

Indigenous Fish and Wildlife Co-management as an Opportunity to Support Inuit Well-being

by

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ABSTRACT

INDIGENOUS FISH AND WILDLIFE CO-MANAGEMENT AS AN OPPORTUNITY TO SUPPORT INUIT WELL-BEING

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Inuit in the Circumpolar North are closely tied to the lands, waters, and wildlife, which underpin livelihoods, food, cultural continuity, and well-being. Co-management institutions in Canada—arising from Inuit treaties—were created to increase the inclusion of Inuit voices and Inuit knowledge in recommendations about wildlife management. Co-management decisions have important implications for Inuit well-being; however, research has yet to explicitly explore how co-management decisions can enhance and impact Inuit well-being. Therefore, this dissertation research characterized how wildlife co-management impacts well-being in Inuit Nunangat. An Indigenous co-management-led research approach was used, which drew from decolonizing methodologies, boundary work theory, and community-based research principles. First, systematic critical review methods uncovered no publications that explicitly analysed co-management from a health or well-being lens; however, social determinants of health were implicit and prevalent in the literature. Responding to this research gap, data were then collected through conversational research interviews with co-management practitioners throughout Inuit Nunangat (n=21 interviews), and with Inuit in Nunatsiavut (n=21 interviews). Qualitative data were deductively and inductively analysed using a constant comparative method and thematic analysis. Co-management practitioners described how co-management institutions can act as boundary work organizations and how the social determinants of health could be integrated inside the shared space of co-management. Nunatsiavut Inuit underscored the importance of considering the determinants of health in co-management decision-making

processes. For instance, Inuit explained how historic conservation management decisions had disrupted important connections among caribou and Inuit, particularly related to food , culture, and well-being; the socio-cultural and emotional impacts of the criminalization of an important cultural practice, as well as perceived inequities in wildlife conservation enforcement; and the frustration, anger, and hurt they experienced with not being heard or included in caribou management decisions. Similarly, Inuit reflected on how commercial fisheries remain a social struggle with multiple injustices, and identified opportunities for Inuit well-being indicators to be integrated into baseline monitoring and to measure progress. These results provide insights into experiences of historic and ongoing colonial wildlife management decisions, and highlight future directions for co-management initiatives—emphasising the health and well-being of Inuit and wildlife



DEDICATION

To Ashlee:
Who has always
been my light
during times of
darkness.

ACKNOWLEDGEMENTS

What a marathon.

So many hills, so much support, and ample time to learn about myself and this PhD topic. I am grateful to numerous people, but I would be remiss if I did not start up front by acknowledging Drs. Ashlee Cunsolo and Sherilee Harper. Two Canada Research Chairs who encouraged me to get on with it. Without their know-how, clarity, and encouragement I would not have left the start line. Their principles and commitment to community-led research was inspiring to me, and when I discovered their research findings with Dr. Alex Sawatzky, something finally clicked for me. The Inuit-identified pathways to well-being resulting from their work opened my eyes to the opportunity to understand fish and wildlife management differently through an Indigenous health lens.

The Torngat Joint Fisheries Board and the Torngat Wildlife and Plants Co-management Board have supported my interest in research for over a decade now as we strive to enhance co-management knowledge in Nunatsiavut. I thank Dr. Ron Sparkes, John Mercer, and Rick Comerford for their support, and appreciation for what PhD training could bring to my work capacity. There were many other co-management board members connected to Nunatsiavut and other land claim regions that were also very encouraging. Many of them participated in conversational interviews and there was considerable wisdom shared as their experiences dated back to the emergence of co-management in Canada.

Rigolet was the coastal community in Nunatsiavut who I partnered with, with the support of local researchers Inez Shiwak and Charlie Flowers. Both of them made sure the research was relevant to the community and done in a way that was appropriate to the local culture and preferences of Inuit who have seen many researchers in their community. I thank Inez and Charlie for being there from the start, and continuing to work with me on new projects arising from this work.

I am thankful for the Climate Change and Global Health Research Group who are led by my PhD supervisor Dr. Sherilee Harper, Canada Research Chair in Climate Change and Health. Colleagues within the research group that have helped in a myriad of ways included Dr. Alex Sawatzky, Amreen Babujee, Amy Kipp, Carlee Wright, Dr. David Borish, Emily Nunez, Dr. Jacqueline Middleton, Isaac Bell, Jessica Purbrick, Kaitlin Patterson, Nia King, and Tianna Rusnak.

I could not have asked for a better academic training environment, as my PhD committee included Drs. Chris Furgal, James Ford, and Andria Jones-Bitton. With their sage advice, I took every opportunity over the course of the PhD journey to think deeper and to expose myself to many different facets of academic life. To say that I have a whole new appreciation for the Academy would be an understatement.

So many of the experience opportunities I had were made possible due to the support of the Pierre Elliott Trudeau Foundation. Their network of scholars, fellows, and mentors provided a rich and rewarding academic community. Not only did their program cement the conceptual connection between leadership and academia, but it also provided a real-life network of amazing individuals that I can now call friends and will collaborate with for many years to come.

The University of Guelph enabled me to research in my home territory, in the North. I applaud their Indigenization initiatives with tangible actions that are making exciting opportunities possible. I also want to acknowledge their focus on mental health and the support they can make available. There were times when I needed to talk, and I was able to find that here. Rob Baldwin has become a good friend and whether it was tea, talk, sage, cedar, or a laugh, it made a difference and ensured I followed the right route.

