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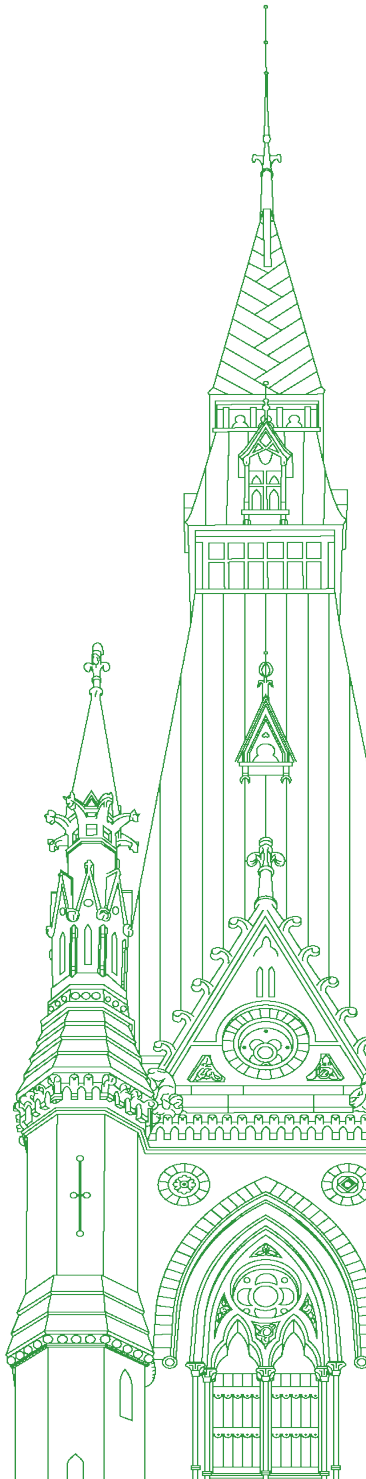

Chair: Mr. Lloyd Longfield

Standing Committee on Science and Research

Wednesday, November 29, 2023

● (1645)

[*English*]

The Chair (Mr. Lloyd Longfield (Guelph, Lib.)): I call the meeting to order.

Welcome to meeting number 68 of the Standing Committee on Science and Research.

Today's meeting is taking place in a hybrid format, pursuant to the Standing Orders. Therefore, members are attending in person in the room and remotely by using the Zoom application.

For those participating virtually, I'd like to outline a few rules.

You may speak in the official language of your choice. Interpretation services are available for this meeting. You have the choice, at the bottom of your screen, of floor, English or French. If interpretation is lost, please inform me immediately, and we will ensure that interpretation is properly restored before resuming the proceedings.

Members participating in person can proceed as they usually would when the whole committee is meeting in person in a committee room.

Before speaking, please wait until I recognize you by name. If you are on the video conference, please click on the microphone icon to unmute yourself. To those in the room, your mic will be controlled, as usual, by the proceedings and verification officer. When speaking, please speak slowly and clearly. When you're not speaking, your mic should be on mute.

Although this room is equipped with a powerful audio system, feedback events can occur. These usually occur when the microphone and earpiece are too close together, so please, for the sake of our interpreters' safety, make sure your earphones are well away from your microphone when you're handling them.

I will remind you that all comments by members should be addressed through the chair.

Pursuant to Standing Order 108(3)(i) and the motion adopted by the committee on Monday, September 18, 2023, the committee resumes its study of the integration of indigenous traditional knowledge and science in government policy development.

It's now my pleasure to welcome Dr. Anne Salomon, professor of applied marine ecology and social-ecological system science; Kii'iljuus Barbara Wilson, Haida scholar and matriarch of the St'awaas Xaaydaga, Ruling Eagle Clan, Cumshewa; and Bruce Maclean, director of Maclean Environmental Consulting. They are all here via video conference and as individuals.

Also by video conference we have, from the Council of the Haida Nation, Chief Nang Jingwas Russ Jones, hereditary chief. We also have, in person, from the Torngat Wildlife, Plants and Fisheries Secretariat, Dr. Jamie Snook, executive director.

Each organization or individual will be given five minutes for remarks, after which we will proceed to rounds of questions.

We'll get started with Dr. Anne Salomon and Kii'iljuus Barbara Wilson, Ruling Eagle Clan, for five minutes, please.

Ms. K_ii'iljuus Barbara Wilson (Haida Scholar and Matriarch of the St'awaas X_aaydaG_a, Ruling Eagle Clan, Cumshewa, As an Individual): Thank you for your efforts to improve Canada's government policy by including indigenous knowledge. We appreciate what you're attempting to do.

Ms. Anne Salomon (Professor of Applied Marine Ecology and Social-Ecological System Science, As an Individual): We're here to provide you with information, recommendations and encouragement. The work that you're doing here is going to be of great benefit to our country and to the world.

Ms. K_ii'iljuus Barbara Wilson: In our ancient ways, the natural and social sciences put food on our table and a roof over our heads. They supported travel, trade and treaties among distant nations. When they were incorrectly developed or poorly implemented, people died. We had and still have strong incentives and responsibilities to develop the knowledge and governance principles to sustain resilient relationships with the earth and all parts of our world.

On Haida Gwaii, *Kil Yahda*—or laws—of *Yahguudang*—respect, *'Laa guu ga _kanhllns*—or responsibility—and *Isda ad diigii isda* —reciprocity—govern our relationship with all parts of our world.

Our halibut hooks, for example, were a specific size. They were big enough to let the juveniles escape and small enough to protect breeders. Conservation was built in. *Naw náaGalang*—octopus houses—were created to cultivate octopus for halibut bait and food in times of need.

A chief's responsibility requires that they uphold and respect the governance principles and protocols that support the relationships throughout their territory. This is an example of *Giid tlljuus*—balancing—the *Gina 'waadluxan gud ad kwaagid* —interconnection—among people, halibut, octopus and all other beings.

● (1650)

Ms. Anne Salomon: Indigenous nations across the Pacific developed a diversity of fishing and mariculture technologies, such as the octopus houses you just heard about from K_ii'iljuus, and clam gardens and fish ponds, all of which maintained the persistence of populations of a diversity of marine species. These technologies were tailor made in place, and they were developed through time based on careful observation and experimentation.

Ms. K_ii'iljuus Barbara Wilson: These examples inform our three recommendations to the standing committee.

One, indigenous sovereignty must be recognized in Canadian government policy development before the inclusion of indigenous knowledge. Canadian policies must not only include indigenous knowledge: They must also recognize indigenous rights and responsibilities to access resources and to manage them.

Ms. Anne Salomon: Indigenous knowledge can't be extracted from the people and processes that govern this knowledge. Just as evidence becomes legitimate through peer review in Eurocentric knowledge systems like the one I operate in, indigenous knowledge also is developed and governed through nation-specific protocols.

Ms. K_ii'iljuus Barbara Wilson: The second recommendation is to recognize diversity and sovereignty among knowledge systems. Each indigenous community generates and governs its own knowledge and laws specific to their social and ecological environments. Government policies need to reflect the unique context in which indigenous knowledge is generated and governed.

Indigenous and Eurocentric knowledge systems are inherently different. They cannot and should not be integrated or assimilated. Instead, they should be considered side by side.

Ms. Anne Salomon: Our third recommendation is that indigenous knowledge can be and should be used to develop solutions to contemporary challenges and crises. Today's challenges of climate change, biodiversity loss and social inequities are by no means new, although their magnitude is certainly unprecedented. Indigenous communities have a long history of responding to extreme climatic events, ecological change and socio-political disruptions.

Ms. K_ii'iljuus Barbara Wilson: Our world is our basket. We need to trust that our food and our places are safe for future generations. When a basket has a hole in it, things leak out. We need the strong fibres of our knowledge woven together. For this reason, we have consulted the *Iitl'lxaaydaGa*—chiefs—and the *k'uuljaad*—matriarchs—for these recommendations, as they carry the knowledge, the responsibility and the caring for all parts of our world.

Háw'aa.

The Chair: That's great. Thanks to both of you for your presentation.

Now we'll go to Bruce Maclean, director of Maclean Environmental Consulting, for five minutes, please.

Mr. Bruce Maclean (Director, Maclean Environmental Consulting, As an Individual): Thank you, Mr. Chair.

My name is Bruce Maclean.

I'm certainly very grateful for the opportunity to share some of my practical experiences with respect to these important questions in front of the committee.

I have spent approximately 20 years working with indigenous people and scientists on these very questions with a specific lens of environmental monitoring and management.

I have been leading development of indigenous community-based monitoring programs. These are designed using indigenous knowledge and elders' knowledge with science to understand impacts in the region. I work in bitumen exploitation, hydroelectric development and climate change.

I'm currently helping build what we're calling the Nipîy Tu Research & Knowledge Centre. It's a not-for-profit. It links Cree, Dene and Métis knowledge and people of Fort Chipewyan in Alberta with Parks Canada, and it's in the Wood Buffalo National Park area, which is also a UNESCO world heritage site.

The Nipîy Tu Research & Knowledge Centre is one of the first ventures that's going to co-manage a national park, applying what we're calling an integrated research and monitoring program. It employs indigenous and elders' knowledge together with science to inform park management. That is a unique approach.

I'd like to focus specifically on question number one in front of the committee, the use and integration of ITK into policy.

Because most of Canada's policies were intentionally or systematically designed, really, to exclude indigenous people from decision-making spaces, and now we're asking to acquire it for use, we need some extra steps to make up for that.

I have been employing something since about 2006. I call it a basic framework that looks at.... We're trying to build a foundation for meaningful involvement of indigenous people, not just their knowledge. I'm sure you've heard that already in front of the committee.

