Nunatsiavut Inuit Equal Partners in Labrador Sea Deep Ocean Research

Nunatsiavut Inuit of northern Labrador not only hunt and fish for living, they've become proficient at conducting scientific research in the Labrador Sea. In partnership with scientists, they are documenting the marine ecology in one of the least explored regions of Canada.

"The Labrador Sea is absolutely massive," says Rodd Laing, Director of Environment for the Nunatsiavut Government. The Inuit community relies on the Labrador Sea for food and livelihoods and is aware that what happens in deeper offshore waters can affect the near shore species, including seals and seabirds. However, very little ecosystem research has been done until recently, says Laing.

Known as one of the lungs of the ocean, the Labrador Sea is the left arm of the North Atlantic Ocean between Greenland and the coast of Labrador. It covers nearly 850,000 square kilometers and is up to 3,400 meters deep. It is one of the few places where oxygen-rich water at the ocean surface becomes so dense that it can sink up to two kilometers, where powerful currents transport it around the globe. The enormous amounts of oxygen breathed in by the Labrador Sea supports sea life thousands of kilometers away. And yet, little is known about life in its depths.

To learn more about the Labrador Sea's marine ecology, Fisheries and Oceans Canada (DFO) launched the Integrated Studies and Ecosystem Characterization of the Labrador Sea Deep Ocean (ISECOLD) in 2017. ISECOLD is being implemented in partnership with the Nunatsiavut Government and a number of research partners. Although the research is being conducted outside of Nunatsiavut waters, there is an agreement with DFO to co-manage areas beyond their land claim zone.

Nunatsiavut is an Inuit regional government created in 2005 with the signing of the Labrador Inuit Land Claims Agreement. It covers 72,000 square kilometers of northern Labrador, 65 per cent of which are coastal and marine areas that extend from Happy Valley-Goose Bay northwards to the eastern end of the fabled Northwest Passage. About 5,000 **beneficiaries live in five Nunatsiavut communities within the settlement area.**

DFO research team sharing water sampling methods to sample environmental DNA with an Inuit youth group near basecamp of the Torngat Mountains National Park, Labrador. Photo credit: Fisheries and Oceans Canada.

Although the ISECOLD research is being done well offshore "understanding the deep marine ecosystem is critically important for planning and resource management," says Laing. There are many crucial issues facing the community such as whether fish and other species are shifting to new areas, the present and future impacts of climate change, and more he says.

ISECOLD is helping Nunatsiavut build its capacity to assist and conduct scientific research. Community members continued the research in 2020 on their own without DFO scientists because of COVID travel restrictions. Thanks to skills and training through the initiative, crews on local boats were able to go out and collect valuable data using various types of scientific equipment says Laing.

One of the local fishing vessels involved in the research is captained by Joey Angnatok, from Nain, who's long been involved in scientific research. Angnatok was the first-ever recipient of the Inuit Recognition Award for involvement in Arctic research.

"Joey and his crew have been doing crop-camera surveys and other data collection on their own over last year," said David Côté, DFO's lead researcher for ISECOLD. "Joey helps us pick study sites and knows where there is deep coral habitat to investigate," says Côté.

Inuit youth are often on board helping to collect and process the data. Youth are also involved in a near shore Arctic char project where they implant transmitters into char to track their movements, says Côté. "There's a lot technical capacity in Nain's Inuit community and that's helping to bring in new research projects."

The studies and papers that will come from the ISECOLD project will have Inuit traditional knowledge fully integrated. Collaboration with traditional knowledge holders is key and they will be co-authors on various papers. Traditional knowledge has as much to offer as scientific knowledge says Côté. "It's all data. No one source of data is better. And it's far better to have both types."

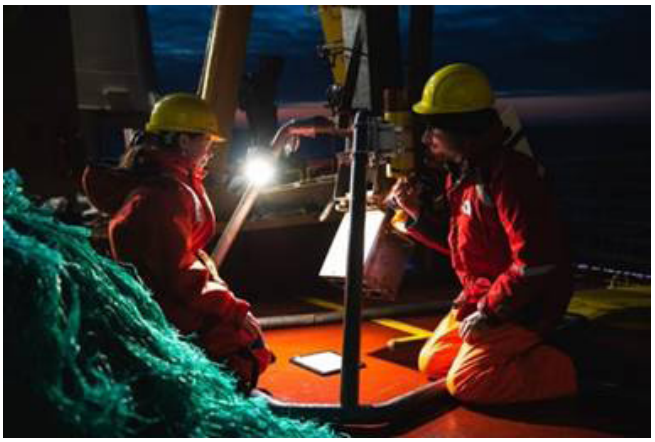
Respecting the culture and the needs and rights of the communities is also important for any researcher coming to the North says Côté. So is being flexible and learning to rely on the judgment of the locals.

> *"It's very expensive to do research in the North but if someone like Joey says it's not a good day to be on the water, you don't go," he says. "It's just as important to learn to accept what the land and sea gives."*

Building relationships with the community is essential and this takes time, and the ability to listen and learn, says Laing. Continuity is very important and Laing points out that Côté and his team have been coming here for many years. "There have been a lot of conversations and knowledge sharing that's built mutual respect," says Laing.

Best Practise:
Shared Priorities to Advance Reconciliation

Captain Joey Angnatok aboard his vessel the What's Happening. Photo credit: Tanya Brown.



Megan Dicker of Nain (left) setting up a drop camera to explore the depths of the Labrador Sea aboard the CCGS Amundsen. Photo credit: Alex Ingle.