I discovered on the right route that my relationships with friends, family, and pets all improved. I look forward to supporting Jonah, Jai, Jaiden, and Elias as they pursue their own paths in life. Elias wants to be an author and is destined to be a poet. I thank him for writing the dedication of this thesis.

Back to Dr. Ashlee Cunsolo. Ashlee has become my life partner and we married in 2019. I proposed in some of the same bakeapple patches that you will read about in my positionality statement. There is nothing I could write in these acknowledgements that would truly give a sense of what she has taught me and how she has challenged me to think radically different from anything I had previously experienced. Whether it is through meeting her students, writing together, observing her leadership in academic administration, or from discovering the patriarchy, each day is a teaching. I hope the learning, love, and laughter never end.

STATEMENT OF WORK

All research presented in this dissertation is the result of collaboration with my academic research colleagues and mentors who included Drs. Ashlee Cunsolo, Chris Furgal, James Ford, Andria Jones-Bitton, and Sherilee Harper. This work was inspired by the spirit of co-management and a personal interest in deeper understandings of how more institutions can support Inuit well-being. The Torngat Joint Fisheries Board and the Torngat Wildlife and Plants Co-management Board were partners on my PhD research.

The main sources of funding for this research included the University of Guelph (scholarship to Snook), the Pierre Elliott Trudeau Foundation (scholarship to Snook), Environment and Climate Change Canada (research grants to Snook) and the Social Sciences and Humanities Research Council (research grants to Snook, Harper, Cunsolo).

CHAPTER ONE: Introduction and dissertation context

Author: Snook, J.

I wrote the introductory chapter and received feedback and editing support from my supervisory committee and co-authors from some of my peer reviewed publications.

Conceptualization, J.S.

Writing original draft, J.S.

Writing review and editing, J.S., A.C., J.D.F., A.J.B and S.L.H.

CHAPTER TWO: How can wildlife co-management impact Indigenous health and well-being? A modified systematic critical review.

Authors: Snook, J. Cunsolo, A., Furgal, C., Ford, J.D., Jones-Bitton, A., and Harper, S.L.

I developed the systematic scoping review protocol in collaboration with my supervisor Dr. Sherilee Harper as well as Dr. Ashlee Cunsolo. The development of my search strings was supported by University of Guelph librarian Ali Versluis to ensure optimal results from the

selected databases. I conducted the database searches and imported all citations into EndNote© reference manager and DistillerSR© systematic review software. In the first screening level, I reviewed the titles and abstracts of all articles with lab colleagues Emily Nunez and Tianna Rusnak who served as the second reviewers. The complete articles for full text screening were downloaded by Isaac Bell, Jessica Purbrick and Tianna Rusnak. I reviewed all the articles in the second screening round, while both Emily Nunez and Tianna Rusnak also served as second reviewers in this round of screening. Carlee Wright and Amreen Babujee supported some coordination, and Drs. Alex Sawatzky and Jacqueline Middleton answered some technical DistillerSR© systematic review software questions. Nia King translated French articles to determine their eligibility for inclusion.

When all the relevant literature was identified, I extracted the data, organized it, conducted analyses, and generated the figures. I prepared the manuscript under the supervision of my co-authors who helped edit the final contents of this manuscript and I have provided a summary of the co-author contributions below.

Conceptualization, J.S., A.C., C.F., J.D.F., and S.L.H.

Methodology, J.S., A.C., C.F., J.D.F., and S.L.H.

Data collection, J.S.

Formal analysis, J.S., A.C., C.F., J.D.F., A.J.B and S.L.H.

Resources, J.S., A.C., and S.L.H.

Writing original draft, J.S.

Writing review and editing, J.S., A.C., J.D.F., C.F., A.J.B and S.L.H.

Supervision, J.S., A.C., C.F., J.D.F., A.J.B and S.L.H.

Project administration, J.S., A.C., and S.L.H.

Funding acquisition, J.S., A.C., and S.L.H.

This chapter was formatted for submission to the *Social Sciences and Medicine Journal*. I presented the results and concepts from this paper at the 2017 International Arctic Change Conference and the 2018 inFLAME Global Network conference.

CHAPTER THREE: "It's all you've got, you've got to strengthen it up and fight for it:" Co-management boundary work creating value for Inuit.

Authors: Snook, J., Cunsolo, A., Ford, J.D., Furgal, C., Jones-Bitton, A., and Harper, S.L.

I developed the conversational interview guide and methodology under the supervision of my academic supervisor Dr. Sherilee Harper as well as Dr. Ashlee Cunsolo. Interviews were practised with other members of the research team to get comfortable with the methodology and the format. I collected all of the data. The audio recordings of the interviews were transcribed by a professional transcription company and I checked the transcriptions against the original audio for accuracy. I imported the transcripts into NVivo 12 software, which I used to facilitate my in-depth analysis.

I wrote the initial drafts of the chapter and reviewing, editing and submission for publication was done under the supervision of Drs. Sherilee Harper and Ashlee Cunsolo, and with contributions from the entire authorship team. I have provided a summary of the co-author contributions below.

Conceptualization, J.S., A.C., C.F., J.D.F., and S.L.H.

Methodology, J.S., A.C., C.F., J.D.F., and S.L.H.

Data collection, J.S.

Formal analysis, J.S., A.C., C.F., J.D.F., A.J.B., and S.L.H.

Resources, J.S., A.C., and S.L.H.

Writing original draft preparation, J.S.

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Supervision, J.S., A.C., C.F., J.D.F., A.J.B., and S.L.H.

Project administration, J.S., A.C., and S.L.H.

Funding acquisition, J.S., A.C., and S.L.H.

