

In Defense of Snow Crab Co-Management During Uncertain Times for an Inuit Small-Scale Fishery

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Abstract

Small-scale Inuit fisheries in Nunatsiavut are vital to livelihoods, identity, and well-being in this region of Northern Labrador, Canada. Despite the successful negotiation of the Labrador Inuit Land Claim Agreement and the implementation of fisheries co-management there are problematic views about the role of co-management in Newfoundland and Labrador and how it supposedly promotes problematic processes that prevent the “best possible scientific advice.” These points of view are too big to ignore for small-scale Indigenous fisheries who do not want to lose the gains that have been made through historic land claim negotiations. This chapter shares an example of one such case study from the subarctic, northeast coast of Canada where co-management progress has been made, but it is clear that the reassertion of land claim roles and responsibilities must continue over and over again.

Introduction

Indigenous Peoples around the globe have been advocating for their right to self-determination over natural and food resources (United Nations 2008). For example, small-scale fisheries by Indigenous Peoples are often at the center of court cases, and ongoing negotiations because of their importance to Indigenous subsistence, and commercial fishing livelihoods. In Canada, and as the Canadian government and federalism had taken root in Indigenous territories, the Fisheries Act was one of the earliest introductions of colonial legislation in Canada that started to drastically alter Indigenous relationships to fisheries.

It was nearly 100 years after the *British North America Act*, and the subsequent *Fisheries Act* that Indigenous Peoples in Canada started to have success in the Canadian courts, and in new negotiation processes leading to comprehensive land claim agreements. With that said, the land claim processes are slow and for most Indigenous organizations it has taken multiple decades for negotiations to start, and eventually conclude. The land claim agreements signed in Canada normally contain a form of fish and wildlife co-management or governance where the Indigenous group and the Government of Canada have agreed to a set of roles and responsibilities. The implementation of co-management within the land claim settlement regions has been challenging with competing epistemologies, institutional resistance, power imbalances, and growing suggestions from academia that co-management is a form of co-optation and that has led to counter arguments in support of co-management organizations (Clark & Joe-Strack 2017).

These issues are too big to ignore for small-scale Indigenous fisheries who do not want to lose the gains that have been made through historic land claim negotiations. This chapter shares an example of one such case study from the subarctic, northeast coast of Canada where co-management progress has been made, but it is clear that the reassertion of land claim roles and responsibilities must continue over and over again.

‘Our beautiful land’ in Newfoundland and Labrador, Canada

Nunatsiavut, meaning ‘our beautiful land’ in Inuttitut, is the Inuit land claim settlement region in Northern Labrador. Home to five coastal communities of Nain, Hopedale, Postville, Makkovik, and Rigolet, Nunatsiavut was formed in 2005 after decades of advocacy and the push for self-governance.

Inuit and their ancestors have hunted, trapped, fished, foraged, travelled, and lived on the lands, waters, and sea ice of the Nunatsiavut region for thousands of years. There are no roads in or out of the communities, and travel is via plane year-round, and seasonally via ferry service, private boats, or snowmobiles. Inuit in Nunatsiavut continue to be active and reliant on the environment for food, livelihoods, cultural continuity, and social connections. For example, marine resources and small-scale fisheries are foundational to Inuit identity in Nunatsiavut (Snook et al. 2022). Fishing is considered a way of life for many Inuit and their families, and the variety of fish species in the region sustains diets and livelihoods. Indeed, over time many different species have contributed to Inuit culture in the region including Arctic char (Alton Mackey & Orr 1987), Atlantic salmon (Blanchard 2010), Atlantic cod (Arendt 2010), Ringed seal (Woollett 2010), Greenland halibut (Wicks 1993), Northern shrimp (Coombs et al. 2010a; Foley et al. 2017), and Snow crab (Coombs et al. 2010b; Coombs et al. 2011).

With the establishment of Nunatsiavut and the signing of the Labrador Inuit Land Claim Agreement (LILCA) with the governments of Canada, Newfoundland and Labrador, and the Labrador Inuit Association, a new form of fisheries governance was also introduced through the creation of the Torngat Joint Fisheries Board (TJFB) ratified through Chapter 13 of LILCA (Snook et al. 2018). The LILCA outlined, for the first time, Inuit roles and responsibilities in the co-management of commercial fisheries within and adjacent to Inuit waters (Snook et al. 2018). The TJFB makes recommendations to the Federal Minister of Fisheries and Oceans in relation to the conservation and management of fisheries in the Labrador Inuit Settlement Area and is the primary body making such recommendations

(‘Labrador Inuit Land Claims Agreement Act’ 2005).

