]

THE CHAIR: On today's agenda, we have officials with us from the Department of Fisheries and Aquaculture, as well as the Université Sainte-Anne, to discuss Lobster Quality Research and Innovation Centre.

I'd like to ask the witnesses to introduce themselves, starting with Mr. Geordie MacLachlan. I shouldn't have a problem with Sarah McLachlan, now I'm having a problem with that last name. I apologize. Mr. MacLachlan, and then also if you don't mind introducing the other guests after.

GEORDIE MACLACHLAN: My name is Geordie MacLachlan, I'm the director of Marine Services with the Department of Fisheries and Aquaculture. Here with us today from the Université Sainte-Anne are Michelle Theriault and Dan Lane, principals both with the Université Sainte-Anne and the new Lobster Quality Research and Innovation Centre.

THE CHAIR: Next I have two people who have some opening remarks. We'll start with you, Mr. MacLachlan.

GEORDIE MACLACHLAN: I'll just keep these relatively brief. First of all, I'd like to thank the committee for the invite. I'm excited to talk about this topic. I'm pleased to share the floor with Michelle and Dan from Université Sainte-Anne and the Lobster Quality Research and Innovation Centre.

I want to give a quick, brief background on the importance of the sector, both seafood in general but lobster in particular to the Nova Scotia economy and to Nova Scotia as a whole, and lead into why the work of the centre is critical to Nova Scotia.

Just as a quick reminder, fishing is a complicated industry. It has several jurisdictions, so commercial fishing, including lobster, is federally managed by the Department of Fisheries and Oceans Canada. They issue licences, determine seasons, set quotas, establish conservation measures. The Province of Nova Scotia has oversight and control of processing, buying, selling, possession, and marketing of fish products. One of the purposes of this oversight the Province has is to maintain product quality, so one of the main reasons we're here is to discuss the lobster quality.

DFO carries out this mandate through the licensing of seafood buyers and processors, and we also support with the industry development activities, such as advocacy for provincial interests in federal fisheries management decisions. We play a supporting role in a variety of key priority areas, including trade, market access issues, market development, labour, innovation, product development, technology adoption, and an emerging one obviously we're all familiar with is climate change as well.

The Department of Fisheries and Aquaculture also manages the Nova Scotia portion of the Atlantic Fisheries Fund, which is a 70/30 federal-provincial funding program that is investing \$421 million into the fish and seafood sectors in Atlantic Canada.

Seafood is a very large industry in Nova Scotia. In 2019, our seafood exports reached \$2.3 billion. We are Canada's number one seafood exporter, with 31 per cent of the country's total seafood value. Compare that with 2013, the seafood exports are \$1 billion, and we had only 24 per cent of Canada's total seafood share, so we've done a lot of work over the last number of years to improve those numbers and maximize the value of our seafood industry.

At 38 per cent, fish and seafood products are Nova Scotia's largest export commodity. We export to over 80 countries with the main destinations being the United States, China, and the EU, amongst many others. The total employment in the sector in 2018 was just over 18,000 workers, so it has a major impact on rural Nova Scotia's economy. Combined, the fishing, harvesting, and seafood processing sectors contributed \$620 million to the Nova Scotia GDP in 2019, which equates to 1.6 of the GDP contribution.

I move on more specifically to the lobster sector. As many of you know, lobster is fished all around the province. Almost every coastal community in the province has ties or some involvement with the lobster fishery. Again, it's DFO-managed. It's an effort-based fishery, so it's not quota-driven. The effort's managed through a number of traps, so trap limits per licence and for the size of the lobster being caught, so undersized lobster can escape from the traps and aren't able to be kept.

There are defined seasons for the fishery. As we know, southwest Nova Scotia is really a Fall-Winter fishery. The Eastern Shore, Cape Breton, and the Gulf are mainly Spring-Summer fisheries. In 2019, just over 51,000 metric tons of lobster was landed in Nova Scotia, just over \$880 million, which represents 49 per cent of Canadian landings.

We're a major player in Canada: 55 per cent of overall Canadian value for the lobster sector, and 38 per cent of all Canadian lobster licences to fish lobster are Nova Scotian, so we have a major share of the industry effort. Also, there's a strong industry commitment to quality and sustainability, so industry-led collaborative scientific and research projects, voluntary care for size increases, V-notching, which is a way to protect berried females. The industry is also MSC-certified, which is the gold standard for sustainability certification for fish.

I just want to highlight our markets. In 2013, Nova Scotia exports for lobster were \$436 million. In 2020, they were \$1 billion. So there were significant increases in market value for lobster. To be precise - I have some notes here - 131 per cent increase from 2013 to 2020. Lobster is also the dominant export commodity moving through the Halifax airport. Some 44 per cent of cargo traffic by volume and 57 per cent by value of traffic moving through the airport is lobster.

Through industry efforts and supported by departmental marketing activities, we've seen major market diversification since 2013. Our reliance on the U.S. market has gone

from 64 per cent to 38 per cent for lobster, and China has risen from seven per cent to 36 per cent of market share for live lobster.

To reach these markets and achieve maximum value, lobster needs to be of the highest quality to meet customer expectations and to get there in good condition. As I mentioned, and many of you may have heard Mr. Colwell mention before: you can't increase lobster quality once it's lost. There's a main focus within the department and industry to maintain quality once it comes out of the water, and the department has a long history of supporting lobster quality initiatives.

In 2018, we mandated that licensed lobster buyers were required to take a lobster handling course. In partnership with the Université Sainte-Anne, we have created and implemented a live lobster quality certification program. We just recently launched the Nova Scotia Seafood Quality Program to support high quality standards for all Nova Scotian seafood and 25 per cent of current commitments of the Atlantic Fisheries Fund are focused on lobster projects, the majority of which are our focus on lobster quality.

The lobster industry is riding high. It's quite successful, so the environment is ripe for industry development projects that focus on quality. There's a recognized need to maximize the value of the product as a sustainable resource. We want to make sure that we can get the most from that sustainable resource, so industry is already leading in initiating quality-related research projects.

There is unprecedented access to funding, as I mentioned, with the Atlantic Fisheries Fund, among other funding opportunities. Many researchers and suppliers in Nova Scotia are seeing the opportunity and recognizing the value of the seafood industry, and see it as an opportunity to help initial development but also to help support their own interests in the sector and further their own research and operations as well.

There are lots of things going on in the sector, and there's a need to maybe have a more coordinated approach so less duplication of effort, more sharing of information. With that in mind and with the access to the Building Tomorrow Fund to support innovation in agriculture and fisheries and aquaculture, the Department of Fisheries and Aquaculture identified an opportunity to create a Lobster Centre of Excellence to foster collaboration in lobster quality research.

Based on their solid applied research background, their longstanding connections and work with industry and the seafood sector in particular, the department partnered with Université Sainte-Anne to establish the Lobster Quality Research and Innovation Centre with \$2.5 million in funding from the Building Tomorrow Fund. Collaborating with industry, the centre will oversee applied and cutting-edge research to improve lobster quality. This isn't theoretical work - this is applied real problem-solving to address real industry issues brought forward by industry to help them maximize their export value.

With that, I'll end my comments there.

THE CHAIR: Thank you, Mr. MacLachlan. Thank you for your opening remarks. Next we have Ms. Michelle Theriault and she has opening remarks. Go ahead, please.