This chapter is formatted for publication in the *Arctic Journal*. I also presented on Indigenous co-management as a boundary object concept at the 2017 International Congress on Arctic Social Sciences.

CHAPTER FOUR: “We’re made criminals just to eat off the land”: Colonial wildlife management and repercussions on Inuit well-being.

Authors: Snook, J., Cunsolo, A., Borish, D., Furgal, C., Ford, J.D., Shiwak, I., Charlie T. R. Flowers, and Harper, S.L.

This project was part of a larger community-based effort to document Inuit relationships with Caribou in Rigolet. I developed an interview guide in collaboration with my academic supervisor Dr. Sherilee Harper, Dr. Ashlee Cunsolo, members of the authorship team, and local researchers Inez Shiwak and Charlie Flowers. Due to the nature of the larger community-based project, and to avoid research confusion and fatigue, David Borish collected the data with the support of lab colleague Amy Kipp.

The audio recordings of the interviews were transcribed by a professional transcription company, and I checked the transcriptions against the original audio recordings for accuracy. I conducted in-depth analysis of the data using NVivo 12 software. The results were validated by Rigolet knowledge holders who came to our open houses, engaged with this important topic, and shared their stories. David Borish led the organization of a result sharing open house. I thank Martin Shiwak for his land skills and travel guiding to the community and David Wolfrey for his ongoing dialogue and support as the local conservation officer. Shawn Rivoire at the Torngat Wildlife, Plants and Fisheries Secretariat provided GIS data collection and presentation, while Alex Sawatzky provided graphic design and communication support.

I wrote the initial drafts of the chapter and the remaining writing, reviewing, editing and submission for publication was done under the supervision of Dr. Sherilee Harper and Ashlee Cunsolo, and with contributions from the entire authorship team. Two peer-reviewers from the journal also provided feedback and edits. The co-author contributions are below.

Conceptualization, J.S., A.C., J.D.F., C.F., and S.L.H.

Methodology, J.S., A.C., D.B., I.S., C.F., and S.L.H.

Data collection, J.S., A.C., D.B., I.S., and C.T.R.F.

Formal analysis, J.S., A.C., D.B., I.S., C.T.R.F., and S.L.H.

Resources, J.S., A.C., and S.L.H.

Writing original draft preparation, J.S.

Writing review and editing, J.S., A.C., D.B., C.F., J.D.F., I.S., C.T.R.F., and S.L.H.

Supervision, J.S., A.C., C.F., J.D.F., and S.L.H.

project administration, J.S., A.C., and S.L.H.

funding acquisition, J.S., A.C., and S.L.H.

This research had additional funding from Environment and Climate Change Canada through the National Boreal Caribou Knowledge Consortium, and I led the proposal development and administration for this grant. Other funding also came from the Social Sciences and Humanities Research Council, the Canadian Institutes for Health Research, and the Canadian Mountain Network.

This chapter was published in the *Sustainability Journal* (2020) Volume 12, Issue 19. I also presented the results in 2019 to the Torngat Wildlife and Plants Co-management Board and the ArcticNet Conference. In 2020 I presented the results to the National Boreal Caribou Knowledge Consortium and the Rigolet Inuit Community Government.

CHAPTER FIVE: Co-management led research and sharing space on the pathway to Inuit self-determination in research.

Authors: Snook, J., Cunsolo, A., Dale, A.

This public policy paper was initiated to position the importance of co-management led research because of its ability to meet multiple objectives including the well-being of Inuit. I led all aspects of this policy paper. I was joined by Dr. Ashlee Cunsolo who was a regular member of the research team, and Aaron Dale a policy analyst at the Torngat Wildlife, Plants and Fisheries Secretariat on this publication. A peer-reviewer from the journal also provided feedback and edits. The co-author contributions are below.

Conceptualization, J.S., A.C., and A.D.

Methodology, N.A.

Data collection, J.S.

Formal analysis, J.S., A.C., and A.D.

Resources, J.S.

Writing original draft preparation, J.S.

Writing review and editing, J.S., A.C., and A.D.

Supervision, J.S., and A.C.

Project administration, J.S.

Funding acquisition, J.S.

This article was published in the *Northern Public Affairs* (2018) Volume 6, Issue 1. *Northern Public Affairs* is frequently read by policymakers in Inuit Nunangat and by co-management practitioners throughout Canada. I presented the ideas and points in 2018 to the ArcticNet Annual Scientific Meeting and co-chaired the session titled Co-Management, Co-Production of

Knowledge and the Integration of Community-Based Monitoring to Supporting Effective Wildlife Resource Decision-Making and Inuit Self-Determination. In 2018, I also presented the topic at Yukon's Science Community of Practice.

CHAPTER SIX: "Just because you have a land claim that doesn't mean everything's going to fall in place": An Inuit social struggle for fishery access and well-being.

Authors: Snook, J., Cunsolo, A., Ford, J.D., Furgal, C., Jones-Bitton, A., and Harper, S.L.

I developed the conversational interview guide and methodology under the supervision of my academic supervisor Dr. Sherilee Harper as well as Dr. Ashlee Cunsolo. Interviews were practised with other members of the research team to get comfortable with the methodology and the format. I collected all of the data. The audio recordings of the interviews were transcribed by a professional transcription company and I checked the transcriptions against the audio recordings for accuracy. I imported the transcripts into NVivo 12 software, which I used to facilitate my in-depth analysis.

I wrote the initial drafts of the chapter and the remaining writing, reviewing, editing, and submission for publication was done under the supervision of Dr. Sherilee Harper and Ashlee Cunsolo, and with contributions from the entire authorship team as outlined below.