Snow crab fishery in Nunatsiavut

The Snow crab fishery started to develop in Newfoundland and Labrador in the 1980s in waters surrounding the island of Newfoundland and became increasingly important to the NL economy, fishing communities, and in-shore fish harvesters after the collapse of the Atlantic cod fishery in the early 1990s (Davis & Korneski 2012). The Snow crab fishery began with the support of Government sponsored surveys, and when Newfoundland crab fishers were starting to struggle in crab fishing areas around the island of Newfoundland, they began to look northward (Barney & Wilton 1986), much the same way the Atlantic cod fishery expanded northward when catch rates became lower around Newfoundland (Cadigan & Hutchings 2017).

The timelines for Snow crab development were different throughout NL, and not all fish harvesters enjoyed the same benefits depending on the timing of their decision to pursue the Snow crab fishery (Davis & Korneski 2012). For example, Inuit in Nunatsiavut did not develop a local fleet of vessels for the Snow Crab fishery and, instead, southern based vessels from the island of Newfoundland were doing the harvesting in Northern waters and gaining the economic advantage.

Snow crab started being processed on Inuit lands in 1997 in the small coastal community of Makkovik, and ever since, the seasonal wages have been crucial to the financial security of the community. To illustrate: over the most recent five-year period between 2016-2021, the average annual landed value to the plant in Makkovik was CAD 2,307,092. Eight Inuit fished a communal allocation from the Department of Fisheries and Oceans (DFO) in 2021, and there are approximately 70 individuals employed each season on a full and part time basis in connection with the crab plant operations. These numbers represent major economic contributions for a community of 317 people. In addition, there are spin-off opportunities created for businesses in the community, and the seasonal employment ensures many people in Makkovik qualify for Employment Insurance benefits. The social benefits of

this fishery ensure that Snow crab harvesting will remain a priority for local fishers, and governance of this resource is directly interconnected with Inuit well-being.

Successful co-management initiatives

When the TJFB was first established, there was an administrative period of approximately five years that involved establishing the organization and introducing itself to Inuit fishers, but also to the bureaucracies of government. The TJFB held community meetings in each of the Nunatsiavut communities and the Snow crab fishery emerged as one of the key priorities for Inuit because of its economic significance. When considering the major contributions of the Snow crab fishery to livelihoods and communities, it is understandable why Inuit would prioritize the Snow crab species and the TJFB prioritized conducting several initiatives over the past decade to implement the Labrador Inuit Land Claim Agreement in the spirit in which the land claim was signed.

One of the hallmarks of co-management is dialogue with local resource users, and hosting dialogue has become a key competency of the TJFB. Since 2010, Inuit Snow crab fishers, officials from multiple levels of government, the Snow crab processor (Torngat Fish Producers Co-operative), researchers, and the TJFB have been convening annually to reflect on each fishing season, sharing observations, reviewing the available research, and formulating recommendations to the Minister of Fisheries for the next fishing season.

Another hallmark of co-management is the necessity of knowledge. Stakeholders in the region—including the Department of Fisheries and Oceans—identified limitations to standardized scientific knowledge related to Snow crab in the North. As this consensus emerged from co-management dialogues, a new scientific collaboration began. Since 2013, the TJFB has been leading a post-season trap survey in area 2HJ (Figure 1). This survey involves contracting a 65-foot vessel and deploying 20 stations on a grid system in the Labrador Sea. Each station is sampled with a string of 11 crab pots (Figure 2, 3, & 4), and data from this survey is used to extrapolate

recruitment prospects.