Capacity is at the heart of the issue. If you want to integrate ITK into policy, you somewhat need to invest in it at a reasonable level, at least somewhat towards what you do for science and technology.

What I'm saying is that building this capacity means having indigenous people existing in spaces to do this work and with the means to do the work. This implies training, core staff capacity, salaried people, honoraria of dollars to meet with elders, infrastructure and equipment, and data and data support.

A really good example of this would be the broad support for the first nations national guardians network. In the case of my work with Parks Canada, they've provided dollars for indigenous knowledge coordinator positions and direct contribution agreements, again for involvement, for people to exist in those spaces.

If you have capacity, then you need to work towards broad participation and open, transparent and effective communication. We're looking at, again, access to information, data, procedures and some plain language summaries. We're looking at protection of ITK and rules around its use as well as some kind of mediation process as you're getting started.

This is really the relationship phase. You need to be flexible in approach. You have to work at trust and building the rules so that you can explore the ITK collection and share. In the case of Parks Canada, with the nations, they developed an indigenous knowledge use and ownership agreement that was signed. There was support for task teams and working groups. This is building the bridge.

When you get to the point where you have people to do the work and the trust is built, this is when we do the collection and sharing of ITK. This brings up indigenous values and community sustainability. Going back to what I said earlier, the policies need to meet the nations' own vision for themselves. It's not just Crown and government. It's not industry. This looks at considering the unique needs of the indigenous communities and their values. We mentioned section 35 rights, or treaty and aboriginal rights where there are treaties.

Rather than integrating ITK, we're looking at a co-development of policy. In our case, the Nipîy Tu with Parks Canada are co-developing the monitoring programs: where to look, what to look for, when to look for it, how to manage data, how to assess findings and how to communicate findings. It's a braided approach.

With that foundation, once the homework is done, I strongly believe that indigenous groups will be able to be meaningfully involved in that policy co-development using their own knowledge.

To conclude, in the case of the work I've been doing with Nipîy Tu and Parks Canada, early capacity was given to communities and commitments were made up front to work on co-management. That means that the work was able to unfold.

Nations don't just share their ITK for someone else to use and interpret; their traditional knowledge becomes part of that meaningful process of self-determination. That's what I came here to share with you today.

● (1655)

Thank you very much for the time.

The Chair: Thank you for sharing.

Now we're going to the Council of the Haida Nation and Chief Nang Jingwas, Russ Jones, for five minutes.

Welcome to our committee.

Chief Nang Jingwas Russ Jones (Hereditary Chief, Council of the Haida Nation): *Sii.ngaay 'laa.* Good day, everyone.

My name is Nang Jingwas, Russ Jones. I am one of the hereditary chiefs of the Haida Nation. I am joining you today from the village of Skidegate in Haida Gwaii on the west coast of Canada.

I have worked for first nations and the Council of the Haida Nation in the area of fisheries and marine policy for more than three decades.

I will briefly talk about my experience with incorporating Haida traditional knowledge into two collaborative initiatives involving the Haida Nation and Canada. The two projects were to develop a marine spatial plan for Haida Gwaii and to develop a rebuilding plan for Haida Gwaii herring.

The first project, the Haida Gwaii Marine Plan, was completed by the Haida Nation and the Province of British Columbia in 2015, and it is in its eighth year of implementation. Traditional knowledge was a major source of information in the development of the marine plan. I shared a copy of an academic paper with the standing committee, which describes the collaborative government-to-government process we went through to develop four marine spatial plans for northern coastal British Columbia. The marine spatial plans were co-developed by first nations and the Province of British Columbia. We used a nested approach to planning that started at the scale of first nations' territories.

The Haida Marine Traditional Knowledge Study was completed by the Haida Nation over three years, from 2008 to 2011, and prior to the formal start of planning. It involved marine chart-focused interviews with about 56 Haida. We recorded information and Haida knowledge about more than 4,000 locations and 150 marine species.

A few days ago, I provided a brief summary of our work to the standing committee, which we captured in a publicly available map of Haida Gwaii and in a brochure. The traditional knowledge studies supported the zoning and management direction in the marine plans. These plans were approved in 2015 after three years of intensive work with government and stakeholders. This work has also been contributing to the development of a marine protected area network for northern coastal British Columbia with the federal government.

Next I'll touch on the Haida Nation's work with Canada over the past five years to develop the Haida Gwaii herring rebuilding plan, which is in its final stages of approval.

The plan was co-operatively developed by the Haida Nation, Fisheries and Oceans Canada, and Gwaii Haanas protected area staff. Haida traditional knowledge about herring was documented in a number of studies that were led or co-led by the Haida Nation. These are described in an appendix to the rebuilding plan, which I also provided to the standing committee.

Traditional knowledge, or TK, informed the establishment of reference points for fisheries management. These are target levels for rebuilding Haida Gwaii herring stocks based on ecological, economic and socio-cultural objectives. TK helped us understand spatial dynamics of stocks, and we adopted finer stock structure for management purposes in order to improve socio-cultural outcomes. TK led to a better understanding of the effects of fisheries, and we incorporated the lower impact of the commercial herring spawn-on-kelp fishery compared to the sac roe fishery in fisheries models. TK also documented ecosystem changes that may be a result of climate and predator changes. Finally, TK supports and informs co-management decision-making and reconciliation processes.

In closing, I'll touch on four of the lessons learned.

First, the two projects I mentioned required many years of discussion and negotiation, and they encountered many barriers before they came to fruition. They could have proceeded more quickly if there had been enabling policies and resources.

Second, barriers to the acceptance and use of TK can be addressed through collaborative governance processes that support the exploration and sharing of indigenous traditional knowledge and science. Key elements are forming relationships and developing trust between the partners. It helps the relationship to formalize key understandings and decision-making structures through written agreements.

Third, traditional knowledge studies are ideally led by indigenous groups. However, many indigenous groups lack resources and capacity to engage fully on resource development issues. This limits their potential for documenting and applying traditional knowledge in research and management

● (1700)

Lastly, traditional knowledge about ocean spaces provides an invaluable baseline for assessing changes in the marine environment that are of particular importance as we experience unprecedented climate-related changes.

[*Witness spoke in Haida and provided the following text:*]

Dii gii dalang gyuusdlas sGaawdaagii dalang Gaa hl kil 'laa ga.

[*English*]

Thank you for your time.

The Chair: That's great. Thank you very much for your presentation.

Finally, we will go to the Torngat Wildlife, Plants and Fisheries Secretariat and Dr. Jamie Snook, executive director, for five minutes.

Welcome.

Mr. Jamie Snook (Executive Director, Torngat Wildlife Plants and Fisheries Secretariat): Thank you, Mr. Chair and all members of this very important committee.

My name is Jamie Snook. I was born and raised in Labrador on the easternmost part of our country. These are traditional Innu and Inuit lands. Personally, I have both Inuit and settler ancestry, with my Inuit ancestry coming from the south coast of Labrador and the NunatuKavut Community Council. My settler roots came from England and settled in the southern region of Labrador.

I've spent my professional career working in indigenous and northern leadership, public services and municipal politics. For the past 15 years, I've been the executive director of the Torngat Wildlife, Plants and Fisheries Secretariat. This is the co-management organization that emerged from the Labrador Inuit Land Claims Agreement that was settled in 2005. The area is now known as Nunatsiavut.

We're now approaching 20 years since that land claims agreement was signed. For context, there are 26 different comprehensive land claims agreements that have been settled in our country.

I wanted to bring attention to the extensive network of co-management boards in Canada, particularly across the north, which make substantial contributions to integrating indigenous science and western science. For people not familiar with these boards, they are generally similar, but there are nuanced differences based on the locations where and the time when they were negotiated, and what policies were being followed at the time. The first agreement, obviously, was negotiated in the early 1970s in Quebec.

In essence, these boards are made up of appointees from the federal government, provincial or territorial government and indigenous government. They are true intergovernmental collaborations, mandated through treaties.

In some circles, they are referred to as institutions of public government, but I like to emphasize that they are created through treaties with indigenous peoples. For example, for the boards that I work with, I like to emphasize that they are, and I refer to them as, Inuit co-management boards, to put them in their proper context.

If you could, envision a shared space where all of these appointees come together, work with the best available knowledge and reach consensus.

Despite the strengths of these co-management boards and the opportunities for their leadership and inclusion, their recommendations and decisions are often not implemented or used to their fullest potential in government decision-making.

This network of co-management boards has mandates, legitimacy, structure, funding and experience, and an immense amount of indigenous knowledge and science is utilized in these processes. Indigenous knowledge on these co-management boards comes in many different forms. These boards have indigenous knowledge holders appointed directly to their boards. Their work involves extensive community consultations and engagement with communities and rights holders, and there are often extensive hearings and legal processes.

These boards are also engaged in and lead research, and regularly complete indigenous knowledge studies to gather diverse forms of knowledge and ways of knowing.

Co-management boards across the north can play a significant role in making sound decisions that prioritize the health, well-being and culture of people, while supporting thriving ecosystems. All of this is happening by using both indigenous science and western science. Unfortunately, these co-management board decisions are often not implemented and are subject to ministerial discretion and final decision-making.

● (1705)

An interesting recent example of co-management decision-making and the integration of indigenous knowledge was captured in a recent court case between the Makivvik Corporation and the Government of Canada. In this case, Makivvik Corporation, which was representing Inuit in the Nunavik region, felt strongly about how knowledge was handled by Environment and Climate Change Canada.