Conceptualization, J.S., A.C., J.D.F., C.F., and S.L.H.

Methodology, J.S., A.C., J.D.F., C.F., and S.L.H.

Data collection, J.S.

Formal analysis, J.S., A.C., J.D.F., C.F., A.J.B., and S.L.H.

Resources, J.S., A.C., and S.L.H.

Writing original draft preparation, J.S.

Writing review and editing, J.S., A.C., J.D.F., C.F., A.J.B., and S.L.H.

Supervision, J.S., A.C., J.D.F., C.F., A.J.B., and S.L.H.

Project administration, J.S., A.C., and S.L.H.

Funding acquisition, J.S., A.C., and S.L.H.

This article is formatted for submission to the *Marine Policy Journal*. I presented the ideas and concepts that informed this analysis at the 2018 Take Stock Dialogue Workshop, 2018 Fisheries Council of Canada Annual Conference, and the 2018 Wolastoqey Fisheries Forum.

CHAPTER SEVEN: Enhancing fisheries co-management in the eastern Arctic.

Authors: Snook, J., Akearok, J., Palliser, T., Cunsolo, A., Hoover, C., Bailey, M.

This public policy paper was the result of a major initiative to host a workshop of co-management practitioners from the eastern Arctic in Happy Valley-Goose Bay. Attendees were from throughout Nunavut, Nunavik, and Nunatsiavut. This aspect of my work required substantial extra funding from the Social Sciences and Humanities Research Council. I took the lead and was successful in obtaining an Indigenous Connections Grant and this enabled the project. There was extensive collaboration with Jason Akearok the Executive Director of the Nunavut Wildlife Management Board and Tommy Palliser the Executive Director of the Nunavik Marine Region Wildlife Board who provided letters of support, enthusiasm, and coordination of attendees from their respective regions. Drs. Cunsolo, Hoover, and Bailey provided facilitation of the workshop itself and took workshop notes. A visual summary of the event was produced by David Borish and may be viewed at this YouTube link:

<https://www.youtube.com/watch?v=2m5OUP49Tbo>

After the workshop, I took the lead on analyzing the notes, preparing the Government report, and this *Northern Public Affairs* publication. A peer-reviewer from the journal also provided feedback and edits. The co-author contributions are detailed below.

Conceptualization, J.S., J.A., T.P., A.C., C.H., and M.B.

Methodology, J.S., J.A., T.P., A.C., C.H., and M.B.

Data collection, J.S., J.A., T.P., A.C., C.H., and M.B.

Formal analysis, J.S., J.A., T.P., A.C., C.H., and M.B.

Resources, J.S., J.A., T.P., A.C., C.H., and M.B.

Writing original draft preparation, J.S.

Writing review and editing, J.S., J.A., T.P., A.C., C.H., and M.B.

Supervision, J.S., A.C., M.B.

Project administration, J.S.

Funding acquisition, J.S., J.A., T.P., A.C., C.H., and M.B.

This article was published in the *Northern Public Affairs* (2019) Volume 6, Special Issue 2 on Modern Treaty Implementation. I also presented the results of this special workshop in a government report titled, "*The opportunity for Inuit in the commercial fishery is pretty significant.*" *Enhancing fisheries co-management in the Eastern Arctic. A report prepared for the Social Sciences and Humanities Research Council.* The *Northern Public Affairs* journal has readership that includes Northern policymakers, and the additional report was an opportunity to share results directly with the funder and the Department of Fisheries and Oceans Canada.

CHAPTER EIGHT: Conclusion

Authors: Snook, J.

I wrote the conclusion chapter and received feedback and editing support from my supervisory committee and co-authors from some of my peer reviewed publications.

Conceptualization, J.S.

Writing original draft, J.S.

Writing review and editing, J.S., A.C., J.D.F., A.J.B and S.L.H.

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POSITIONALITY STATEMENT

Research to know who you are

Growing up in Labrador, research was always something that shaped how people from outside of Labrador characterized us, and how they chose to place us in the world. From an early age, I remember my grandparents being involved in a variety of oral history interviews about their familial connections and ancestry, particularly around connections to Battle Harbour, and many of my relatives were interviewed for various research projects over the years. As I got older, I began to realize all the ways in which research—conducted by people from outside of Labrador—was contributing to shaping my identity of who I was in the world without my involvement, consent, or understanding.

I was born in Mary's Harbour, a remote fly-in or boat access community (at the time) on the southeast coast of Labrador. I was born in 1976, just after the Labrador Inuit Association (LIA) was formed and becoming a politically active force for Inuit in Labrador. My father's family always identified as Inuit, through our ancestor Susan Kibenook, an Inuk woman from further north in Labrador who married in the William's Harbour area (map on page xviii). Her marriage to an English fisher was similar to many other unions between Inuit women and English fishers in the 1800s along the Labrador coast (Kennedy, 2015a, 2015b).

My mother's family has a long colonial presence in Labrador, connected to fishing in Battle Harbour and working for the International Grenfell Association¹. While I came from both Inuit and British ancestry, the ways in which I was raised, what I learned to do and love most—including fishing and berry picking—and the values which I carry, come from my Inuit ancestry. I grew up closely connected to land: my family regularly spent time on the water fishing and on the land berry picking. Some of my fondest memories are of my grandmother Snook and her

¹ The International Grenfell Association introduced western style medical services in Labrador, and Battle Harbour was known as the unofficial salt cod capital of the world when it facilitated the opening of new waters to an expanding foreign fishing fleet.