MICHELLE THERIAULT: My goal was just to do a very brief introduction of myself and Dan and to give you a little bit more detail on who we are and why we're here today. I'm sure we'll get into more detail as the meeting goes on. I'm Michelle Theriault. As mentioned, I am the Director of Université Sainte-Anne's Marine Research Centre that is at their satellite campus in Petit-de-Grat, which is in the southeast corner of Cape Breton.

I'm sure many of you are probably wondering, why Sainte-Anne? Where did we come from, perhaps? How is it that we're here all of a sudden involved in this lobster research industry? Actually, for us, it hasn't been all of a sudden. We've been involved in the lobster industry since about 2010, when our Marine Research Centre was developed. We're a small centre. We were a small centre when we started and we still are relatively small here, but our goal has always been to support the fishing and aquaculture industries right from the very beginning, and we've worked really hard to stick to that goal.

We've done this slowly and steadily over time, over the last 10 years, we've built on that over about a decade. I suppose you could say the credit or the blame - depending on who you talk to - for why we're so involved in lobster is because of me and my background. Before I came to Sainte-Anne, I worked in the lobster industry for quite a while. I was there for over 10 years as a lobster quality biologist. It gives me a very unique perspective, I think.

We all know the lobster industry to be very exciting and dynamic, but it's also very complex, I will say, and challenging. I really feel that the time I spent in the industry has been invaluable to us here at Sainte-Anne because it helps us understand the problems really well, understand the problems that the industry is facing. Also, more important, it helps us be able to recognize when and how our work as researchers, as a university, as academia, can actually help the industry, so how we can help and when we can actually be useful.

For me, the development of this new centre is very exciting, and I hope we get to explain a bit on how it's going to link all the resources that we had existing at Sainte-Anne together. We look forward to talking about that. That being said, I'm not actually directly involved in the development and the planning and the structure of the new centre. My colleague Dan Lane has been more closely involved with that, so he will probably address most of those questions.

Dan joined our team as an associate professor in about 2016. He was professor emeritus from the University of Ottawa and he has a background in fisheries management and decision-making and simulation modelling. Because of this, as you can imagine, he

has been a huge asset to our team. It's not every day, I don't know if you're familiar where Petit-de-Grat is, or if you've been here before, but it's not every day we get scientists walking into our campuses with this experience, offering to help and to volunteer and help us really just push our facilities and research forward. That's what Dan did for us.

The fact that he enjoys doing funding proposals is just a bonus for us, so we're very excited to have him on board. I know I speak for both of us and Geordie to say that we're excited to be here today and talk about this opportunity, and we look forward to your questions.

THE CHAIR: Petit-de-Grat, is that on the way to Mabou?

MICHELLE THERIAULT: No. When you cross the Canso Causeway, you take a right to go to a little island called Isle Madame, and you take a left to go to Mabou.

THE CHAIR: I see Ms. Roberts has a question right now before questioning. Go ahead.

LISA ROBERTS: I just wondered if Mr. MacLachlan might be able to circulate his opening remarks. Often we were able to get opening remarks circulated to us by email, and there was a lot of information in that.

THE CHAIR: If you send it to Ms. Heather Hoddinott, she will be able to send it to all the members. Am I correct, Heather?

HEATHER HODDINOTT: Yes, Madam Chair, that's correct.

THE CHAIR: Thank you. We're going to open the floor to questioning, and it will take 20 minutes for the PC caucus, followed by 20 minutes for the NDP caucus, and third is the Liberal caucus, and we're starting at 1:24 p.m.

Before we do that, if I may, there are two members who did not introduce themselves, and they are Mr. Dunn and Mr. Glavine. If we can just have a quick introduction that you're here with us today, for Hansard purposes.

HON. PAT DUNN: Thank you, Madam Chair. Pat Dunn, MLA for Pictou Centre.

THE CHAIR: Wonderful. Mr. Glavine, are you - oh. Did he disappear again? Here he is. Mr. Glavine, would you like to introduce yourself?

HON. LEO GLAVINE: Thank you very much, Madam Chair. (Inaudible)

THE CHAIR: Mr. Glavine, I'll come back to you. The connection is not very good. We know that Mr. Glavine is here with us.

Also Mr. Hines has joined us. Would you like to introduce yourself right now as well, Mr. Hines?

HON. LLOYD HINES: Thank you very much, Madam Chair. It's Lloyd Hines, MLA for Guysborough-Eastern Shore-Tracadie.

THE CHAIR: Thank you. And he is replacing Mr. Jessome, who was with us for the first half hour.

Now we go back to the PC caucus and we are starting with Mr. Dunn.

PAT DUNN: I want to thank the presenters for all that information. It's certainly an exciting industry in this particular province.

Excluding last year and this year due to COVID restrictions, the 25 years before that, I took the opportunity to be out on a lobster boat during May and June in the district in Georges Bay outside Antigonish, and I was always impressed over the last 10 years how careful they are working within that industry. When I say how careful they were, I mean the way they looked after the stock, following the rules and regulations that were put out to guide them. Again, it was just something that really, really impressed me because that's probably one of the many reasons why we have an international reputation for premium-quality seafood.

I have a number of questions. There's lots of competition, in particular for lobster - and to our south, our neighbour to the south, we have countries like Australia, Brazil, Cuba, Bahamas and so on - various species. Where's our most competition for our product as far as trying to find new markets?

GEORDIE MACLACHLAN: I'll just make a couple of notes so I don't miss part of your question here. You're right, Mr. Dunn. The seafood industry is a competitive business, as you well know. There is lots of gold market demand for seafood. Lots of specifically gold market demand for Nova Scotia seafood. We have a long history of providing the world with clean, fresh, high-quality seafood.

As far as lobster goes - specific to your question - frankly much of our competition, as you know, comes from our own region. We're competing with New Brunswick. We're competing with the United States, which has a similar lobster, so we have *Homarus americanus*. It's our brand of lobster, so we share that with the United States. As many people know, the Boston lobster is what a lot of the world knows our lobster as. We're combining that with our marketing efforts in new markets in China and in Asia and around the world with our high-quality Nova Scotia lobster.

Also, as you mentioned, we feel we have a premium-quality product here in Nova Scotia. The efforts that we're doing in the province to ensure the highest-quality product is

what we're focusing more on. From our perspective, in Canada we have a really robust fisheries management regime led by the Department of Fisheries and Oceans. They set the seasons, and the seasonality of lobster all around the province is based on the molt cycle and the quality of the lobster at the time. If you have a recently molted lobster, it's more susceptible to damage and to dying, frankly, mortalities in the export market.

[1:30 p.m.]

That's one of our benefits in Canada: we have a robust fisheries management regime that takes into account the health of the lobster and the quality of the lobster. There are other markets that don't have the same seasonality or season restrictions that Canada does, and as a result, some of our competitors, down in Maine for instance or northeast U.S., their lobsters are maybe a bit smaller, maybe a bit more soft-shell, and they are meant for different markets.

Here in Nova Scotia, our focus is on live, high-quality, hard-shell, fully-meated lobster. That's our main market, that's what we're branded, that's what we're doing. Some of our competitors in other regions, and as you know in the Gulf - we have competitors from P.E.I. and New Brunswick who fish the same areas, but the competition and the product that flow from those two provinces is focused more on the processed lobster side as well, so they get more lobster processing and take that to market as well.