This case ultimately happened because the minister overturned the board decision. I am asking committees like this one to question whether that overturned decision was necessary or if the decision should have been left to stand to respect the process.

The Chair: I'm sorry to interrupt, but we are about 30 seconds over time. Maybe we can work that into the question portion of our meeting.

● (1710)

Mr. Jamie Snook: Did you want me to finish or just hold for questions?

The Chair: I think we will hold for questions because we're well over time, but thank you. You can submit what you have in front of you to the clerk for testimony.

We will move into our question period now.

We'll start off with Mr. Lobb for six minutes, please.

Mr. Ben Lobb (Huron—Bruce, CPC): Thanks to everybody for being here today. Whether it's in person or virtually, it's great.

My first question is for Mr. Maclean.

Going forward, looking back—whatever way you want to go about it—if you were developing a policy, whether for resource development or environmental assessment approaches, that tries to include the most rigorous standards possible for the environment but is open to resource development at the same time, if that's possible, what, in your view, is the most appropriate way to include traditional indigenous knowledge and marry that with science and technology in government policy?

Mr. Bruce Maclean: Thanks for the great question.

I would go back to building those spaces for indigenous people to exist with the means to answer those questions. I think of something like the standing up of the Canada water agency. This is an opportunity to hardwire spaces for indigenous people. I think the lesser policies can evolve from that, as long as you get it right at the foundation.

Mr. Ben Lobb: You just mentioned about creating spaces. For creating meaningful spaces, what's the most appropriate way for government policy to create a meaningful place for the indigenous knowledge?

Mr. Bruce Maclean: Again, that's an awesome question.

First, involve knowledge-holders and elders throughout, from the building to the assessment to the evaluation to the decision-making.

Second, hold information sessions that allow for two-way dialogue. Going into northern communities or first nation communities, we often think that people want what people in the south want. They don't always, so you really need to park some preconceived notions of the outcome, really sit and listen and come away with something that you didn't expect.

Third, I would say to establish something like an ITK oversight body or something like a COSEWIC—something that we've tried before in other elements.

Those are three options I sat to think about to share with you today.

Mr. Ben Lobb: Ms. Wilson and Ms. Solomon, would you like to add to that?

Ms. Anne Salomon: Sure. I'll echo some of the topics that Bruce has brought up and I'll add.

Fundamentally, I think you need to ask first. The first thing you need to do to start building any relationship is ask for the interest and then the formal consent. That can only be given by specific people within a community, so you need to ask who the people are who make the decisions. Who are the leaders who give the consent to go ahead with an initiative that might be information gathering to support a particular policy?

In addition to that, one thing I've been taught to do is to really make sure that the information needs and the questions from community are front and centre. That's asking what those questions ought to be and what sorts of data we should start collecting together. That's just it; it's the initiation of the trust and the building of the relationships.

I would love to pass the mic to my collaborator, K_ii'iljuus Barbara Wilson, who taught me a lot of that.

Ms. K_ii'iljuus Barbara Wilson: I think it's building trust, and Bruce brought it up. It's very important to be transparent, that the people involved know what your intentions are, and that you hear what they're saying. Asking first and building on their concerns, on the things they see out on the land, is very important, because they're the ones who suffer first when we make decisions that aren't fine.

I feel that listening and building on the strengths of the knowledge that people hold is very important. This goes back to ways of governance and building policies that look at what the laws of the land were prior to their being submerged in government policies, etc.

● (1715)

Mr. Ben Lobb: Barbara Wilson, I have a question for you around the area of consultation.

This is obviously a significant part of government policy, I would argue, and a big obligation of business, if they have a project. I've always been curious about how business or government should go about integrating indigenous traditional knowledge in the area of consultation.

If they're looking at traditional knowledge and everything else, is it when every member of the community is fully knowledgeable about a proposed project, or is that too difficult to define?

The Chair: We're over time. Please be very brief.

Ms. K_ii'iljuus Barbara Wilson: I don't think it's difficult to define.

If you look at our structure, our hereditary leaders sit together and get the first level of information. Their responsibility is to take that out to their families regarding the areas they are responsible for via inheritance.

We could do it.

The Chair: Thank you very much.

I'm sorry to be the timekeeper for these conversations, but we're trying to be fair to all members and witnesses at the same time.

It's over to Mr. Turnbull for six minutes.

Mr. Ryan Turnbull (Whitby, Lib.): Thank you.

I'm very grateful to have all of you here with us today and to have your testimony and expertise. I want to thank you for your work.

I want to thank Mr. Cannings for putting this study forward as well, because I think it's very beneficial for all of us to do this important work.

I'll start with Mr. Maclean.

We've heard, in the previous testimony that is part of this study, how complementary indigenous traditional knowledge can be to western science, and vice versa. They truly are different ways of knowing that can be combined in some way to enhance our understanding about the impacts of climate change, for example.

I know your work involves Fort Chipewyan and three indigenous communities that are working together on water monitoring in the Peace-Athabasca delta. Could you highlight how the complementarity of those two different ways of knowing has led to a better understanding of the impacts of climate change on that important watershed?

Mr. Bruce Maclean: Yes. Thanks a lot, Mr. Turnbull. It's a great question. I'm happy to share this very succinctly.

There is pressure from climate change, hydro development and oil sands development, along with the ongoing spills you're likely aware of. We like to go out on the land with elders who have identified areas that are of concern. Whitefish is one of those concerns. We brought in scientists who know whitefish and fish health and put them on the land with elders who have always fished whitefish in the same area.

We put them together with no preconceived ideas about what the research would look like. We asked the question, “How do we know things are changing?” The elders tell you things are changing, and we complement that with science and start testing hypotheses together. It really is two experts and two knowledges—science and indigenous knowledge holders—put together as equals. The work that unfolded from there has been the foundation of everything else we've done.

Without getting too much into it, you need to take a chance on treating those knowledge holders as equals. Sometimes they say the same things and sometimes they don't.

I'll stop there. I think the elders in the room probably have a lot to add to that as well.

● (1720)

Mr. Ryan Turnbull: Yes, and I want to use that as a starting point to ask Ms. Wilson and Ms. Salomon a question.

I think we've heard this metaphor brought up—I'm calling it a metaphor—as the concept of braiding these two ways of knowing together. It seems really important to me that many people who specialize in this area are using that term or metaphor for understanding.

Can someone unpack that for me? Why is that so significant?

Ms. Wilson, maybe you could tell us about why braiding is the way to understand this. I think it's pretty significant. Maybe you can unpack that.

Ms. K_ii'iljuus Barbara Wilson: [*Technical difficulty—Editor*] governance, when you look at the way we govern or [*Technical difficulty—Editor*] to be responsible for the upkeep of all aspects of our land, it's quite different from your governance, and at times it's very difficult to integrate the two.

However, my learning has told me that Canadian laws should lean to us and look at how our laws are put together and modify.... Let's say we look at conservation. Look at SARA, for instance, and the issues it causes when people are not able to go out and harvest the foods they require. There is no braiding there; it's a separation, a division of ideas that can't match, so it's a necessity to change the laws. Our laws have been ignored for a few hundred years and submerged quite often, so we need to take those out and look at them and use them and see what they're made of.

Mr. Ryan Turnbull: Thank you for that.

Maybe I could just follow that with a quick question. I realize I am short on time.

How does the policy development process actually change when you start integrating ITK? This relates to Mr. Lobb's question. I think we can envision it as perhaps very linear in the normal western paradigm, but I think that indigenous traditional knowledge may actually highlight how the policy development process may need to change altogether.

I don't know who to frame that to, but maybe Ms. Salomon or Mr. Jones would like to comment on that.

Mr. Jones, I don't think you've had a chance—

The Chair: You have about 20 seconds, Mr. Jones.

Chief Nang Jingwas Russ Jones: Maybe I'll just give an example of the work we did with herring. Why did herring require rebuilding? They were in a really low state. What was the explanation?

We spent three years looking at how we should manage herring, but also at what the cause of the decline was. There was no clear answer or reason why. There are limitations in science, and science was unable to explain the high abundance of herring we saw in the fifties in Haida Gwaii. Also, traditional knowledge talked about a higher abundance back in the thirties and forties, before DFO started keeping records of herring.

Both those things informed what a reasonable policy would be, moving forward, to rebuild herring.

The Chair: Thank you. That was well done in a short time.

Mr. Blanchette-Joncas, you have six minutes, please.

[*Translation*]

Mr. Maxime Blanchette-Joncas (Rimouski-Neigette—Témiscouata—Les Basques, BQ): Thank you, Mr. Chair.

I'd like to welcome the witnesses who are with us today for this study.

Ms. Salomon, how can we manage to divide traditional knowledge and scientific knowledge when it comes time to make decisions in the development of public policy?

Ms. Anne Salomon: I'd like to answer you in French, but it would be too difficult for me, so I'll answer you in English instead.

[*English*]

You asked me and gave me time again to talk about western science and indigenous knowledge and how they can be brought together to inform policy. I think you heard some great examples from Russ Jones, Barbara Wilson and Bruce.

I'm going to give you another example of something magical and innovative. Some of you have maybe heard of ancestral clam gardens. These are intertidal rock-walled terraces built by people 4,000 years ago, which we've shown, by bringing western science and indigenous knowledge together, can double to quadruple the number of clams produced for food in one place. They're truly outstanding. These are not only things to marvel at as technologies, but they can be used well into the future. I was thinking about extreme climatic events.