Labrador, and began to set up definitive boundaries around identity and geographic homelands.

During this period, research held a lot of power. For example, archaeologists and archaeological evidence were relied upon to piece together the history of Inuit in Labrador, and to define how far south Inuit were believed to have travelled and/or lived in Labrador. This research often excluded oral histories and generational knowledge that reflected Inuit historical and continued presence all along the southeast and southern coast of Labrador. In effect, research created an incomplete and misleading narrative that was used for decision-making around who was and wasn't Inuit, which did not always match nor reflect on-the-ground knowledge, and held real and lasting consequences for identity, access to resources, and communities.

In 1985, and as part of the upswelling of Indigenous rights movements across Canada, the Labrador Metis Association (LMA) was formed in Labrador to represent the political and cultural rights of those with 'mixed race' ancestry, who were outside representation of the Labrador Inuit Association and the Innu Nation at the time. As with the LIA processes, research became foundational for the activities and strategies of the LMA and for telling the story of who people were and from where they came. The formation of the LMA marked a period of renewed research focused on documenting Indigenous land use and occupation in southern Labrador. This research documented wide-ranging land use of Inuit throughout southern Labrador, and highlighted the continued presence of those with Inuit heritage and customs. This research led to a significant shift: based on the research documenting historical and continued Inuit presence in southern Labrador, and connected to peoples' own oral histories, the Labrador Metis Association would later be renamed the Labrador Metis Nation (1998), and subsequently the NunatuKavut Community Council (2010) to reflect the Inuit ancestry of its members, the submission of new land claim documents, and new membership criteria.

This research had an impact on me, personally. As a young person growing up during these political changes, and struggling to make sense of my own place in the world and other

peoples' narratives about myself, family, and community, the research conducted by people from outside of Labrador, about Labrador, shaped how I saw myself; and it also contributed to how the boundaries of land claims were negotiated, how Indigenous Peoples in Labrador interacted with the government, how other people formed opinions about who I was, and how negotiations were conducted that influenced the future of identity, culture, and self-determination.

When I was in my mid-twenties, I had my first experience with being a direct research subject. I was interviewed by a researcher who was in Labrador studying the Labrador Metis Nation and its members, to understand constructions of 'Métis' identity in southern Labrador. I remember sitting down with this researcher one evening, and finding the experience awkward and challenging. The questions were theoretical and focused on things directly about my identity and who I was in the world. He asked me when I first realized I was Métis and to describe what made me Métis. It was a frustrating and eye-opening experience. I didn't know what the objective of the research was, I wasn't prepared for the intimately personal questions, and I struggled to answer many of them. Interestingly, if he came back today, I'd likely identify as a Labradorian or Labradorimiuk, or an Inuk—but not Métis—because research has changed how I see myself, and my ongoing learning, connection to place, responsibilities, and aspirations continue to inform my identity as someone from Labrador, relating to Inuit culture.

The Power and Politics of Research

The ever-present power of research throughout my life to affect how decisions are made, who they are made by, and who is included and who is not, has shaped me personally and professionally. I both experienced and witnessed the ways in which research could silence or amplify, dispossess or empower, and cause hurt or pride. From a Labrador perspective, we have always been governed from afar. Other people's research, stories, and assumptions about us have driven how major decisions are made that affect our lives, our cultures, and our livelihoods. Yet, when people see themselves in research, when research reflects who they are,

what they know, and what they value, it becomes a transformative force, a strength, and a source of satisfaction.

This understanding of the power of research, both negative and positive, motivated me in my professional life to both seek out research and conduct my own research. Without research, I realized I was at the mercy of anecdotal opinions, and different accounts of history, based on other people's power, and for their own agendas and benefit. Doing my own research gave me a sense of what was important, what mattered, and what needed to be done from a Labrador perspective for Labrador needs (Snook, 2005, 2010). Research showed me what was possible, without relying on someone else's narrative, someone else's perspectives and opinions. More than that, research became a way to improve circumstances, and to better communities through increased knowledge and access to information. Research, for me, is about building sustainable, thriving, healthy communities, who feel empowered in who they are, and who have the needed information to influence decisions that support their communities.

In marginalized communities everywhere, including in Labrador, people are often the 'subject' of research and of external researchers' own desires and interests. This research is often focused on 'damaged centred narratives' (Tuck, 2009), where Indigenous Peoples are reflected in the literature as damaged, in deficit, and not the 'same as' non-Indigenous Peoples. This has led to what Linda Tuhiwai Smith has famously described as research being a 'dirty word' for many Indigenous Peoples (Tuhiwai Smith, 2008). As anyone who has been the 'subject' of research understands, research is about power: those who are conducting and creating research are the ones who become 'experts', and are relied upon to make the decisions. They are the interpreters and the keepers of knowledge, while those who are 'researched' are often left out of these processes.

Indigenous-Led Fish and Wildlife Research

When I was in high school there was a cod fish moratorium announced, and this ban on fishing impacted thousands of people in Labrador emotionally, physically, occupationally, financially, and socially (Schrank & Roy, 2013). The research leading to the moratorium was not led by

people in Labrador, nor trusted by the local fishers and became, for me, another example of how researchers from elsewhere could produce one type of knowledge that then deeply and negatively affected entire regions and populations. Further, the research that is often produced is from a Western perspective and Western models, particularly from a natural science approach. The absence of diverse knowledge or research approaches missed valuable opportunities for more holistic understandings and therefore, more holistic decisions. All of these experiences sparked in me a career-long interest in Indigenous relations with and access to fish and wildlife resources, and conducting research that better reflected local and Indigenous knowledge, and place-based needs and rights.