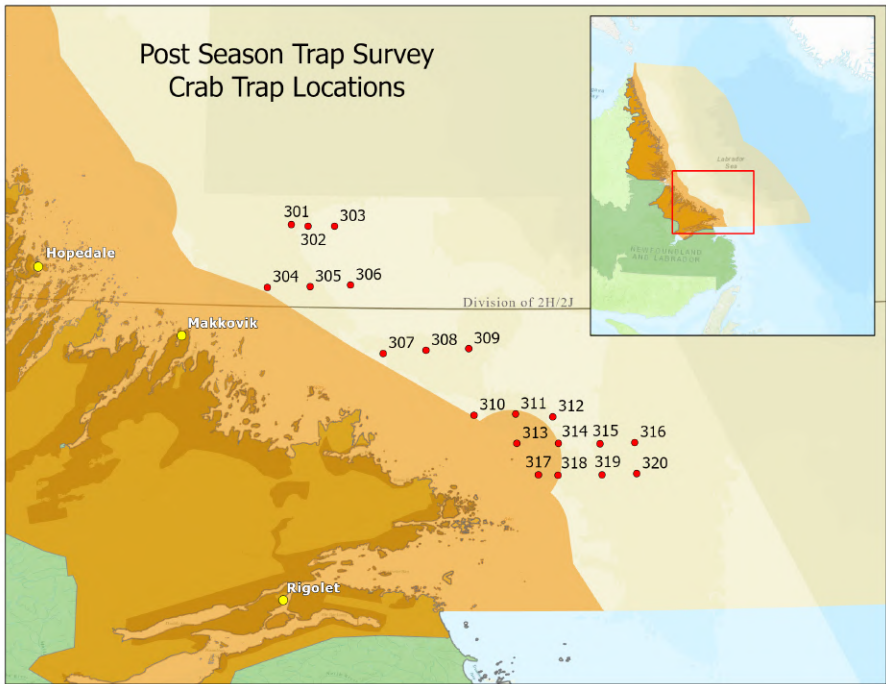


Figure 1: Snow crab survey stations that are checked annually by the Torngat Joint Fisheries Board. Makkovik is identified as the location of annual Snow crab processing. Map by Shawn Rivoire, Torngat Wildlife Plants and Fisheries Secretariat.



Figure 2: Snow crab pot. Photo by Craig Taylor, Torngat Wildlife Plants and Fisheries Secretariat.



Figure 3: A sample of new shell male crabs from the post-season trap survey. Photo by Craig Taylor, Torngat Wildlife Plants and Fisheries Secretariat.



*Figure 4: A sample of new shell female crabs from the post-season trap survey.
Photo by Craig Taylor, Torngat Wildlife Plants and Fisheries Secretariat.*

There was consultation on the Snow crab survey design with Inuit fish harvesters, and there is ongoing collaboration on data collection and analysis. After a time series was developed, and as a working relationship was established between co-management partners, the results from the post-season trap survey were incorporated into the DFO annual assessment process. Throughout this process co-management partners have acknowledged this example of co-management led research as a success, and it has remained a cornerstone of the TJFB fisheries research program.

Co-management is also about adaptation and adjusting based on observations and dialogue. Discussions from the annual Snow crab workshops identified the needs for stewardship and improvement of handling practices. The TJFB partnered with academia through the Marine Institute of Memorial University. This collaborative research led to several recommendations about vessel design, vessel requirements, deck layouts, the amount of ice required for maintaining crab quality, how to return undersized and soft-shell crab to sea, and methods for transferring the crab from the deck to the fish hold. A snow crab handling booklet based on the research was then developed and

distributed throughout the fleet as a stewardship and education initiative.

A combination of these Snow crab co-management activities in Nunatsiavut has co-produced knowledge where there was once a significant gap in data. The new knowledge has resulted in Inuit led conservation measures when vulnerabilities were recognized. For example, the Nunatsiavut Government voluntarily held back 15% of their communal quota for six years, as well as withholding an additional 100 metric tonnes of exploratory quota that could have been sought. These voluntary actions, led by the co-management partners, illustrate what can happen when there is quality co-management dialogue and processes. In 2021, the Torngat Joint Fisheries Board had to balance conservation and industry viability considerations and recommended a 25% reduction of the 2J total allowable catch.

In defense of Inuit co-management

The combinations of co-management actions have garnered positive feedback in Nunatsiavut over the past decade, and many stakeholders in the region feel there are sustainability benefits. This viewpoint is counter to some fisheries scientists in Newfoundland and Labrador who have recently stated there is little-to-no evidence that co-management has positive benefits for species abundance and sustainability. Using a case study of the NL Snow crab fishery, Mullaney et al. (2020) argued that the NL Snow crab management system is promoting problematic processes that prevent the best possible scientific advice. There are multiple reasons why this point of view is problematic for implementing fisheries co-management with Indigenous Peoples specifically. First, this perspective ignores the presence of an already functioning and mature Inuit co-management system in NL with no reference to the Torngat Joint Fisheries Board. Second, they rely on a predominately biological perspective, missing key opportunities for Inuit and social sciences to enhance Snow crab science and fish management processes.