By bringing our knowledge systems together, we've figured out how these things work. One way they work is by keeping beaches cool, because they change the slopes of beaches and they stay wetter for longer. Sea-water has a high heat capacity, so these clams can grow twice as fast. When you get these extreme climatic events like heat domes, for example, which we experienced in the Pacific Northwest several summers ago, or extreme heat waves through the warming of the ocean itself, these things can cool down the clams and allow them to grow and not get diseased with bacteria.

These are some technologies bring information together with these two ways of understanding a system—two lenses—almost like at different scales of understanding. We can bring in genetics and we can bring in stable isotopes, based on hypotheses given to us by our indigenous collaborators. We can see how these work. It has real policy implications for how we manage the foreshore and make them resilient to future climatic disturbances, for example.

● (1725)

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Ms. Salomon.

Thank you for giving us a conclusive example. It's true that you're a professor of applied marine ecology and social-ecological system science.

I'm trying to understand something to do with traditional knowledge and scientific knowledge. When developing public policy, how do you disentangle belief from scientific knowledge?

Ms. Anne Salomon: Could you repeat the question in French? I'll listen to the interpretation this time.

Mr. Maxime Blanchette-Joncas: How do you distinguish scientific knowledge and belief, which is traditional knowledge?

Ms. Anne Salomon: Okay. I understand the question.

[*English*]

Thank you. That is a fantastic question. It's one answer to one of our previous questions about some of the differences between indigenous knowledge and Eurocentric or western science. Eurocentric or western science tends to consider itself devoid of values, beliefs and spirituality. Indigenous knowledge captures that all together. It's inclusive of values and spirituality. That is one of the very big differences.

Western science or Eurocentric science has also been criticized. Often many of the biases and beliefs that western scientists have, although we say they're objective, are influenced by our lens of looking at things. That speaks to what Bruce was saying earlier, and what Russ was identifying too. When you bring these knowledge systems together and identify the different values that people hold, I think that's where some of the opportunity space is for policy development.

Policies certainly are and should be informed by evidence and science, but they're also, whether we are explicit about it or not, guided by values. As K_ii'iljuus mentioned, many of our policies do not explicitly address that, like the Species at Risk Act. They're definitely driven typically by Eurocentric values. That influences western science and Eurocentric science in the questions we ask, the data we use and what we actually deem as legitimate. The more we recognize that and are very transparent [*Technical difficulty—Editor*] for policy.

I hope that was clear. Did I answer your question?

The Chair: Could you repeat that last sentence? It froze up a bit.

I'll also give Mr. Blanchette-Joncas a few more seconds because of the translation problems earlier.

● (1730)

Ms. Anne Salomon: The last sentence was kind of off the cuff, but what I believe I was trying to say was.... I'll just summarize.

Western science, Eurocentric science, the science Simon Fraser University and this institution has protocols to and subscribes to, considers much of our evidence-based processes and the generation of knowledge as being devoid of values, yet it's often not, because values influence the kinds of questions we ask, the kind of data we consider legitimate and the data we collect.

One beautiful experience that I've had working with indigenous knowledge holders like K_ii'iljuus is being very explicit about the values that we have and how that influences the questions we ask. That has policy implications.

The Chair: Thank you very much.

We will go to Mr. Cannings for six minutes, please.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you all for being here. It's a very interesting discussion.

I think I'll start with Mr. Snook because of my past experience. I sat on the COSEWIC board. It was mentioned by Mr. Maclean, I think. That's the Committee on the Status of Endangered Wildlife in Canada. You're actually here in Ottawa with COSEWIC right now. You pulled yourself out of that meeting.

We've heard mention of SARA in here, where we have western science values, western science structures, trying to come up with whether a species is endangered or threatened.

Over the years, COSEWIC has been working on the indigenous traditional knowledge part of that. When I sat on it 20 years ago, that was in its infancy, and it was a very rough, difficult process at times.

Can you comment on where that has come after 20 years of work on it? It is a long process, as we've heard today. Can you give me an idea of where you think we are here in Canada with this kind of policy?

Mr. Jamie Snook: With that committee in particular, there's no doubt there have been challenges, but there have also been some successes. I know this week there were two different species that were assessed that did have indigenous knowledge included in their assessment. One was the killer whale. An immense amount of knowledge was available to the committee from British Columbia, for example, and the different first nations there. The second species was the ivory gull, and a lot of knowledge about that was known among Inuit communities.

I could give another example: 10 years ago, the Torngat Mountains caribou in Labrador were considered data deficient in the language of COSEWIC. Ten years later, with the documentation of Inuit knowledge in Labrador and Quebec, that species is now recognized by COSEWIC as its own designatable unit and is now considered endangered. There's a lot of care and monitoring now happening by the co-management system that's in place. There is certainly progress happening.

I'd like to take this opportunity and this question to highlight a bright spot within the Department of Environment and Climate Change Canada and acknowledge Anishinabe academic Dr. Myrle Ballard for her contributions to date in establishing a new indigenous science division within the department.

I think that's really innovative and needed. I'm really hopeful for where her work is going to go within that department.

Mr. Richard Cannings: One thing we've heard a couple of times, both today and previously, is that one of the valuable additions that indigenous knowledge can make when considered alongside western science or settler science is just the long time scale that's involved when you're considering what the trajectory of a species' status might be. It seems to me very essential to know what things were like in the past. That is something that indigenous knowledge can really provide.

● (1735)

Mr. Jamie Snook: Yes, and to expand on that thought, it's not just the past: In all of our indigenous communities in Canada, there is continued and ongoing monitoring in our communities, as Bruce Maclean has mentioned already.

In a lot of cases, science does not necessarily get budgets in the north and in indigenous communities, and we're left with only our local knowledge to make decisions, so one of the points I would like to make to this committee is to not get hung up on this idea that indigenous knowledge always needs to be complementary to or braided into western sciences. In a lot of cases, it would even be inappropriate to do that. Just trust that indigenous knowledge and science can stand on its own merits and use it, because in a lot of cases, that's all we have.

It does influence policy if you use it, because it's embedded in local priorities and concerns, and you'll get a lot more buy-in from people who care about these species—more than anybody, in a lot of cases.

That was a great point, but think forward-looking when it comes to indigenous science.

Mr. Richard Cannings: Yes. I didn't mean to doubt it.

Mr. Jamie Snook: Yes, I know.

Mr. Richard Cannings: Thank you.

I think we're out of time.

The Chair: That was a very good distinction to put on the table. I appreciate that part of the discussion.

We're going to be on a very abbreviated round with two minutes, two minutes, one minute and one minute. If we can, keep the answers and questions tight.

Mr. Soroka, it's over to you for two minutes.

Mr. Gerald Soroka (Yellowhead, CPC): Okay. I'll ask my one question. I'm not certain if this is for Ms. Wilson or Ms. Salomon.

In your work with coastal indigenous communities, how do you blend traditional knowledge with the marine ecology and address the environmental challenges?

That's for whoever wants to answer

Ms. K_ii'iljuus Barbara Wilson: I'm going to attempt to answer it.

We look at the world as a whole. We don't separate and just concentrate on one or the other. We have to look at the fact that, for instance, salmon start their lives in our forests, in the creeks that are there, and they come back eventually to the same creeks, so we can't afford to just separate them and have them in silos. We have to look at the environmental aspects of the whole.

Anne, do you want to add to that?

Ms. Anne Salomon: Yes. Maybe I'll just echo what you said.

Having that holistic perspective allows us to look not only at the ecosystem interactions but also at the socio-ecological actions of people as components of the whole system, which is something that traditional marine ecologists don't tend to do and that can often leave out a big part of the picture and drivers of change.

Mr. Gerald Soroka: I'll just follow up with that, and you might have to give a written brief.

Could you provide an example of where this integration has led to impactful policy recommendations on conservation strategies?

Ms. Anne Salomon: I can start.

Mr. Gerald Soroka: Okay.

Ms. Anne Salomon: I'm going to relate it to—

The Chair: Actually, you won't be able to do it justice, I'm afraid, because of the timing, but if we could get it in writing...?

That was a good suggestion by Mr. Soroka. These are very rich discussions, but unfortunately we just don't have the time to get into it as far as we'd like to.

Mr. Lametti, it's over to you for two minutes, please.

Hon. David Lametti (LaSalle—Émard—Verdun, Lib.): Thank you, Mr. Chair.

Thank you, witnesses and colleagues, for being here today. It's a fascinating discussion.

The one thing about the braiding metaphor is that maybe it's not appropriate in all cases, but it does make a cord stronger. I think that's one of the richest parts of using that metaphor of braiding traditional knowledge with western science and western forms of knowledge: It makes us all stronger.

I'll repeat the same question that I had at the last session with other witnesses. I don't mind who answers.

K_ii'iljuus, obviously we'll start with you, as well as Chief Jones.

Do UNDRIP and the principles or the philosophy behind UNDRIP help to reinforce the dialogue with respect to finding the harmonies between indigenous knowledge and western knowledge?

● (1740)

Ms. K_ii'iljuus Barbara Wilson: I would say that it could, if you followed the intentions of UNDRIP and didn't just talk about it.

Chief Nang Jingwas Russ Jones: I'd add that UNDRIP reinforces the need to work together collaboratively. UNDRIP talks about getting free, prior and informed consent for resource developments or plans.

Hon. David Lametti: Thank you, Chief.

I had hoped to get up to Haida Gwaii last summer. I didn't quite make it when Minister Miller was there, but hopefully I can at some point down the road.

Mr. Chair, those are all the questions I have.

The Chair: Terrific. Sometimes it's quality versus quantity, and those were great questions and answers.

Thank you.

We'll go to Monsieur Blanchette-Joncas for one minute.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Chair.