In recent decades, and through extensive political mobilization and advocacy, Indigenous Peoples have made significant strides in getting their knowledge and perspectives around fish and wildlife recognized, respected, and incorporated into decision-making, although this knowledge often continues to be marginalized. For example, more and more Indigenous Peoples in Canada are being enlisted to become guardians and protectors of fish and wildlife; while this is an essential effort, it still does not position Indigenous Peoples as the lead researchers, nor give them the power to conduct their own research and make the needed decisions. Additionally, more and more co-management structures are being developed with Indigenous Peoples, creating systems and structures where Indigenous knowledge and Indigenous Peoples can play leadership roles in decision-making about fish and wildlife resources; yet, this doesn't always include a leadership role in research and knowledge production.

In 2009, I became the Executive Director of the Torngat Wildlife, Plants, and Fisheries Secretariat, the coordinating body for the two co-management boards emergent from the Labrador Inuit Land Claim Agreement: the Torngat Joint Fisheries Board and the Torngat Wildlife, Plants and Fisheries Board. The decisions and recommendations that these co-management boards make are critical: they directly affect Inuit lives in Nunatsiavut, and the ability for Inuit to hunt, fish, harvest, feed their families, and make incomes in the region.

Researching from within an Inuit co-management organization in Inuit Nunangat gives me an inside perspective to co-management structures, processes, systems, and politics. My co-management practitioner position provided practical experience and a research environment that would otherwise be challenging to access and fully understand. For example, this positionality provided direct involvement in co-management-led primary research, engagement in community and co-management board dialogues, extensive inter-governmental relations, and networking with other executive directors, staff, and co-management board members throughout Canada. This positionality also means that the research produced through my thesis meets identified priorities of co-management boards in Labrador, Nunavut, and Nunavik, and has the ability to be implemented and inform decision-making and practice. This is important and timely due to increasing urgency around wildlife management in Labrador.

Species that are threatened around the globe—and indeed in Labrador—are in a serious plight because of human-induced climate change, expanding land development, industrial development, resource extraction, and many other factors; yet, it is often the small subsistence harvesters who are paying the price for the global forces that are having the greatest impacts. The people who carry the biggest burden are the people with the least amount of power and ability to access the resources they need to adapt. These injustices are clear examples of systemic and environmental racism where institutional policies and practices put the burden on people who did not cause the problems and are being asked to make the biggest sacrifices. This often-unacknowledged ‘slow violence’² that occurs as a result of environmental racism can either be entrenched through research or research, when led by Indigenous Peoples and those most affected, can be a means to great self-determination and community well-being.

² In *Slow Violence and the Environmentalism of the Poor* (2011) Rob Nixon defines slow violence as “a violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all” Pg 2.

Research and Responsibility

I come to this research not only as someone born and raised in Labrador of Inuk ancestry, but also as someone carrying multiple positionalities and privileges. I am a father, a son, an uncle, and a husband. I am a cisgendered, heterosexual, white-passing male, who has never experienced systems of inequity due to my gender or the colour of my skin, and has had the ability to choose when and where I identify my Inuk identity. I am also a community member and member of the NunatuKavut Community Council (NCC), both of which bring with them responsibilities to be a good citizen and a good ancestor. I occupy a professional career which places me in the upper-middle-class socio-economic space, and I have had the freedom and the opportunity to pursue multiple educational opportunities, including now a PhD. While I am a member of NCC, I work for co-management boards arising from the Labrador Inuit Land Claim Agreement that established the Nunatsiavut Government; and while I am from Labrador, I am not from Nunatsiavut, and do not have the lived experience of being Nunatsiavummiut.

My deep sense of connection to Labrador's lands, waters, and communities, have also been a privilege³. Like many fellow Labradorians, I am frustrated when I witness natural resource exploitation in Labrador for the benefit of others in Newfoundland and beyond, and by the ways in which fisheries, forests, minerals, and rivers have been developed without input and leadership from Indigenous Peoples, and Indigenous knowledge in Labrador.

The opportunity to work in co-management while completing my PhD dissertation research is a privilege that very few Labradorians get to experience. Higher education is often difficult for Indigenous Peoples in remote regions to access, and the numbers of Indigenous students, researchers, and professors is disproportionately low in Canada. I was also privileged to conduct a PhD at the University of Guelph, while living, working, and researching in Labrador. My father often tells stories about how hard it was for him to leave Mary's Harbour to obtain

³ Throughout the PhD process I was presented with opportunities to explore creative writing and I took these opportunities to think about my positionality further. I invite readers to read appendices 9.1 and 9.2, as I used these extra writing opportunities to share more about my identity, connection to ice, and freedom, and the work of reclamation that so many Indigenous individuals must do, and many did during the COVID-19 pandemic.

post-secondary education on the island of Newfoundland, and before him his father—my grandfather—left Trap Cove in southern Labrador to stay in the St. Anthony orphanage to finish his high school in the late 1930s:

I went to St. Anthony to take my grade eleven. . . . I was homesick as could be. I really missed my friends and family. It was especially hard because we were a close family. I was a very lonely person. I was a bit lucky when Charles Stone from Henley Harbour came over and I got to visit him. Cornelia Stevens and Lillian Rumbolt came over to work in the orphanage. That helped a bit to get to see someone from home. I made a few friends but it was still hard. (Procter, 2020, p. 226)

Finally, I believe that doing this PhD in Labrador was both a privilege, and absolutely instrumental to the success of this work. I was able to build on my co-management and Labrador relationships to arrange dialogues, prioritize Inuit voices, and ensure the process led to research by and for Inuit. I have also benefited personally from this experience, and I now have the privilege of a PhD and all the opportunities this includes.