From a live-lobster perspective, being biased as Nova Scotians, I'd like to claim we have the best lobster in the world, and I think through a lot of the work we're doing to assess the quality, which includes full-meatedness, to make sure we're avoiding the molt cycles, we definitely feel that we're raising the bar over and above our competition from other areas.

PAT DUNN: Is the Province presently or will be in the near future looking at any new market-based incentive schemes for selling the Nova Scotia lobster?

GEORDIE MACLACHLAN: The Province's current approach to marketing is, as you know, in-market promotions, working with industry to identify what their needs are, what their markets are, where they'd like to improve and move into new markets. The department supports industry with trade missions, we've done in-market promotional campaigns.

COVID has been a bit of a different beast for marketing, the way the industry markets their product, the way the Province markets their product. The demand for seafood remains high despite COVID. When people think of COVID, we've seen a slight dip in our seafood exports, but the industry is optimistic and they are still continuing to market their products.

The department is focused on supporting their existing efforts, their existing relationships, and maximizing their existing contacts in business. That's through in-market promotion, live-stream events that promote and teach consumers how to handle, how to prepare, how to eat and frankly crack apart a lobster, everything basic, from how do you pick it up to how you cook it to how you take it apart the best way. That's what we've been focused on.

We're also working on market diversification. The department supports trade shows and trade missions to all parts of the world. China has been a major focus, but we're also focused on the EU. There's an untapped market of potential for the EU that has high levels of seafood consumption, and also there is some familiarity with lobster, but we feel that we can get more lobster in there as well.

What we have found over COVID is that, as mentioned, the demand is high. We've seen some record high prices for lobster in this past year, so you may have heard or may have seen, but I'll let you know that earlier in the year we saw some wharf prices at \$13 per pound up in southwest Nova Scotia. Even now, today, we've heard that prices in Cape Breton are \$9 a pound at this time of year, which is a record, from what we understand.

The industry is optimistic. They are still looking to diversify. A spinoff aspect of the Atlantic Fisheries Fund is the Canadian Fish and Seafood Opportunities Fund, which is open to industry groups for broad-based marketing initiatives, sector-wide marketing initiatives to promote products internationally or domestically. The industry is availing themselves of that work to take advantage of that incentive program through the Canadian Fish and Seafood Opportunities Fund.

PAT DUNN: I was talking to a few lobster fishermen over the weekend and they were clearly ecstatic over the fact that it was \$9 a pound. They certainly had a smile on their face ear to ear.

Researchers continue to say that they have found that the lobster population in New England has been increasing. They attribute this to climate [Inaudible] warmer water temperatures and so on. Just wondering if you have any comment on that.

GEORDIE MACLACHLAN: The Province is part of the Gulf of Maine Council on the Marine Environment as well, so we stay up to date with some of the work that's happening in collaboration with New Brunswick and other Gulf of Maine counterparts. One of the things that we were aware Maine has done is, they've done some climate vulnerability assessments of seafood stocks. They've looked at how potential impacts of climate change could impact the movement of species, what opportunities for new species may be arriving to offset some of the concerns of species that may have migrated away.

I can't really speak specifically to what's happening down in Maine. All I know is that it's a bit early to make conclusions about climate change and the impact on lobster.

But I think just a general principle is that warming oceans will have an impact on species distributions, especially species that are cold water-based species. They're apt to migrate with the water to maintain their habitat in their climate range. That being said, recognizing that there is a risk of climate change and there are also potential opportunities for new species with climate change.

The Province has partnered with the Centre for Marine Applied Research on carrying out a white paper. I think it just got published this week - a white paper assessing the vulnerability of fisheries and coastal communities, seafood communities, to climate change. They've identified what those potential risks might be and potential impacts to existing species in the existing industry, but also to identify potential opportunities of where industry could be looking to take advantage of some of these new species that may be extending their range as a result of climate change. So yes, there could be potential risks.

We're still trying to figure out what the science is in fisheries management - it's science-based, evidence-based management, so we want to rely on that for how we move forward. But it's also okay to be prepared for potential future eventuality, so the department is starting that work to look at and support industry on climate change adaptation to address potential changes in species ranges and all that.

I'm not sure if - I think I'll just leave it there. Michelle, do you have anything to add on that? I'll hand it back to Madam Chair.

THE CHAIR: Ms. Theriault, do you have anything to add? No. Okay.

Mr. Dunn, you have seven minutes left.

PAT DUNN: I'm going to ask one more question, Madam Chair, and then I'm going to turn it over to my colleague and if there's any time left in the 20 minutes, I certainly have lots of questions. I guess my next question will be: Do we believe our lobster stocks are capable or will remain sustainable for future generations?

GEORDIE MACLACHLAN: That's a great and very important question. As we know, lobster is the backbone of our coastal communities, so we're concerned about making sure that it stays sustainable. I know industry is concerned about remaining sustainable.

Like many species, there could be ebbs and flows and cyclical events, but industry is being proactive to try to maintain that and to maintain their livelihood, frankly. There are a lot of efforts under way by industry to do that. One thing is the inshore lobster fishery is certified as sustainable under the Marine Stewardship Council program. They carry out and participate in industry-run science to ensure that we have a good understanding of how lobster are being recruited and resettled.

There are great groups like the Fishermen & Scientists Research Society, who carry out industry-led and industry-partnered science to study water temperatures - what they call settlement and recruitment of lobsters. This organization has partnered with industry reps from around the province. They put out science and test traps that they are approved to put out by DFO, and they use that to measure water temperature, to count how many small lobsters or little lobsters are in there, what life stages they're at, so they can have better predictors as to how the stock is doing and to help inform management-based decisions.

As I mentioned before, fisheries management is in the realm of the federal government. We rely on them to continue with good management practices. Actually, the federal government has and continues to use that industry-led initiative-supported science research to inform their stock assessments and their go-forward approach.

As you may well know, Mr. Dunn, there are existing management measures within the fisheries management regime that will help to ensure the sustainability of the stock, so whether it's increased carapace sizes - I know a lot of industry actually vote proactively to increase their carapace sizes to make sure that they're taking bigger lobsters and leaving the small lobsters in play to reproduce and provide more breeding stock.

The management measures don't allow for the retaining of buried females. A buried female is a female that has no eggs on it and is ready to drop those eggs for their reproductive cycle, so those aren't allowed to be kept. There's a v-notch program, where industry will clip a v-notch in the bottom fin or tail fin of a lobster so they can track it. Any time a v-notch lobster is caught, they don't get retained and they report the data and it goes back in the water so they can track the life cycle and lifespan of that lobster.

There's lots of industry-driven, industry-led initiatives to support good fisheries management decision-making. That being said, it is a cyclical thing, so there will be ebbs and flows, but the industry is confident and the industry is working towards making sure that they have a livelihood going forward.

THE CHAIR: Mr. Dunn, you have three minutes left.

PAT DUNN: I'm passing it over to my colleague.

THE CHAIR: Mr. Rushton, go ahead.

TORY RUSHTON: I think everybody here, not just on this meeting, but all Nova Scotians appreciate the work that the presenters do. It is one of our biggest exports. We certainly appreciate what's taking place.

With the funding ending next year to the centre, is there any discussion around any funding that may be in the future for the centre? Will the centre be publishing any results from the research that's been ongoing?

GEORDIE MACLACHLAN: I'm going to pass that along to Mr. Lane to discuss the funding model for the centre.

[1:45 p.m.]