Mr. Snook, in your opening remarks, you talked about being able to integrate traditional knowledge with western knowledge. At Monday's meeting on the same subject, we were told that there is a fundamental difference between the two. Western knowledge looks at elements as precisely as possible, trying to control as many variables as possible to isolate a phenomenon, whereas traditional knowledge considers this phenomenon more holistically, in as broad a context as possible.

Do you agree with that definition? Are there strengths and weaknesses in each of these approaches?

[*English*]

Mr. Jamie Snook: I agree with the braiding metaphor as well. I understand the difference between the western scientific method and traditional knowledge, but I worry sometimes that when we refer to traditional knowledge, it's backward-looking. The concepts of indigenous science, the ongoing monitoring of the environment and the local nature of that ongoing monitoring by indigenous people and communities are often not necessarily as different from science as you might think. Inuit people where I live, for example, monitor things like sea ice every day. They've been doing it for years.

I'm going to try to be brief for the chair. I'm sorry about that, sir.

The Chair: Thank you both. Thanks for your understanding.

We'll go to Mr. Cannings for one minute. Please be as close as you can. That would be great.

Mr. Richard Cannings: I'll try to be quick.

I'm going to go to Mr. Maclean.

You seem to have a lot of experience across Canada and elsewhere in the world. I wonder if you could very briefly give the committee an assessment of where we are in Canada with this whole process of using indigenous knowledge properly for policy work.

Mr. Bruce Maclean: Thanks.

You're here and you're doing this work, so you're catching up.

The elders I work with are quite frustrated. They have knowledge, but it doesn't have an outlet. A lot of time is spent trying to explain and justify how changes have occurred through development that has impacted them quite seriously. The things they've come to rely on and have confidence in are gone. There's been some real destruction of the way that traditional knowledge works.

I want to really quickly point out that indigenous knowledge is such an active and living part. They had cellphones in Fort Chipewyan and in the Peace-Athabasca delta in 2012. That's when they got cell coverage for the first time. Within about six weeks, people knew exactly where to go to get a signal. There's this constant refinement. There's this constant evolution that we have to remember and make space for.

I'm rambling. I'll stop there.

● (1745)

The Chair: No. That was very good. Thank you.

We really appreciate all of the witnesses for being here. I can see that our time is set up on western standards versus indigenous standards. Unfortunately, that's the way our committee is forced to run. It's by the rules we set previously.

Thank you all for being with us and for sharing your knowledge with us for our study. You can, of course, as I said earlier, submit anything further in writing to us. We have one direct request for writing, but if there are other things you can submit to help our study, it would be appreciated.

For the members on Zoom, if you can stay with us, we will be suspending briefly so that we can get one witness for our next panel signed in on Zoom and checked for audio. We'll ask the others to leave or stay in the background while we get our new panel in.

We'll suspend for just a minute or two.

Thank you.

● (1745)

_____(Pause)_____

● (1745)

The Chair: We'll get started on our second half of the meeting. We're going to be doing our best to wind up by 6:45. We have a hard stop due to resources, but we'll see how we can do. We have one less panel this session, so we may make up a bit of time there.

Welcome back. Pursuant to Standing Order 108(3)(i) and the motion adopted by the committee on Monday, September 18, 2023, the committee resumes its study of integration of indigenous traditional knowledge and science in government policy development.

It's now my pleasure to welcome, as an individual via video conference, Dr. Hugo Asselin, full professor.

We also have, from the Canadian Mountain Network and Braiding Knowledges Canada, Dr. Monique Dubé, executive director, and Dr. Joe Dragon, chairman of the board of directors. He is accompanied by his daughter Olivia in the background, who is a second-year Queen's student and has distributed some braiding that was done by Jane Dragon, Joe's mother. We have three generations of his family with us today. Thank you for that.

We will start with five minutes for Dr. Asselin. Go ahead, please.

● (1750)

[*Translation*]

Mr. Hugo Asselin (Full professor and Director, l'École d'études autochtones, Université du Québec en Abitibi-Témiscamingue, As an individual): Thank you, *meegwetch*.

Good morning, *kwe*.

My name is Hugo Asselin, and I'm a full professor and director of the l'École d'études autochtones at the Université du Québec en Abitibi-Témiscamingue. I have been working in collaboration with indigenous communities and organizations for nearly 20 years on a variety of topics and on a multidisciplinary and intercultural approach.

Today, I am pleased to present to you a summary of a knowledge synthesis published earlier this year and conducted by a research team of which I was a member, funded by the Fonds de recherche du Québec and conducted by my colleague Émilie Deschênes, who is also a professor at the Université du Québec en Abitibi-Témiscamingue. I have already sent you an abridged report of just under 10 pages, but if you want more details, the full 88-page report is available free of charge through the university's institutional repository. I sent the contact information to the committee staff.

In this project, we conducted a review of written and oral data, from indigenous and non-indigenous sources, from scientific literature and other sources, as well as transcripts of interviews of witnesses, experts and calls to action from the major commissions of inquiry in recent years. We have also had exchanges with indigenous experts in education, health and urban reality, as well as with representatives of the Government of Quebec, in connection with indigenous affairs, health, education, justice and agriculture.

Our research has been guided by three themes: issues, success factors, and inspiring practices for knowledge mobilization in indigenous public policy development. We considered all stages of the knowledge mobilization process, which is important to mention: the production and sharing of knowledge, the selection of the knowledge that will be used, its ownership and, finally, its use and mobilization in the development of public policy.

We established a diagnosis of the current situation and we defined a desired situation, based on the review of the literature and discussions with experts. With respect to the current situation, we have made four main findings, which I will summarize.

First, research knowledge flows one way, from producers to policy-makers and then to policy recipients. Indigenous peoples, who are the recipients in this case, have few opportunities to participate in the production, selection and mobilization of knowledge. In a way, knowledge is being imposed on them.

Second, the mobilization process is primarily consultative, whereas it should be based on co-construction. Rather than just seeking the opinion of indigenous peoples, often when it's a little too late, we have to work upstream and always with them.

Third, policy-making is based almost exclusively on academic research knowledge. Co-production of knowledge with indigenous communities is unfortunately still rare.

Fourth, the links between producers, users, and recipients are weak. As a result, the intermediate steps of mobilization, that is to say the sharing, selection and appropriation of knowledge, are less effective. It's more complicated.

In terms of the desired situation, we have identified a few potential solutions, which I will list for you, in no particular order. First, reciprocity, openness, cultural humility and dialogue are essential conditions without which the rest of the work cannot be done.

Next, we need to have a relationship that goes both ways, and we need to consider scientific and indigenous knowledge on an equal footing, as we heard earlier, by favouring the dual-perspective approach. The process must be led by, for and with indigenous peoples and authorities at all stages, with a view to self-determination—which is very important—and in compliance with the United Nations Declaration on the Rights of Indigenous Peoples. Traditional governance and consultation, research and ethics protocols developed by indigenous governments must be accommodated.

Moreover, it's not enough to simply adapt existing policies; they must be overhauled in a co-building approach. Preventive policies that address problems at the source must also be encouraged, rather than being reactive and applying temporary solutions without preventing recurrence of problems. At the same time, it's important to look at history and context and not impose one-size-fits-all solutions.

● (1755)

Indeed, we must not model approaches for indigenous peoples on the basis of those for other groups. You have to look at all indigenous groups as different. The approach must be inclusive and not limited to working with the chief or band council. We even have to go and see marginalized groups, such as women, the elderly and young people.

We have to take a holistic view, look at the interactions between policies and departments, assess issues in a comprehensive and long-term way. Indigenous people must be included in the staff of policy departments and included in all decision-making structures. We must provide sufficient support for initiatives at all stages of the process and always have the objective of reducing inequalities.

[*English*]

The Chair: Thank you for your presentation.

Now we go over to the Canadian Mountain Network and Braiding Knowledges Canada. We have Joe Dragon and Monique Dubé.

I believe, Mr. Dragon, that you are going to start us off.

Dr. Joe Dragon (Chairman, Board of Directors, Canadian Mountain Network/Braiding Knowledges Canada): Thank you, Mr. Chair.

[*Member spoke in the Denesuline language and provided the following translation:*]

Hello. My name is Joseph Ignace David Dragon. I live in the Northwest Territories. We call our land Denendeh.

I am Dene, a descendent of the Denesuline, the people of the land. My mother is Jane Mercredi Dragon, who made the gift for you today. *Mahsi*. My father is David Pascal Dragon.

● (1800)

Mahsi for having us today.

The Canadian Mountain Network is a network of centres of excellence that began in 2019, pioneering ethical and equitable ways of conducting natural science that respect indigenous peoples, leading to better scientific and community outcomes.

CMN has submitted a proposal to the strategic science fund to formalize a transition to Braiding Knowledges Canada next spring at the conclusion of its NCE—network of centres of excellence—five-year term. The results of this competition will determine the next steps in planning, commencing this fall.

In only four years of operation, CMN has led groundbreaking research in the braiding of western and indigenous knowledge that has positioned Canada with an increased understanding of climate and biodiversity crises.

CMN was the first NCE to fund indigenous-led research, with 60% of the projects being indigenous-led or co-led, involving over 200 collaborators, 200 partner organizations and 43 universities in Canada.

Having recognized the historical devaluation of methodologies that do not match western research approaches, indigenous peoples have made a clear and repeated call for the federal government to respect and reflect indigenous ways of knowing, doing and being.

Federal, provincial and territorial governments are working to achieve this inclusion; however, inequities, exclusions and partialities persist because of the complexity of the challenge and, more fundamentally, because federal mandates and priorities must, by definition, be national in origin, scope and accountability. Indigenous knowledge and practices are often not reflected in research and decision-making in Canada, which are primarily influenced by conventional colonial science approaches, non-indigenous governance practices and economic drivers.