With these positionalities and privileges, come responsibilities to myself and to communities in Labrador. This research is not an end point; it's a beginning. My responsibilities to this research, and to continuing to mobilize research for social change and community betterment is a life-long journey. I will also work to assist other Labradorians to access post-secondary education through advocacy, mentorship, and support. I will continue believing in the power and influence of locally-led research to present new insights and opportunity for enhanced local well-being. Research and discovery will remain a central focus and priority of my community-based work to come. With this perspective, I will continue to work in the areas of Indigenous fisheries and wildlife management, and continue to find ways to incorporate health and well-being perspectives into this work. This form of reciprocity is a show of respect for Indigenous reclamation in Labrador, and may there be many mutual benefits for all in the years to come.

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1 Introduction and dissertation context

There has likely never been a time when public health has dominated the civic discourse to such a degree, and where public health considerations now influence major decision-making processes in the political, economic, social, and environmental sectors. From the current COVID-19 pandemic, to the health impacts of the climate crises, to the inequitable health outcomes around the globe, public health discussions and considerations are influencing all spheres of dialogue. It is becoming unescapable for all sectors of society to reflect on their contributions toward human health and well-being, particularly related to ecosystems and ecosystems management.

As someone who works in fish and wildlife co-management, I can attest that the linkages between ecosystem health and human health are undeniable; yet, co-management systems and structures seldom explicitly incorporate human health considerations in decision-making or policy recommendations (Chapter Two). This dissertation responds to these critical research and policy gaps by examining the ways in which co-management processes and decision-making intersect with Indigenous health and well-being, through a case study of co-management boards across Inuit Nunangat, with an emphasis on the Torngat Joint Fisheries Board and the Torngat Wildlife and Plants Co-Management Board in Nunatsiavut, Labrador.

1.1 Inuit well-being and wildlife in the Circumpolar North

Inuit throughout the Circumpolar North have thousands of years lived experience surviving and thriving in the Arctic and Subarctic regions of the world. Today, there are approximately 180,000 Inuit throughout Canada, Alaska, Greenland, and Russia. Inuit homelands in Canada—Inuit Nunangat—encompass Arctic and Subarctic geographies. The lands and waters are vast, and cover approximately 35% of Canada's landmass and 50% of its coastline (Inuit Tapiriit Kanatami, 2017b). Approximately 47,000 Inuit live within 53 communities in the Inuit regions of Inuvialuit, Nunavut, Nunavik, and Nunatsiavut (Inuit Tapiriit Kanatami, 2018a).

Inuit in Canada and throughout the Circumpolar North maintain strong relationships with the lands, waters, ice, plants, and animals (Anderson et al., 2018; Borish, Cunsolo, Snook, Shiwak,

et al., 2021; Boulanger-Lapointe et al., 2019; *Circumpolar Health Atlas*, 2012; Durkalec et al., 2015; Freeman et al., 1992). These relationships with the environment support rich Indigenous knowledge systems, resilient cultures, and social determinants of health. For instance, iconic animals such as caribou have been considered cultural keystone species that enable and underpin multiple aspects of well-being, such as: a source of identity (Borish, Cunsolo, Snook, Shiwak, et al., 2021), Indigenous food systems (Beaumier et al., 2015; Reedy, 2016), culture (Martin, 2015), and livelihoods (Finstad et al., 2006).

These Inuit connections with the land have persisted, but have been challenged by colonialism. The early contact periods and the federalist government era in Canada has impacted Inuit connections to their natural surroundings and has caused extensive intergenerational and ongoing harm from land dispossession (Richmond & Ross, 2009; Tobias & Richmond, 2014), disease (Budgell, 2018), resettlement (Brice-Bennett, 2017; Damas, 2002; Tester & Kulchyski, 1994), approaches to education and health (Bombay et al., 2014; Boyer, 2014; TRC, 2015), and a suite of government policies that limited—and continue to impact—Inuit autonomy. These colonial processes have had major impacts on many intersecting social conditions such as income levels, housing, education, health services, food security, land and ecosystems, learning and practising cultural skills, passing on traditional knowledge, sharing experiences, and participating in community (Inuit Tapiriit Kanatami, 2014; Mikkonen & Raphael, 2010; Reading & Wien, 2009; Sawatzky et al., 2019). These social determinants of Inuit health have gone through major environmental, social, economic, and political changes that have been embedded in colonialism (Bjerregaard & Young, 2020), including: relatively recent transitions from traditional and subsistence economies to wage economies (Ready & Power, 2018); rapid economic development, urbanization, and an influx of non-Indigenous people to Inuit lands (Penikett, 2017); dietary changes (Caughey et al., 2021; Stephenson, 2020); exposure to environmental contaminants (Northern Contaminants Program, 2018); and the fastest rate of climate change in the world (Meredith et al., 2019; Parkinson & Evengård, 2009; Sawatzky et al., 2018; Watts et al., 2015).