Mullaney et al. (2020) go on to argue that the Snow crab resource is not fully co-managed because the Federal Government maintains exclusive decision-making power. While it is true that the Minister of Fisheries and

Oceans maintains final decision-making authority over access and allotment of the Snow crab resource, statements and framing of co-management such as this ignore how the Minister's decisions may be circumscribed by Indigenous rights, and dismiss the essential work of co-management boards in Canada to influence these decisions (White 2008 & 2020). This mindset also ignores the spirit and intent under which the land claim agreements were signed with Indigenous Peoples. Emphasizing that the Department of Fisheries and Oceans maintains exclusive decision-making authority, with no formal obligation to follow recommendations on any given issue contradicts the framing of the 2019 Snow Crab Integrated Fish Management Plan as 'co-managed', and does not give any impression of shared responsibility and decision-making among the rights holders and stakeholders of the Snow crab fishery in NL (DFO 2019b).

Finally, privileging biological science over other ways of knowing calls into question the robustness of snow crab science in NL, and is both an ideological and institutional barrier moving forward (Bennett et al. 2017). DFO led biological science alone is not sufficient in the North. Prior to co-management, stakeholders held strong views that the DFO investment and scientific coverage in the North was insufficient, and, despite the co-management progress, more is still required. Over a decade of Snow crab co-management workshops in Nunatsiavut exemplify that substantial knowledge contributions are made by the Snow crab harvesters on topics such as survey design, biomass abundance, spatial scales, and fishery opening and closure dates, which are essential complements to biomass survey tools. The incorporation of multiple forms of knowledge into the DFO snow crab science program has the potential to reorient the biological perspectives of fisheries scientists and shift away from an adversarial knowledge exchange each season during regional assessment processes. With that said, DFO science is heavily weighted by biological perspectives, and Stephenson et al. (2019) highlighted "*a dearth of (DFO) in-house capacity for social and economic*" research, which further illustrates the opportunity for co-management, partnerships with academia, and a reallocation of some of the DFO scientific resources to the social sciences.

A successfully co-managed Snow crab fishery in Newfoundland and Labrador is in need of new knowledge that is co-produced and value put on co-governance (Strokosch & Osborne 2020), and that cannot happen without new approaches to fundamental relationships at the center of co-management. Indeed, DFO purports to want to “*build renewed nation-to-nation, Inuit-Crown, and government-to-government relationships with Indigenous peoples based on the recognition of rights, respect, co-operation, and partnership*,” with a reconciliation strategy that highlights increasing “*Indigenous involvement in the prioritizing, conduct, and communicating of science and survey activities*” and co-developing “*guidance for the Department on Indigenous Knowledge*”(DFO 2019a).

Now would be an opportunity to embrace Inuit co-management research as the DFO is developing a precautionary approach (PA) framework in the Snow crab fishery. The PA framework is considering biology such as egg clutch fullness, and fishing performance indicators such as discards, and catch per unit of effort. To successfully implement a PA approach there will need to be fishery observer coverage, and co-management collaboration is more likely to facilitate successful implementation than hinder processes or prevent the best possible scientific advice. Indeed, dialogue around the PA framework has been ongoing within co-management deliberations, and because of co-management dialogue, there was near full season fishery observer coverage in 2021, and fishing areas were closed because of observations and this initiative.

Conclusion

The status of the Snow crab resource has continually worsened in the last several years (Mullowney & Baker 2020), with the stock of Snow crab declining since the early 2000s, and the outlook on the stock is uncertain for Inuit. There is a high risk the Snow crab fishery in Nunatsiavut will become economically unviable before the rest of NL, and in the spirit of Inuit reconciliation during these uncertain times, it is incumbent upon stakeholders to avoid injustice associated with small-scale fishery closures.

For Inuit to benefit from the Snow crab resource, Inuit need access to fisheries resources and need to utilize all the knowledge available, and social

well-being benefits need to be a key part of fisheries governance (Parlee et al. 2021). A standardized scientific approach and top-down management will constrain the ability of Inuit to benefit from the Snow crab resource, its well-being benefits, most likely exacerbate the feelings of inequity in this region.

There is too much to lose by not respecting Inuit land claim agreements and the potential of fisheries co-management for Indigenous Peoples. There is opportunity in viewing land claim agreements as the starting points, and the foundation for more aspirational future goals that continue to privilege Inuit rights and flourishing, while promoting sustainable usage of natural resources.

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