The ethical alignment of federal responsibilities with place-based and self-determined indigenous knowledge represents a defining question of Crown-indigenous relations in Canada.

Mr. Chair, it is both a challenge and an opportunity for reconciliation. Increasing the presence of local indigenous knowledge at the national level and national impact at the local level is how Braiding Knowledges Canada, the evolution and expansion of CMN beyond the Canadian mountain regions, will offer value to indigenous communities and the Government of Canada. We have demonstrated that research organizations can facilitate reconciliation through research and can help the Government of Canada successfully implement many measures outlined in the June 2023 UNDRIP action plan.

CMN has shifted mindsets and is building understanding by creating ethical spaces for knowledge co-production, a critical contribution to Canada’s commitment to reconciliation with indigenous peoples.

We've invested over $10 million in research and partnerships nationwide that combine natural, health and social sciences with humanities and place-based knowledge to address knowledge gaps and improve policy outcomes, including indigenous-protected and indigenous-conserved areas, or IPCAs; indigenous stewardship of bison restoration in Alberta; recovery of caribou in the central Rockies; reassertion of indigenous place names in the north; the inclusion of indigenous knowledge in transboundary Yukon salmon agreements; the inclusion of Mi'kmaq knowledge of aquatic ecosystems in Quebec; and community-based monitoring of climate and health in Nunatsiavut.

Mr. Chair, there is a need for experienced non-profits like ours—non-profits that are supported by first nations, Inuit and Métis researchers and communities and non-indigenous contributors to the research ecosystem—to facilitate linkages between indigenous-led, place-based, community-driven research and various cross-cutting federal priorities.

Following an organizational expansion, we can offer the collaborative space and opportunity for federal departments to connect with local knowledge and initiatives in a streamlined, meaningful and impactful way.

Our model has proven to be agile, yet very complementary in achieving a rapid success to date across disciplines and in achieving the support of federal, provincial and territorial governments.

Marsi, Mr. Chair.

The Chair: Okay. Thank you very much, Mr. Dragon.

Now, for our six-minute rounds of questions, we'll start with Ms. Rempel Garner.

Hon. Michelle Rempel Garner (Calgary Nose Hill, CPC): Thank you, Mr. Chair. I'm going to direct my questions to Mr. Dragon.

Give my regards to Jane. I think about her frequently.

In academia, there's the term "publish or perish", and the publication process is very much predicated on a very strict peer review process. The same thing goes for the granting process.

I'm really curious to get a little bit of insight on how you and your network interact with that process and try to braid indigenous knowledge with the peer review process. I don't have a lot of time, but if you have a recommendation for the committee on that, I think it would be important.

Dr. Joe Dragon: I was thinking about this. Having gone through the western academic system to get a Ph.D. studying caribou, I had to prove that I had the credentials to be in that type of government position as a wildlife biologist. From an indigenous perspective, I think when I first got that proof....

You mentioned publishing. Well, my proof was when I was 10 years old and shot my first moose. With my father, I had to go through and be able to process that whole moose by myself. Now, it was a cow moose; I didn't have any antlers or anything to show, but my great-aunt made me a shell bag out of the ears, and that was my proof. That was my cultural proof.

I keep on learning. Now I pass it on to my generations. I have my daughter here, and her brothers are now going through that process. That's how we teach in our culture, but we don't need to publish it; it's a part of who we are.

● (1805)

Hon. Michelle Rempel Garner: Maybe you can tell my son-in-law the same thing. He just forgot that he needed a truck after he attempted to harvest a deer last week. Now he's shamed on the record. I've feel like I've done my part.

Maybe what I'll do, just because I don't have a lot of time.... I do think that it's important for the committee to understand that intersection point between the research funding process, the peer review process, the publication process and the incorporation of indigenous traditional knowledge. With the time that we have, do you have any specific recommendations on how to accomplish that? If not, would you be willing to perhaps table something with the committee or reach into the broader network with that question being asked?

Dr. Joe Dragon: It's a really good question. As an indigenous scientist, I had a hard time actually....

This idea of publishing is very hard in the indigenous culture, because everything changes. Once you put it on paper, then it becomes real, just like that, but in our culture, we experience it all of the time—such as the effects of climate change.

Dr. Dubé, who has published a lot, would really be able to comment on the idea of braiding.

Marsi.

Dr. Monique Dubé (Executive Director, Canadian Mountain Network/Braiding Knowledges Canada): There are many indigenous academic scholars who face this challenge all of the time. Those scholars live, every day, the challenge of publish or perish. One of them is a co-research director with our network.

I think what is important is to understand that these academic scholars need to be supported to change requirements with respect to tenure, understanding that when you are braiding knowledges or when you're publishing indigenous knowledge, relationships and time.... It takes time and it takes attention, in that a colonial system requires a deeper look.

Hon. Michelle Rempel Garner: I spent time in academic research administration. One thing I noticed is that sometimes when you get in a "publish or perish" silo or you're chasing a grant in a certain silo, it really precludes you or the community that is working on the problem from looking for alternative solutions or looking at an approach to a problem in a different way.

Is there anything you're working on in your network right now that you could point to for the committee as something you actually looked at from an indigenous traditional knowledge perspective, and it led you to open up a new area of research? I think it's really important to show successes.

Would you like to expand on that line of thinking? I think it's something this committee needs to consider as we're going through this study.

The Chair: We have about 50 seconds, so you have some time.

Dr. Joe Dragon: I'll start, and then Monique....

I think one of the important lessons learned in this initiative that we've done is that you can't make indigenous science so that it's right across Canada. You have to look at the communities that are asking for the science and are being involved in it.

I can give you my perspective as a Denesuline citizen. I'm Dene, but even within the Northwest Territories, there are 12 different languages. There are 12 different cultures. There are so many areas that they're looking at that you have to go deeper into that conversation and actually ask the people from their specific region how they want to be involved. Then, all you have to do is bring that indigenous conversation up—not asking to be different, just asking to come up to the table. That's all.

Marsi.

The Chair: That's beautiful. Thank you. *Meegwetch*.

We'll go to Ms. Metlege Diab for six minutes, please.

Ms. Lena Metlege Diab (Halifax West, Lib.): Thank you very much, Mr. Chair.

Thank you to our witnesses for being here this afternoon.

I want to thank your daughter Olivia—and you, Dr. Dragon, and your mother as well—for the beautiful gift that you've presented to everybody here in the room today. I notice it's braided as well.

Just talking about braiding, can you give us a bit more information on the concept of braiding as it relates to climate? You talked about climate and biodiversity crises, so it's about climate action.

It's to you, Dr. Dragon, or to you, Madame Dubé.

● (1810)

Dr. Joe Dragon: I'll start and then I'll pass it over.

It's on purpose, the braiding. It was mentioned earlier that it makes it stronger. However, if you look at the braid, and you're holding it, you can see that there are very distinct pieces of yarn that make up that braid.

I hear “blend” lots of times. Our knowledge, the ability for us to be a part of this conversation, is within our indigenous being, and that is separate. It's different, and it has just as much value as western science.

This braiding, making it stronger, is the opportunity for us to give that lens that we need to be able to provide an opportunity to see science from a different perspective, and then we can make good decisions on that science.

I'll turn it over.

Marsi.

Dr. Monique Dubé: An example is that the Klinse-Za caribou herd in northeastern Alberta and British Columbia was on the verge of extirpation. Provincial and federal governments, and their management practices, were unsuccessful in sustaining that herd. We funded research that was led by Clayton Lamb at the University of British Columbia and Chief Roland Willson, who is with West Moberly First Nations. They have quadrupled the size of that herd through the braiding of indigenous and western knowledge, working together to recommend management practices with respect to the reclamation of linear features, which we know is a significant issue with energy development and other development.

That is an an example of how the power of the knowledges together has advanced a significant issue with respect to caribou abundance in an area of Canada, with the objective of eventually establishing a harvest to re-establish the rights to harvest caribou.

In my experience as a scientist in Canada, rarely do I see the science transform into management practices to mitigate impacts on rights in terms of re-establishing the right. In this case, it is to harvest caribou.

That is an example of the power of braiding.

Ms. Lena Metlege Diab: I'm learning a lot from this particular study. It's not one that I was familiar with, particularly all of the terminology that's been used. I'm going to relate it to another study that we did earlier on in our mandate, which was about citizen scientists.

We heard from many witnesses on the importance of getting knowledge from the local community. In your own words, right now you talked about experienced non-profits facilitating linkages.

I want to give you the opportunity to advocate a bit more for the need for this type of knowledge and what the Government of Canada needs to do. Also, what are the linkages between the different levels of government, academia, perhaps business and so on?

Dr. Joe Dragon: Thank you for the question.

When you look at the opportunity to do this in a collaborative and inclusive space, when you're bringing in academia, when you're bringing in indigenous organizations and groups that want to be a part of these types of initiatives, I can tell you that the relationship the government has had with indigenous people has not been great. That initial reach-out of being involved in research, when you have western scientists coming on our lands, poking and prodding and then leaving, and then maybe sending a report later on saying what they've found in language that does not mean anything to the community member, is not a real relationship. That's just sharing information.

The opportunity that we have—it was mentioned earlier by one of your presenters—is that if we create the space with appropriate funding to be able to allow indigenous peoples to be in this conversation, I think you're going to be able to find value in that. We have very good evidence so far in a very small sample size. We're only talking five years. That's why we're looking at having it expand.