DANIEL LANE: Thank you, Madam Chair and thank you to the members for allowing this opportunity to talk to you about the work of the centre. With respect to publications and the work around the research that the centre's involved in, we're quite excited about the funding that we have available to us that we're continuing to do work on.

In answer to Mr. Rushton's question, I'll just refer to the publications that we've done already. We have a series of working papers that we've established that are producing documents that are, as I've stated, working papers. They're not yet published. Those are related to sampling and the results of our quality indication of blood protein levels in lobsters.

That's primarily right now for southwest Nova Scotia, but there are plans in the works to talk about Cape Breton and what's happening in sampling out there as well as along the Eastern Shore. So there's an expansion potentially province-wide, which is by the way the mandate of the centre, to look more provincially wide on all these things, sampling being a major issue around our research work and the potential publications that are happening there.

We also have a publication from southwest Nova Scotia that is out in the public now. It has to do with predicting quality status of lobster going into the start of the season in southwest Nova Scotia . . .

THE CHAIR: Sorry, Mr. Lane. I apologize. I do need to interrupt because the time has elapsed for the PC caucus and we're going to move on to the NDP, but they may want you to continue.

Who would like to start from the NDP? Ms. Roberts, you go ahead, if you'd let Mr. Lane continue.

LISA ROBERTS: I'd be glad for Mr. Lane to continue and then I'll have some follow-up questions.

THE CHAIR: Thank you. Sorry for the interruption, Mr. Lane. Go ahead.

DANIEL LANE: Thank you, Ms. Roberts. I appreciate that. Now I have to think of where I left off and I'm not sure where that was but let me try.

We have a publication that was just released in March having to do with prediction of sampling quality - I should say the sampling results of quality in southwest Nova Scotia. That's LFA 33 and 34, 34 being the largest LFA in the world for American lobsters in terms of the quantity of lobsters that are taken each season. That is the season that's been noted between November and May each year.

What we see there is an indication of what the quality is like of lobsters going into the start of the season. This is very important to that largest LFA area because we're just at the start of the Christmas season for lobster, which is important in Europe and in Asia now, as well as the Chinese New Year, which happens at the end of January/early February. What the quality is like going into the season is a good determinant for the lobster industry to decide how it will react to the live lobster market in getting product out to those particular high points at Christmas and Chinese New Year.

We have a publication that we do every year that we've done in an expanded fashion this year with the start of the centre, in terms of looking at the results of that data. This is very important because we're building on something from back in 2006 and developed through the Department of Fisheries and Oceans and the Fishermen & Scientists Research Society, originally called the Atlantic Lobster Moulting Quality Data Set or ALMQ. We've expanded on that and are looking at and developing methods around quality indicators for quality prediction and developing, to go along with, of course, the publications where we need to say what we're doing there.

All of that is in the works. We have the industry reports that are out there now. That's a beginning of some of the work we're doing there. I'll just mention as well, because it has been referred to by my colleague Geordie and my colleague Michelle here in Petit-de-Grat, the fact that we're working on these other research topics for which publications will follow, I am sure. That has to do with the supply chain and how we get lobster from the water to the customer's table at a restaurant or at home, be it in the United States or in Asia, and how we manage to take care of the quality of that lobster once it comes out of the water to get it all the way via air freight in 24 hours of transport to get it to the customer in those areas around the world.

All of that is quite ripe for publications, including the notion of developing best practices around how we do those things, so we can get the message out to the industry. The point's been made that all of this work published, not published as working papers, is directed towards the industry and getting it into their hands to help them do value enhancement around the lobster commercial fishery.

LISA ROBERTS: I appreciate the answer, and also wish I could have the time back to get to more of my questions, so I'm torn, but it was nice to hear a little bit more from you.

I am interested. You've got this centre in Petit-de-Grat, but of course Université Saint-Anne has already been doing work in southwest Nova Scotia from the main campus. In 2015, Université Saint-Anne published a report called *Defining Lobster Fishermen Concern for Finfish Aquaculture on Lobsters and Lobster Fishing Communities in Nova Scotia: A Pilot Study*. That was getting into the interrelation between lobster quality and open-pen aquaculture.

I'm interested to know, given the concerns that were noted by fishermen, such as feed and feces and anti-fouling agents being left in the water, the impact on the water. I'm interested to know if that work is being pursued, be it Petit-de-Grat or be it in Baie Sainte-Marie now, and what you can share about that.

THE CHAIR: Your question goes to?

LISA ROBERTS: I think perhaps Madame Theriault.

MICHELLE THERIAULT: The paper that you mentioned is available online through the provincial government website, I do believe, and maybe on the Sainte-Anne website. It's work that was done a few years back now, and it involved primarily part of our team that was in a socio-economic view on it. He conducted interviews and collected information on the fishermen's opinions related to that issue.

We did do a bit more work on that project specifically since then, but I'm not sure exactly - the timeline for the funding is passed, so I'm not sure as far as going forward where that does stand, but I think Geordie probably has a better idea, as far as the Province's view on that project. Maybe Geordie, you can help me answer.

GEORDIE MACLACHLAN: I'll have to get back on that one. That was initiated by our Aquaculture division, a different group, so I'll have to go back and find out.

LISA ROBERTS: The premise of your work and of the committee today is that the quality of lobster and the handling of lobster when it comes out of the water has a significant impact on Nova Scotia's ability to market and maintain or continue to grow the exports of lobster. Of course, as we've already acknowledged, there are federal dimensions to this, there are local dimensions to this, and there are also international dimensions to this.

One thing I've tried to track is the international aspect, which is tied to the increasing exports from Nova Scotia to China in particular, which is that there have been retaliatory tariffs against U.S. lobster since, I believe, 2017, 2018, of 30 per cent, so that

Chinese buyers have gone looking for Canadian lobster to some extent because there's a significant price advantage to Canadian lobster as a result of a trade war. I don't know if any of you could comment on why it is felt that quality is such a determining factor as opposed to price, when there's evidence that tariffs, which have affected price, have really driven the switch to Canadian lobster from Boston lobster, for example.

THE CHAIR: Is that for Mr. MacLachlan?

LISA ROBERTS: I think I would welcome Mr. MacLachlan and then I don't know - Mr. Lane or Madame Theriault. Whoever has something to add to that conversation of quality versus price.

THE CHAIR: Mr. MacLachlan, go ahead, please.

GEORDIE MACLACHLAN: You're right - there are many aspects as far as pricing in international markets go. Just a point of clarity: the Chinese tariff on U.S. lobster has been lifted, so that's no longer in place. They are thrilled about that.

Why is quality a determinant? Mortality. It's a long way to go when you ship lobster anywhere, for the most part. If you're going with the high-quality lobster that can survive the journey, you're looking at between 15 to 20 per cent mortality rates, and that costs not only the importer, it costs the exporter as well. Poor quality costs money, frankly - that's what it comes down to. You can't sell lobster if it doesn't get there, so having high-quality lobster will ensure that we continue to have market access because people still want to buy it. It will ensure that when it gets there, they have the proper experience to associate that lobster with Nova Scotia and have them being a good quality lobster.

We feel that our lobster - because of the quality standards, because of the nature of our lobster - supports that quality standard, that we have a market advantage over other jurisdictions because when our lobster gets there, it is healthy, is active. It is annoyed - we all know lobster can be annoyed when you take them out of things. So it's alive enough to be annoyed and it maintains the highest quality.