Holistically, if you're looking at it, we started this project in the mountains, but what we really found very quickly was it transcends beyond mountains, so we needed to include more in the conversation so that more of this voice could be heard.

As was mentioned earlier, it has to be funded. The studies we're doing in these remote locations are very expensive and cost-prohibitive. You have to be able to align that conversation.

The Canadian Mountain Network has provided an access point for people to come in and start. It's just starting.

Marsi.

● (1815)

The Chair: Great. Thank you both.

We'll go to Monsieur Blanchette-Joncas for six minutes, please.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Chair.

I want to welcome the witnesses who are joining us for this second hour of study.

Mr. Asselin, thank you for joining us. You are the director of the École d'études autochtones at the Université du Québec en Abitibi-Témiscamingue. I read some of your interviews. In them, you mention in particular that the university is well positioned to generate meaningful dialogue between Quebeckers and first nations.

Can you tell us more about the role that the university can play in bringing indigenous and non-indigenous people together?

Mr. Hugo Asselin: Thank you.

Indeed, the university offers this opportunity to bring indigenous and non-indigenous people together in the same class or in the same research projects, and to do this braiding of knowledge that we've been talking about for a while.

That's what we do at the École d'études autochtones, a unique multidisciplinary school in Quebec. We aren't a school of anthropology or sociology; we're a school of indigenous studies. The programs we develop and the research projects we conduct are dictated by the indigenous partners we have in the jurisdictions or communities, and we conduct them with indigenous people.

So it's really important to always have collaboration from start to finish and, as we've been saying since the beginning of the meeting, to consider indigenous knowledge and scientific knowledge on an equal footing. That knowledge is not generated in the same way, but it has the same value. In both cases, empirical knowledge is generated by trials and errors, more or less. It's still the same principle, even if the approach is a little different.

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Asselin.

You say that traditional knowledge and scientific knowledge must be put on an equal footing, but how can we separate the beliefs from knowledge?

I really believe that indigenous knowledge can add to western science, but how do you actually untangle that and come up with a scientific process that is valid on both sides?

● (1820)

Mr. Hugo Asselin: It's very important. Earlier, in response to a similar question, Ms. Salomon raised some important points.

First of all, we must avoid always thinking that indigenous knowledge must be validated by science. Otherwise, you would have to accept that indigenous knowledge validates the science, and that constant reciprocal validation would become ridiculous. So we really have to consider what we're talking about.

The difference between belief and proven knowledge is easily found by talking to several people. If I talk to one indigenous person and they tell me one thing, it's anecdotal information, and I don't know the veracity or the value. However, if I talk to 10, 20 or 30 indigenous people who are recognized by their peers as experts in a given field and they all tell me the same thing, we're dealing with a widespread knowledge that has a value comparable to scientific data.

Similarly, if you carry out just one scientific experiment, in which you make a mistake, and not out of dishonesty, you can make mistakes for a long time if you just rely on that one experience, until someone tries to replicate the initial experiment and realizes that the results were wrong. So it's always a matter of repeating and multiplying knowledge and evidence that the right ground is found.

People in the natural sciences often make the mistake of thinking that the social sciences are based on a simple talking point, but that's incorrect. It's by talking to a number of people, as I've just explained, that we develop knowledge. If this knowledge is shared by a lot of experts, you either accept that it's valid or you decide that it's a conspiracy and that these people agreed before meeting with me to tell me the same lie. Once again, I'm demonstrating this by the absurd, but it's clear that there are plenty of concrete examples of this knowledge.

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Asselin.

What is done to separate western science from indigenous knowledge when the two contradict each other? If it happens in the context of a legislative process, is there a knowledge hierarchy that needs to be established?

Mr. Hugo Asselin: I don't think there's a hierarchy. The first thing to do is to listen to one another and, if there is a difference, to ask why. We also have to ask ourselves how the measures were established on each side or how the information was generated.

Let me give you a concrete example. A few years ago, in the Northwest Territories, if I remember correctly, government surveys showed that a caribou herd had disappeared. There was an uproar. People wondered what had happened and whether the caribou had been wiped out. Indigenous people in that area said that they hadn't disappeared, but had migrated to another location, which is uncommon. Indigenous people had to repeat this explanation several times before government employees flew by helicopter over the precise spot designated by the indigenous people and found the caribou herd. No caribou were missing.

Sometimes we have to admit that one of the two methods was wrong. In my example, science was wrong, but sometimes it's indigenous knowledge. No one is perfect. When there are discrepancies, the idea is to conduct separate audits to try to determine where the error is. Normally, if there is a phenomenon, there should be a convergence.

[*English*]

The Chair: Great. Wow, that's fantastic.

Next is Mr. Cannings for six minutes, please.

Mr. Richard Cannings: Thank you to all the witnesses here today.

I'm just caught up in all this talk about caribou, so I'm going to continue on that theme.

Dr. Dragon and Dr. Dubé, you mentioned one project—I forget exactly where it was—in which caribou numbers increased by four times or something. That's remarkable, considering the trajectory of caribou populations farther south in the mountains, where I live.

I'm trying to get at this difference between western science and indigenous knowledge. You mentioned linear features being a problem. If you were to replant...? Is that what happened? Do you change those linear features?

I think that western scientists have known for a long time that linear features are bad for caribou, but they do a study and it gets published and becomes "knowledge", and that's it. In the projects that you're dealing with, is that indigenous knowledge more a part of a process that is really interlinked with policy so that changes actually happen on the ground? Is that a difference, would you say?

I just want to say that we need to get you guys down to southern B.C. to work on caribou.

Dr. Monique Dubé: Thank you for the question.

I think the difference is the partnerships on the land right from the beginning.

To be clear, this is work we've supported and enabled. The role of the Canadian Mountain Network is to build the relationships, sustain the relationships and manage all of the administration that takes away from the work on the ground so that the work can be done on the land.

The difference is that these groups were facing a problem that was insurmountable. When you sit down together and bring the decision-makers to the table from the very beginning, that is how you transfer the science and the knowledge into the policy and the decision-making.

If we are successful in receiving the strategic science fund, one of the first additions to our governance structure will be a federal advisory panel to work with our research management committee—our indigenous circle of advisers and our researchers—so that we can talk about shared priorities and understanding and serve as a liaison. In examples like this with the caribou, we can share those learnings.

If you do the research and you publish the paper, it doesn't get into the policy and regulation. We have learned that over and over again. How is it done? It's done when you work together right from the very start all the way to the end. The end is also through adaptive governance, adaptive policy and regulatory reform to ensure the regulations you've developed are indeed protective. Those relationships are sustained for a significant period of time. That is where success is.

● (1825)

Dr. Joe Dragon: That's in the West Moberly and Saulteau First Nations.

I want the committee to think about something. As we look at a western-style approach. Having been a deputy minister of environment and natural resources for the Northwest Territories government, I know that at times we got into very western-style conversations about caribou.

When we had the dwindling herds, one challenge of that conversation was getting into the situation where.... When you have a decrease in a population, typically the first western methodology is stop hunting right now. The push in that conversation is, "I'm Dene. I'm Denesuline. We come from the caribou eaters. Our relationships are with caribou." There's a saying that we are caribou; caribou are us. If you look at putting in a methodology that cuts that relationship out, you're cutting out that cultural relationship between those two entities. From a western perspective, you get away with it. You publish a paper and you put it into the journals, and they will say that's what you do.

From an indigenous perspective, you've taken that cultural component out of our lives, yet we have to follow those rules because we're put on a moratorium for hunting. We can't practise that relationship. That cultural component, depending on where you go, is so integral to the relationship to the land. It's just not about that one species; it's about everything that the species walks on, eats or drinks. It's everything on the land.

It's just something to consider.

Marsi.

Mr. Richard Cannings: I might add that I suspect that in many of these cases it's not the hunting that has caused the decline in the first place. It's just the easiest thing to say you can't do.

Do I have time?

I don't. Okay.

The Chair: There will be some time because we are being very efficient today, and this panel is going quite well.

I love the adaptive governance, and I'm looking around the room thinking there are some lessons there we could probably even look at in Parliament.

We'll go over to Mr. Soroka for five minutes, please.

Mr. Gerald Soroka: Thank you, Chair, and thank you to the witnesses today for coming.

I'll start off with Mr. Dragon and Ms. Dubé.

You talk a lot about your approach to the system, and I want to learn more about the integration of indigenous knowledge and western science in understanding and managing mountain ecosystems. How come you are doing it so much better than everybody else? What's missing in what others are doing?

Dr. Monique Dubé: We are enablers, and it's about relationships. Our goal is to enable and support, with as few barriers as possible, the research that is being done in a place-based context. We are constantly challenging the system in terms of how funding is allocated, how you fund indigenous communities and how you pay honoraria.

In our research programs, the criteria that are required before you go on to the land and work with the people are very clearly established. As a not-for-profit, we have the ability to be highly mobile in terms of the resources, the policies, and, quite frankly, removing the barriers. Many of these communities face capacity challenges. It's our job to make sure that we can build that capacity, and we can also remove some of the barriers associated with colonial administration, as an example.

I'm a western-trained scientist, so I understand the amount of reporting that's required in colonial systems. If I can take that load and help comply with our federal systems and our federal requirements and help those communities build capacity, train within and do the research on the ground, then that puts the money where it needs to be, which is in the research on the ground. We navigate those other spaces that are often time-consuming and resource-consuming for communities.

● (1830)

Dr. Joe Dragon: I think providing that forum is the key. The key is to provide the opportunity for indigenous...a lens into what we consider western science and what we consider being on the land. We're seeing now a lot more of that on the land with indigenous-protected areas. We're getting a lot more capacity there. I think there's a huge growth potential in this conversation in those areas across Canada as we, as indigenous people, look at providing our governance. As well, as was mentioned earlier about your systems, our governance is different from the current governance that is on those lands, and I think it's provided a forum.

I would also say that when you look at trying to provide the space for this conversation to happen where it hasn't happened before.... In the bison reintroduction in Banff National Park, that conversation between the Stoney Nakoda through our project is the first time they've actually got together to come up with a model for bison reintroduction. If we are the enabler, then great; it's whatever we can do to help the conversation. I think indigenous groups are looking at it as an opportunity, but with more opportunity, if we get more time and more funding, I think we would have even more results right across Canada.

Marsi.

Mr. Gerald Soroka: I think that's a prime example of how with government it's always the bureaucracy, the idea that if we're going to do something, we need more regulations put in place. That seems to be the biggest problem.

You're saying it's more cultural to adapt, as you said. With the caribou, part of it was that we still want to hunt them, and they were like, “No, no; that's not the right way to do things.” I think that's where the traditional knowledge is really helpful and beneficial. Wouldn't you agree, or am I off base with that?

Dr. Joe Dragon: Thank you.

Again, I think it's an opportunity to think of the governance and management of species in a different way. When we look at it from a western scientific approach, it's very black and white. It's developed that way, having gone through the system.

In our government approach, we're trying to satisfy the interests and needs of everybody around the table. I can look at the example of you MPs from all over Canada; each of you has interests from your regions. It's very similar in indigenous cultures. In their regions, they have very specific areas that line up to that conversation. They just want to be a part of it, so that's what we're trying to do.

Marsi.

The Chair: Thank you.

Dr. Jaczek, you have five minutes.

Hon. Helena Jaczek (Markham—Stouffville, Lib.): Thank you so much, Chair.

Thank you to all our witnesses, in particular Dr. Dragon and Dr. Dubé, and Olivia for the gift.

Every time each of us looks at the braid, I think we will remember what we were learning from this very interesting study.

To get back to the purpose of the study, it's how to best integrate indigenous traditional knowledge and science into government policy development. Our analysts have given us some examples of what other countries have done, in particular Australia, the United States and New Zealand.

Australia has developed IP Australia. This government agency, which administers intellectual property, started a number of initiatives related to indigenous knowledge, as an example. The United States has put together particular guidance for federal agencies on recognizing and including indigenous knowledge in federal policy and decision-making. New Zealand, I think, is quite far ahead. They have also put together various vision statements.

Starting with Dr. Dragon and Dr. Dubé, could you give us some suggestions on how the federal government could perhaps use some of these mechanisms that have been tried elsewhere and could be useful?

● (1835)

Dr. Joe Dragon: I'll start, and then I can pass it over to Dr. Dubé.

When you look at the development of policy surrounding indigenous culture and how you make that real, I think you'll see that we're all trying ways of doing that and ways of integrating it into our approach.

When people put those measures through in Australia and the U.S. and New Zealand, that was their approach to their dilemma in their region. In my region in Denendeh in the Northwest Territories, if you look at all the different cultures and all of the different areas of belief, you see that the culture changes so much between those communities. We can't put them all in the same basket.

I believe that we have to be able to understand that conversation going out to indigenous peoples and see how they want to be involved in the conversation. It's not trying to make anything different; it's just trying to bring that conversation up.

I will leave that with you. It's providing an opportunity for them to be involved in the conversation in a meaningful way, in a way that means something to their culture, their being, and who they are and how they've been raised. That's been taken away for a long time.

We're trying to have that type of re-emergence in this area, and that's what we've tried to provide with Canadian Mountain Network.

Marsi.

Dr. Monique Dubé: I would say there are many examples of how to do this well and there are many examples of how to not do it well. Bring your policy analysts out to the land, in the communities that have concerns in a particular policy area that's of interest to the government, and they will see exactly how this is done well in a good way. That is the solution.

It's through training, experience and awareness. These knowledge systems can come together in a braid and can solve some of the greatest challenges that are before us with respect to climate change, the biodiversity crisis and natural resource development, but we must have the understanding that this knowledge is much deeper and much more holistic than the limitations of western science, and I am a trained western scientist. We require the understanding and, I would say, also the awareness that our direction for policy and regulation is very siloed. You heard that earlier in the witness testimony.

What we're learning.... I sit on the Crown-indigenous working group for potential development of federal regulation for treatment and release of oil sands mining water. It's an industry need, and it's a highly emotional issue in the region, but it is absolutely essential that we understand that the integration is not just about the Fisheries Act and it's not just about UNDA and it's not just about the Canada Health Act; it's about how those policies and regulations have to interact in a more holistic way.

That's also another learning with respect to policy development.

The Chair: Thank you very much.

We'll go to Mr. Blanchette-Joncas for two and a half minutes.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Chair.

Mr. Asselin, thank you for the clarifications you provided earlier in response to my questions. One of the things you talked about was the distinction between belief and knowledge and the need to validate and replicate experiences. We understand that science is not perfect either.

I would like to talk about the work of Yves Gingras, sociologist for science and Canada Research Chair in History, Sociology and Science. According to him, indigenous knowledge sometimes has a spiritual connotation, which can't be clearly or materially palpable. So it's difficult to compare it with the scientific knowledge acquired using a very specific scientific method. We can think of scurvy, for example, on which both traditional and scientific knowledge exists.

However, he says that we're pitting indigenous people against non-indigenous people, thinking that they are two homogeneous groups, when they are two heterogeneous groups with differences, including knowledge and expertise, within them.

Can you comment on that?

● (1840)

Mr. Hugo Asselin: Yes, it's important. No one group is homogeneous. There was a comment made in the first part of the meeting today about not generalizing. It's important to consult each of the groups and communities, as well as various scientists. You have to drink from a variety of sources.

Some research groups have messages to pass on. Someone mentioned earlier that researchers aren't purely objective and that they're driven by their vision of things.

It's true that indigenous knowledge has a spiritual aspect that can be difficult to address and understand when you have a western scientific background. However, that doesn't mean that the knowledge isn't valid or accurate. Often, through research, we manage to find a scientific explanation of what indigenous peoples tell us from their more spiritual or philosophical point of view.

It's just a different way of looking at things. If we approach this from the perspective that we don't trust it because it's spiritual, it's not scientific, and we don't want to know anything about it, we're not going to go anywhere. We have to go there with confidence and tell ourselves that this is what is before us.

Generally, what indigenous people tell us, we see it. We don't always understand the explanation we're given, but we see the phenomenon. So it's working. The question is, how do you translate that into scientific language if that's what you need to develop a policy?

The fact that we don't understand the path doesn't mean that the destination doesn't exist.

[*English*]

The Chair: Okay. That's terrific. Thank you very much.

We'll go to Mr. Cannings for the final two and a half minutes, please.

Mr. Richard Cannings: Thank you.

I'm going to turn back to Dr. Dragon and Dr. Dubé to keep talking about caribou and other things, and about this whole concept that in western science, knowledge isn't knowledge until it's published. I know biologists who have been working on fish in some lakes for 30 years and still haven't published, and everybody knows they're pretty knowledgeable.

You were talking about some of the big projects where community knowledge and policy collide, whether it's the oil sands, the Arctic National Wildlife Refuge in Alaska with oil drilling and caribou, or British Columbia forest harvest policy and caribou. How do you see that?

You have two minutes. Can you can tell me how your projects would address those?

Dr. Joe Dragon: I'll start with the project we had up in the Sahtu region of the Northwest Territories and looking at a way of.... What they did was create a plan for research monitoring and then land protection that looked at the Dene way of life and incorporating it, including the Dene language, which is very important when we talk about how much language incorporates into culture, and then further on into management, and then Dene law in coexistence with caribou.

That's how this project was able to be formed. From that there was a lot of great learning, so there are examples of creating a forum that gives a little flexibility in looking and not necessarily just publishing.

Marsi.

Dr. Monique Dubé: I've been fortunate in my career. I spent 25 years in the energy sector—forestry, pulp and paper, uranium-based metal and diamond mining—and that interface or nexus between indigenous knowledge, western knowledge and natural resource development.

I have to say that I'm tired of the narrative that these things are at odds, because if in fact you investigate the true experience and you put the time into those relationships on the land, the solution to natural resource development in a sustainable manner that also provides for economic opportunities is in the braiding of knowledge systems together, and that's including areas where this is most significant, like the oil sands of Alberta.

I've seen it with my own eyes. I am grateful for the patience that indigenous communities and indigenous people in this country have provided to western scientists like me to be patient and to allow us to understand. I truly believe that the solutions to some of our biggest challenges in Canada lie in the braiding of knowledges and deepening the breadth of our understanding to answer those questions in a way that's meaningful and sustainable.

● (1845)

The Chair: Thank you very much. We went over, but it was valuable to go over. I appreciate your testimony.

Thank you for being here, Dr. Dragon and Dr. Dubé, as well as Dr. Asselin. They were tremendous testimonies, and there were also great questions by committee members, very thoughtful questions. I'm learning a ton in this study and I keep forgetting that I have to watch the time.

Thanks to all of you for your great questions and your great answers. Again, any written information that comes in to the clerk would be appreciated.

Our next meeting in regard to this study is on Monday, December 4, in the first hour, and in the second hour we'll do some committee business in looking at future studies. We'll continue with this topic next Wednesday as well.

It looks like people are getting ready to adjourn. Is that what we're doing?

Some hon. members: Agreed.

The Chair: Thank you. I'll adjourn.