For us, also - it is not exclusive, but one indicator of quality is fully-meated. There's nothing worse - as anyone knows, you crack open a lobster and a whole bunch of water pours out. It doesn't make for a good end-consumer experience. Focusing on measures that support quality will ensure the best product reaches those markets and that the people eating our product have a good experience and want to buy more. That's why quality is such a key priority for Nova Scotia lobster in general.

LISA ROBERTS: One of the biggest issues concerning the authority of the federal Minister of Fisheries and Oceans to limit the treaty rights of Mi'kmaw fishers is around the question of conservation and seasons. There has been an ongoing public conversation about the need for seasons, and whether seasons are important for conservation.

[2:00 p.m.]

In March of this year, a letter signed by all the Mi'kmaw chiefs said that they were not consulted sufficiently when the federal minister announced that there wasn't going to be flexibility around some of those federal measures. They say that there was no evidence to suggest that moderate livelihood fisheries would have a detrimental impact on stocks. In their letter, they called for a decolonized approach: joint management of the fishery through complementary and parallel management systems that reflect our mutual objectives of environmentally, socially, culturally and economically sustainable fisheries.

Given the location in Petit-de-Grat, which is quite close to the Potlotek First Nation, where there is a fishery happening, is there any research that is happening together to look at the data around seasons and whether they are significant for conservation or not?

MICHELLE THERIAULT: I'll start, just to briefly say that I'm not aware of any research offhand that's happening, certainly not at Sainte-Anne, although we are open to projects and to research. Normally that type of work that looks at the field sampling and the quality of the lobster while it's still in the water is normally done by the fishing associations themselves and the fishing areas themselves.

There are a few examples around the province where that has been looked at out of season. As far as in my area - in this specific area of the east coast of Cape Breton - there hasn't been any to date, but that's the type of work that's done by field technicians who are working for associations.

GEORDIE MACLACHLIN: For the purposes of this meeting, I just want to remind them that, as you mentioned, DFO is the lead on fishery science and the lead on fisheries and resource management. I think you might get a more fulsome answer on their approaches if you approach the DFO directly with that question.

LISA ROBERTS: I'll throw this back to Mr. Lane or whoever wants to answer with a raised hand. What do we know in terms of how one can influence the quality of lobster? What evidence is there? What scientific conclusions have we reached in terms of how - in things that are within the realm of the Province's control and influence as the regulator of buying and processing and marketing? What impact is available to us based on science in terms of influencing quality?

MICHELLE THERIAULT: That one I can answer or attempt to answer, I suppose. In talking about how we can influence and how we can make a difference, I suppose really that's what my goal and my purpose has been here especially the last few years at Sainte-Anne.

One of the things that we haven't talked about yet that I'd like to mention is that we are involved in - and Geordie mentioned it briefly in his introduction - is lobster

handling courses that we have. We now have three courses at the moment available. It's a very unique program. It's the only one in Canada that really focuses on training for the lobster industry. It was certainly the first official training that we had here in the province.

They're courses that specifically talk to people involved in the industry about quality and handling, and really to talk about best practices. Dan has mentioned multiple times about what can we do if you work on a lobster boat and you're handling lobster - what specifically you should be doing. What ways should you handle to make sure that you're maintaining the quality at the highest level possible? In my opinion, that's how I feel that we can have the biggest impact.

One of the challenges that we encounter in developing these training courses is that there is not a lot of information that exists for the lobster industry as far as how we should be handling lobster. Most of the work that's been done was by companies, so it's proprietary and confidential. It's not publicly available.

The material that we have in the courses was put together mostly based on experience by consultations with companies and it's kind of like the industry standard. What are we doing now that kind of has the best results? One of the research projects that we have planned and under way is to try to look at specifically these practices - test them in our lab and then test them in the field to see. Just because we've been doing it for 20 or 40 years doesn't mean it's the best way to handle lobster, so we're really hoping to look at those practices and validate them and find out what is actually the best way to do it, and then bring that information back to the industry through our handling courses.

Another question earlier was related to publication of results. Dan talked about white papers. Certainly, publications are important to get information out to the public for universities, but for me, even more important in the short term is getting the information from the work we're doing back to the industry who are not going to be reading Dan's papers. No offence, Dan, but I've seen them. (Laughter) It's not the best format for getting back to the industry.

We're hoping to take the work that we're doing and incorporate it back into the training program that we have already established for the industry, and to always be able to continually update that so that the people in the industry are getting access to the latest research.

THE CHAIR: Ms. Roberts, you have just under a minute. Maybe just a couple of comments.

LISA ROBERTS: That's helpful, and I think now I can see the white papers on your website. Who is determining the subjects for your research agenda? Is that coming from the department, or is it being determined by academics, and which part of the

industry? There's an industry, but there are buyers, and the buyers don't always have exactly the same interests as the harvesters.

THE CHAIR: The time has elapsed for the NDP caucus. We move on now to the Liberal caucus, and maybe they would let that question - was it for Ms. Theriault or Mr. MacLachlan? Ms. Theriault?

Mr. Hines, would you like them to continue to answer the question from Ms. Roberts? You're on mute, but I see you're nodding yes.

Please, Ms. Theriault, go ahead and answer the question, and then Mr. Hines will start questioning after.

MICHELLE THERIAULT: I actually would like to let Dan answer that, since it's directly related to his work with the development of the new Centre.

DANIEL LANE: Michelle can answer this. Geordie can answer this. I'll take a crack at it with their help. The idea is that we are all involved in this. I'll put it quite simply, Ms. Roberts. The idea here is that there needs to be a pen. I've been able to write things, but what we've developed here has been a function of the applied research that we started out with. That's very much the idea.

I'll just make the point maybe without getting too broad. I know the Liberals want to get to their questions, but I can tell you as a long-time academic working around research institutes that are typically not applied, so we do work that's, call it quote-unquote "pure research." This opportunity to work with Michelle and the Marine Research Centre lab in Petit-de-Grat, I've done that long before I came here. We worked together on other research projects before this. There is something unique about this place, and that is the idea that it works closely with industry.

Petit-de-Grat, as has been said already, is not a big place. There aren't many academics around here that come to do things, as has been noted, but there is lots of industry, especially around lobster and fisheries. The opportunity to work within, to help them innovate, to develop things that are scientific-based, is here. The idea that we can build research on top of that means it's applied research, as Geordie said already.

That agenda that was developed was basically from that perspective. What do we need to help value-enhance the industry? What do we need to help a sustainable industry flourish? What do we need to contribute to the Nova Scotia economy, as per the Ivany report, for example? All of those things come into play in the research.

I have one more thing here. As has been noted, the Minister of Fisheries and Oceans establishes a certain content in science, but they do not deal with issues around product and quality, as Geordie noted. This is very important to us and the industry, so that's something

that the Université Saint-Anne has taken on more so than other institutions - universities and research institutions around this province. We're very proud of that. I think it's very unique in that sense, probably nationally, and there's a lot of room to be made there, so we're looking forward to that continued work.

MICHELLE THERIAULT: I just wanted to just add one more point to what Dan said: going forward, this new lobster research centre will be guided by an advisory board. The information is on our website that lists the members of this panel, and it's a mix of industry people and other groups. The whole point of having the board there was to help us develop research projects going forward to make sure that they stay relevant to the industry.

THE CHAIR: Mr. Hines.

HON. LLOYD HINES: Thank you, all you folks for coming together today to talk about this important and fascinating study. First of all, I'd like to settle a long-standing argument about where the best lobsters are in Nova Scotia. It's the Eastern Shore.

The other thing I want to mention before I ask my question is the issue of quality versus price. It's more like quality is price. The lobsters, as you know, are almost like an armoured tank. Well, they are. They're armoured. They have an exterior skeleton. I grew up as a fisherman. I had a licence - my dad and my grandfather's. Everybody kind of handled them like they were indestructible: throw them around in the boat and stack them on top of each other, and they'd last a long time out of the water. That practice significantly impacted, as Geordie has said, the ability of the creature to survive.

By improving the handling practices and extending the longevity of the lobster and getting them to the markets fresh is what is really important, and lobster fishermen have done a tremendous job of understanding the lobster in my opinion. Remember, they're fish. They're just like a salmon or a haddock or a halibut. We know the importance of having fresh seafood.

We've got a great collection of people here today who have answers. One of the things that I am looking for is: What is the best source of statistical data on the Nova Scotia lobster fishing industry in particular?

GEORDIE MACLACHLAN: Data, as you know, are a challenge for every sector. There is generally a lot of it held in many different hands and no one knows how to get them all together in one spot.

What we do know for historical fishing and landings data and value data - DFO has the data on landings. They have it broken it down - we've got it broken down by LFAs, certainly have it by province. The export stats are from Stats Canada. We have access to

the data bases, so anything from export and trade data comes from Stats Canada. Like I said, landings are from DFO. I think as far as science data - again, DFO.

I'm not going to get into your debate about where the best lobster is. This is being broadcast provincially, so we're not saying that. What I will say for your industry on the Eastern Shore is that they've been excellent stewards of the lobster industry, long-standing participants in the Fishermen & Scientists Research Society. They have long-standing data that they will share with DFO directly on their science data. As I mentioned before, they use that in their reporting.

We in the province, as a regulator for the licensing, buying and processor licensing, do have licensing reports that are generated - certainly processing reports on an annual basis and we have semi-regular ongoing reporting requirements as a condition of licence. We do understand the buying activity and the movement of product once it hits the land to a certain extent.

[2:15 p.m.]

As you said, it's a lot of different data, a lot of different sources, lots of different authors. One of the ideas and hopes, certainly on the science side of the discussion at the centre is to be a collaboration piece, to be a connector of the various people and various institutions and data holders so that we can start building that bigger picture that's a collaborative approach. Unfortunately, I think we lost Mr. Hines, but I will finish it there.

THE CHAIR: I'm sure he'll be back. Maybe our colleague, Tony Ince, I know also had a question. We move on to Mr. Ince until we get Mr. Hines back.

HON. TONY INCE: Madame Theriault addressed my question a bit: How representative is the advisory board for the Lobster Quality Research and Innovation Centre? Does it represent the entire province?

MICHELLE THERIAULT: That was the intent when we were developing it, to make sure we had representatives across the province, and Saint-Anne is a province-wide university. We have our campus in Petit-de-Grat and we have our campus in Church Point and one in Halifax, as well as one in Chéticamp.

The actual members of the board are listed on the website, and we could mention that today we have a new website for our new centre, which is the LQRIC, or the CRIQ in French - wait, I had to write it down. I'll get in trouble for that. (Laughter) The Lobster Quality Research and Innovation Centre - or in French, le Centre de recherche et d'innovation sur la qualité du homard.

The website is www.lobsterquality.ca, and if you go under one of the headings - I'm not sure which one - it will actually list the members of the advisory board.

GEORDIE MACLACHLAN: I'd like to illustrate some of the representation. The board is representative of the harvesting sector, the export sector, the processing sector, there's First Nation representation, there's federal government representation from the funding perspective, and they are representative of all areas of the province. As mentioned before, lobster's lobster, but there are different ways of catching it, and based on different areas of the province, how you catch lobster can look quite a bit different.

Down in southwest Nova Scotia, they're generally larger boats, they can do multiple-day trips, they have live wells on them, so their needs and wants and maybe project ideas may be a bit different than the eastern part of the province and the northern part of the province in Cape Breton, where they're mostly day-trippers, generally smaller boats, and are generally more open to the elements as far as how they hold their lobster.

With that in mind, and I'm sure Dan can add a bit more, the intent of the board was to be representative of the various methods and operational components of the fishery so that all voices were being heard. They can share advice, share opinions, and provide feedback on the work that the board can move forward.

TONY INCE: I have one last question. In terms of the quality, can someone speak to what it is you're exactly doing to either maintain or improve - I don't know if you can improve, but what you're doing? I do understand that once the product gets to its other location - for example China or any place like that - there are environmental conditions that are a lot different than ours.

MICHELLE THERIAULT: I guess I'll just answer. What are we doing in terms of quality research, I suppose, is what you're asking. There really are limitless things that we could be looking at, and there are so many questions that are out there that need to be answered for the lobster industry people.

I see this every time I do a training course. Every time I go out and I meet a group of industry people through these lobster handling courses, I get asked questions, and I can answer. I think I'm pretty good at answering lobster questions by now. It's been 25 years that I've been involved with lobster, but there are still things that I don't know, and the information is just not out there.

If you think of just specifically, all of the practices that we do with lobster, there are processes that we follow after lobsters are caught. They're brought on the boat, they're brought to a holding facility, they're put through different processes before they're exported. There are a lot of those stages that we follow standard industry practice, but we don't really know why.

For example, times that lobsters spend at different temperatures and bringing lobster from one temperature in the ocean to a different temperature in a holding facility. Should we do this gradually? What's the rate we should be acclimating them at to make

sure that they stay at minimum stress and maintain that quality. That's what it's about: minimizing the stress on lobster after the time that they're harvested to make sure that more of them stay alive and of the best quality. Quality is directly related to mortality, which is really at the end of the day what we're talking about, to try and make sure that there are less lobsters that are being wasted, less lobsters that are becoming weak, and less lobsters that are dying. That is one of the biggest costs to the industry.

I saw it every day when I was working at the live lobster facility. It was the biggest cost to us. You can easily imagine it, if you're paying what the shore price is now, \$10 a pound for lobster, and having to store those. If you have mortality, it starts to add up pretty quickly as far as cost. At the time, when I was in the industry, we had a whole team of people that that was our job, to just minimize the mortality that is happening, to try and keep those costs down.

There is, like I said, a whole slew of questions, and I could start going through them. I have an actual list of dozens of questions that we need answers to. We're excited to be able to finally start to get a chance to answer some of them.

THE CHAIR: Mr. Ince, you have four minutes left.

TONY INCE: No, I'd like to pass it on to any of my colleagues. I don't have any other questions at this time.

THE CHAIR: Mr. Glavine, do you have any questions?

LEO GLAVINE: I'm trying to see if the connection is working well or not.

THE CHAIR: Better than before. We'll try and see. Go ahead with your question. I've lost Mr. Hines as well, but he's trying to sign in. He texted me that he's trying to sign in. We'll try and hear your question.

LEO GLAVINE: I was just checking to see if the connection was fine.

THE CHAIR: Yes, it's not bad. Go ahead, please. He's back on. Mr. Glavine, you're still on mute.

LEO GLAVINE: I'm having connection problems.

THE CHAIR: This one is very clear. If you have your question, say it right now. We've got you loud and clear.

LEO GLAVINE: I was wondering if the centre of excellence is able to work on hard-shell versus soft-shell, or is that simply an actual outcome of the area being fished, or the seasonal factors that [Inaudible]

THE CHAIR: I believe we got the question. Are you okay with that, Mr. MacLachlan?

GEORDIE MACLACHLAN: I think we got the gist of it. Michelle's smiling, I feel like she's going to answer this one, so I'm going to pass it to Ms. Theriault.

THE CHAIR: You have two minutes, Ms. Theriault.

MICHELLE THERIAULT: I don't think I can answer that in two minutes, but I'll try. The issue of the shell hardness is a big one, and it's one of the main things that we use to determine if our lobster is a certain quality or not. Everybody uses that, it's very easy to do - you squeeze the shell.

Shell hardness is always part of what we do. All of the testing that we do, we're always assessing the quality of lobster first, and shell hardness is one of the things that we use. We have seen some changes in shell hardness over time and so we are looking at that as far as our work.

LEO GLAVINE: In terms of the hard-shell lobster versus soft shell, is there a premium price for the hard-shell lobster going into our foreign markets?

THE CHAIR: The time has elapsed, Mr. Glavine. Sorry about that. I think we got the gist of that question. We are moving to the PC caucus. It's up to them if they want to ask that question. Mr. Dunn, go ahead.

I just want to ask, do you both have final remarks, Mr. MacLachlan and Ms. Theriault? I'm just trying to time whether we do six minutes for each caucus or seven minutes for each caucus. We're supposed to finish around 2:45 p.m. in order to have some committee business after. Do you have a long or a short one?

GEORDIE MACLACHLAN: Short one.

THE CHAIR: Okay, perfect. We'll do seven minutes each, starting now at 2:26 p.m. Go ahead, Mr. Dunn.

PAT DUNN: A quick question to Michelle. You mentioned about courses earlier on people handling lobsters. Is that course mandatory or is it optional?

MICHELLE THERIAULT: Geordie could actually speak - I know he probably wants to. It's only mandatory for people who have lobster buyer licences. If you want to renew your lobster buyer's licence, you have to have taken the course, otherwise it's voluntary.

The first course was launched in 2016. Since then, we've seen the interest grow from the industry and certainly we've expanded our courses to have more specific ones available for different sectors of the industry. You could all take it. Anybody can take it.

GEORDIE MACLACHLAN: As Michelle said, in 2018, the Province updated its fish buyer-processor licensing and enforcement regulations to include a mandatory training requirement for quality at the minister's discretion. The first one that was implemented was the lobster quality handling course. As Michelle indicated, any lobster buyer who is getting a new one or renewing their lobster licence needs to demonstrate that they have a staff member who is certified with a current valid certification for a lobster handling course.

As you can imagine, when that was first rolled out, the industry wasn't too pleased about it, and they weren't too enthusiastic about the lobster handling course. There was pretty significant pushback on that, but through the efforts of Michelle and other people who have delivered the course, I think we've converted a majority of the industry to see the benefit and the value of it.

Since 2016, when it was first launched, we've had over 3,600 course completions for the lobster handling course. That's all combined of all three lobster handling courses. To put it in perspective, we only have around 250 lobster buyers, so there is a significant uptake in the course.

We've had people who were the biggest opponents of the course, didn't want it and were upset by it, who took it, saw the value in it and have since mandated that their entire staff and facility staff take it. I know that Michelle has numerous courses on request to entire facilities. I can think of one on the Eastern Shore that - I think there were 40 or 50 people in the room. The entire staff was trained in the lobster quality handling course.

Building on that first successful course, which is really focused on the lobster biology, the basics of handling and holding practices - I appreciate Mr. Hines thinks they're tanks, but they do have a soft underbelly so they are susceptible and when they bleed, their blood looks like water. This is all stuff I had no idea about, but when I took the course, you learn that they are susceptible to damage underneath.

[2:30 p.m.]

I think many of our clients and stakeholder groups, as Michelle mentioned, had 20 or 30 years of saying, I know how to handle a lobster, what are you going to tell me or what can I learn about this? I've learned a significant amount. I think we're seeing good industry uptake. We've seen better practices. We've seen demand for more information. The first course was developed and delivered and people want to learn more.

There's also feedback that it needed to be broadened out to have a wider audience and see this. The next course Michelle developed was for best handling practices for fish harvesters.

As I mentioned before and has been mentioned a number of times, you can't improve the quality of lobster so you need to start with maintaining the quality of lobster as soon as it comes out of the water and that starts in the boat. The second course was really focused on practical hands-on methods of how to handle and take care of your lobster as soon as it comes out of the water for the vessels. We have a lot of harvesters who take that.

Following up on that, a third course was really focused on once the lobster gets to the wharf and the shore-based buyers and processors have it, and put it in forklifts and totes and move it around the facilities. There is a key focus on standard operating procedures and best practices for having to deal with that.

Really with the courses, we've covered the basics and then covered, essentially, the whole entire value chain for the lobster handling course. Although it's mandatory, we're happy to say that there is a wide and significant industry uptake. It's a good news story. I think most courses that are run are still full. I think there's even a wait-list for some of them.

It has been exciting for all of us to spread the word and spread the news on how to handle lobster because we all take it for granted. They are fragile, despite what we all think.

PAT DUNN: What is happening in the province with regard to lobster aquaculture?

GEORDIE MACLACHLAN: I'm not aware of any lobster aquaculture. The Aquaculture division has a number of species. It is a wild stock. Some of the industry practices are to hold them in tidal ponds, so their holding facilities there - they are being held in a natural environment. We have a few of those around.

The lobster fishery is a wild stock fishery. We are focused on that. It is managed out of DFO. There are a number of lobster hatcheries. Actually, I think up in your neck of the woods, Mr. Dunn, there is a Pictou lobster hatchery on the waterfront in Pictou where they do some husbandry and raising of lobster. The industry used that to stock lobster in the Northumberland Strait. I'm not aware of any active interest in pursuing lobster aquaculture in the province.

THE CHAIR: Mr. Dunn, your time is up just perfectly at 2:33 p.m. We now move on to the NDP caucus. Ms. Chender.

CLAUDIA CHENDER: Good afternoon. I'm really appreciating the conversation. I know my colleague asked a similar question, but I wanted to go back specifically - I think, Mr. MacLachlan, in your opening comments you mentioned attempts to brand Nova Scotia

seafood and lobster specifically in export markets as being Nova Scotian. I assume this is connected to the Nova Scotia Seafood Quality Program, although feel free to correct me if it's not.

Obviously, there is a big conversation going on - we're not talking about it too much today, but that sits in the back of all of this - around moderate livelihood lobsters and First Nations fishers. To date, the department provincially seems to have taken the position that our legislation around sale of lobster mirrors the federal legislation, but I'm wondering where we are now in this conversation. Could lobster caught under moderate livelihood fishery licence have access to this Nova Scotia Seafood Quality Program?

GEORDIE MACLACHLAN: The Nova Scotia Seafood Quality Program is premised under quality live lobster, and it's informed by the Lobster Quality Certification Program for live lobster, so you're correct that the Seafood Quality Program is tied to the Nova Scotia Seafood brand.

The quality program requires for live lobster to get access to that brand standard, that it meets the Lobster Quality Certification Program guidelines. Those guidelines were developed in partnership with the Université de Sainte-Anne, and Michelle can speak deeply in depth and at length on those requirements for the Lobster Quality Certification Program.

Essentially, it requires a certain level of compliance with the third-party auditor for certification to actually get this certification standard for lobster. It's for holding and handling practices, traceability practices, record-keeping practices, water quality - so you need to prove you're holding and maintaining your lobster at certain quality levels. It's pretty rigorous, and it's the first of its kind essentially in the world, certification approach for live lobster.

We currently don't have anyone certified for that right now. We are getting close to having some industry partners who are being audited or have been recently or will be soon audited against this third-party standard, and we are hopeful that they will pass the standard and be able to get access through the Nova Scotia Seafood Quality Program to use the brand and market it under the Nova Scotia Seafood label in our international markets. They will get access to additional marketing supports, so they'll get promotional materials, they'll get a profile on the websites, social media, and all that.

To restate, we currently don't have any lobster that's certified for brand use under the Seafood Quality Program. We're hopeful to get some soon. They will need to meet all the required certification requirements, and being also from a legal, authorized fishery. This goes back again to an earlier question and answer that DFO has the authorization to establish what a commercial fishery is, moderate livelihood fishery is, and license it.

As far as buying and selling it, as you mentioned, the provincial legislation is contingent on approval from DFO for identifying what a commercial, licensed, moderate livelihood fishery is. Once that's the case, then that lobster can be treated like any other lobster in the province, as far as how it's marketed and branded going forward. That's at the discretion of the industry and how they want to move forward with that.

From a regulatory perspective, it needs to be licensed by DFO and have a commercial licence for buyers to actually buy it and move it to market.

CLAUDIA CHENDER: I have more questions, but I realize that I have very limited time. I just want to shift to something we've been talking a lot about lately; it's been in the news a lot generally. There are two issues clearly facing all areas of our province, but especially rural areas, which doesn't get talked about as much: housing and child care. When we had some representatives from the lobster industry for this committee a few years ago, in fact from down Yarmouth way, they were specifically identifying child care as a massive issue, actually, particularly in the processing end of things.

I guess this will be for you, Mr. MacLachlan. I'm wondering if there's any work being done in the department - and this is sort of a labour force issue around if you're touching either at deputy tables or other places. Is there active conversation around either of these issues and the way that they impact, as you said, this industry that's the backbone of so many rural communities?

THE CHAIR: Your time is almost up. I think you have 30 seconds, but I'm sure my colleagues from the Liberal caucus will let Mr. MacLachlan go ahead.

GEORDIE MACLACHLAN: Thank you for the question, Ms. Chender. As you know, this is a hot topic. Labour is a major issue for the industry - attraction, retention. It has been raised that there are a number of potential barrier challenges to keeping up the workforce. As you mentioned, some of that is related to housing and child care.

As a department, we do work collaboratively with our partners at the Department of Labour and Advanced Education, at times with the Department of Community Services, and at times with the Department of Immigration. We work together to identify potential opportunities, raise concerns that the industry has so that our partner agencies are aware of the concerns. We can work through their programming and their mandates to help address and initiate some programs and projects or supports for those who are looking for work, and to secure and retain work in the seafood processing sector in general. This is a backbone, as you mentioned, of rural coastal Nova Scotia and a major employer in the province. We are actively aware of the situation.

The minister had initially weekly calls, but we've now moved to bi-weekly calls with industry where these issues and scenarios, challenges and barriers that they've had were specifically related to COVID but now, moving forward, these general challenges

they have are brought forward. We take them in and we work with industry. From that the meeting the minister hosts, we bring in and contact our counterparts in other departments. We actually bring in project area experts in to discuss programming, opportunities and ideas directly with the industry.

To address the labour issue, we also have a student bursary program through the fisheries aquaculture sector. They will hopefully incent students and young people who work in the sector and attract them to the sector with up to \$1,500 of bursary money to go towards their education going forward. This is open to students who work in all three of the seafood sectors: the fish harvesting sector, the seafood buying and processing sector, and the aquaculture sector.

Yes, labour is a major issue. We are aware of it and we are working with our colleagues to do it, and we're also trying to support industry and attraction through youth attraction. That is also in partnership with work that the Nova Scotia Fisheries Sector Council is doing whose mandate as a sector council is labour issues. They also have a mandate interest in youth attraction to the sector as well.

THE CHAIR: The time has elapsed for the NDP caucus. We'll move on now to the Liberal caucus. Mr. Ince, you have four minutes.

TONY INCE: I won't even need that. I just have one question around the quality program. Are we the only place that's doing that? Are the Americans doing that as well?

GEORDIE MACLACHLAN: The Lobster Quality Certification Program is unique. We're trail-blazing that as a third-party voluntary certification program. There have been a lot of good lessons learned. We are working, and with Université Saint-Anne, have coordinated work to secure a third-party auditor company that is knowledgeable in the program and can audit that program against the established standards.

That is certainly a unique program to Nova Scotia lobster. We have heard anecdotally - I say we, the department, the minister and our trade officials - when they go in market, there is a lot of interest in this program from receiving markets and receiving companies. They're aware of the program. They're aware of the quality standards behind it. They've shown interest also in adopting it for their receiving centres so that when they get the lobster, they can also work to maintain that quality so that their direct customers have a better lobster experience as well.

THE CHAIR: The timing is perfect because we're supposed to finish at 2:45 p.m. I thank all the presenters. Maybe you would like to have final remarks. The floor is yours, Mr. MacLachlan.

GEORDIE MACLACHLAN: Thank you, Madam Chair, and thank you to the committee members. This has been a great opportunity for the department to share some

of the work that we've partnered with Université Sainte-Anne on, who has been a great partner with us. We've collaborated on a number of issues in the lobster sector and in other sectors as well, and we find their information, their industry connections, and their practical application and approach to science and research really works well and resonates with the industry.

[2:45 p.m.]

We're extremely pleased to have the opportunity to talk a little bit about the centre and what it's doing, its mandate and how to get the word out about how we can foster a culture of innovation, research, and improvement in the industry with the industry. Not for the industry, but with them collaboratively, because that's how we move things forward. Instead of pushing things down on them, saying you should do this, it's better to have an approach where they come to us with their ideas and we solve their problems.

Thank you again for the opportunity, and with that I'll say have a good afternoon, and back to you, Madam Chair.

THE CHAIR: Thank you again for our three presenters and information that we received today on behalf of my colleagues and everyone here. This has been amazing, and I hope the price of lobster keeps going up - even though it's hard for me to pay \$60 for two lobsters. I am excited and so happy that our industry has done so well in the last few years. There's a lot of work that has been done behind the scenes. I would like to invite you to leave right now so that we can do some committee business.

Under committee business, I have the word: none. I love that. I have nothing here, unless my colleagues have something. I don't see any hands.

The next meeting is Tuesday, September 28th, at 1:00 p.m. The topic will be Sustainable Agriculture - Community Water Systems and Groundwater Contamination Protection. The witnesses will be from the Nova Scotia Department of Agriculture. We will have the Deputy Minister, Loretta Robichaud; and Executive Director of Policy and Corporate Services for Agriculture, Heather Hughes. Also as a witness, the Department of Environment and Climate Change Deputy Minister, Julie Towers.

That's all I have. If there is no further business, I would like to adjourn the meeting and thank everybody for being here.

[The committee adjourned at 2:48 p.m.]