While there have been improvements to housing conditions, education, sanitation, access to health care services, and political representation over the last half century (Bjerregaard & Young, 2020), Inuit continue to experience structural disadvantages and transition with unprecedented challenges that impact health and well-being (Gracey & King, 2009; King et al., 2009). Similar to Inuit in the global Circumpolar North (Young et al. 2020), Inuit life expectancy is the lowest in Canada, there are extensive challenges with overcrowded housing, and there are high rates of tuberculosis (i.e. almost 50 times higher than the overall Canadian rate), food insecurity, mental health challenges (e.g. Inuit are among the least likely in Canada to report good mental health (Chief Public Health Officer, 2016)), and death by suicide (e.g. Inuit suicide rates are among the highest in the world (Kral, 2019)). Kirmayer and Brass (2016, p. 106) argue that addressing these issues will require “political empowerment, cultural recognition, and economic advancement. In all of these efforts, Indigenous peoples should be engaged in their own health research, governance, and service delivery, so that solutions are generated that strengthen community resilience and self-determination”.

Inuit are working strategically to support individual and community health through culturally appropriate strategies. For example, Inuit Tapiriit Kanatami, the organization representing Inuit with treaties in Canada, have progressed with major strategic planning initiatives such as an Inuit Health Human Resources Framework and Action Plan (Inuit Tapiriit Kanatami, 2011), a National Inuit Strategy on Research (Inuit Tapiriit Kanatami, 2018b), a National Inuit Suicide Prevention Strategy (Inuit Tapiriit Kanatami, 2016), an Inuit Nunangat declaration on Inuit-Crown Partnership (Inuit Tapiriit Kanatami, 2017a), and are currently planning a National Inuit Health Survey. These initiatives represent significant self-determination progress with better health outcomes envisioned.

1.2 Wildlife co-management systems in Inuit Nunangat

Inuit societies have relied on access to wildlife for subsistence, trade, and survival for thousands of years (Dowsley, 2010; Freeman et al., 1992; Pelly, 2001; Usher & Wenzel, 1987). The historical and contemporary relationships between Inuit and wildlife is one of the central

features of Inuit identity and cultures throughout the Circumpolar North by interconnecting family, the land, and wildlife (Borish, Cunsolo, Snook, Dewey, et al., 2021; Collings, 2014; Condon et al., 1995; Kral & Idlout, 2012; Rasing, 2017); these social-ecological relationships are holistic and include harvesting, preparing, sharing, and eating (King & Furgal, 2014).

The introduction of Western approaches to wildlife management by government substantially disrupted Inuit lives by impacting critical connections to the environment (Kulchyski & Tester, 2007). Colonial management approaches eroded Inuit laws and autonomy, which consequently impacted Inuit knowledge systems, created conflict, and affected Inuit well-being (Snook et al., 2020).

In response to this lack of control over fish and wildlife management, Inuit started to negotiate fish and wildlife co-management systems as part of treaties (Goetze, 2004) in the early 1970s, and these negotiations continue today for some Inuit collectives in Canada. These treaties—also known as land claim agreements—outline in detail who has what powers and responsibilities, and what processes should be followed (White, 2020). Over the past 50 years, the co-management institutions in Inuit Nunangat that have continued to develop and state signatories to these agreements have increasingly recognized the importance of Inuit knowledge, science, local engagement, and communications. Co-management systems, however, have not fully developed to a stage where final decision-making authority regarding wildlife has been returned to Inuit, or where Inuit health and well-being is prioritized alongside species conservation (Snook et al., 2020; White, 2020). Explicit and implicit power still remains outside of Inuit control and resides at the Federal, Provincial/Territorial levels of government.

For example, in Nunatsiavut, there are two co-management boards: the Torngat Joint Fisheries Board (TJFB), and the Torngat Wildlife and Plants Co-Management Board (TWPCB). The TJFB is responsible for making recommendations to the Federal Minister of Fisheries and Oceans Canada on the conservation of fish in the Labrador Inuit Settlement Area (LISA) and the management of commercial fisheries within and adjacent to the LISA (Snook et al., 2018). The TWPCB is responsible for establishing total allowable harvests for non-migratory species of

wildlife and plants, and to recommend conservation and management measures for wildlife, plants, and habitat in the LISA. In addition to these mandates, the Labrador Inuit Land Claim Agreement is clear that: 1) The Federal Minister of Fisheries and Oceans makes the final decisions after the TJFB recommendations; and 2) The Provincial Minister of Fisheries, Forestry and Agriculture makes the final decisions after the TWPCB decisions and recommendations. As such, treaties do place restraints on the level of Inuit self-determination that is achievable.

The co-management processes in Nunatsiavut—and indeed across Inuit Nunangat—have increased Inuit influence within governments; however, dialogues and decisions are dominated with debates between available scientific information and Inuit knowledge. For example, Western scientific knowledge and positivist approaches to animal population predictions are usually the main source of evidence used by Federal and Provincial/Territorial decision makers. This dissertation will look to balance the importance of Inuit well-being with wildlife conservation.

1.3 An Indigenous co-management-led research approach

Research involving treaty co-management boards in Canada has been predominantly led by non-Indigenous academics from outside Indigenous territories, which has too often resulted in negative narratives and deficit-based perspectives (Doubleday, 1989; King, 2015; Stevenson, 2006). Responding to these deficit-based perspectives, this dissertation research developed and utilized an Indigenous co-management led research (ICLR) approach to meet the needs of a co-management system, and to capture insider perspectives from co-management practitioners throughout Inuit Nunangat. The ICLR approach drew from decolonizing and anti-colonial methodologies, boundary work theory, and community-based research principles. Using the term *Indigenous co-management* has purpose; the term reflects co-management that is done by, for, and with Indigenous Peoples (Wilson, 2008). This definition of Indigenous co-management was adopted for this dissertation to respect the spirit and intent of treaties that have been signed in Canada. The framing around Indigenous co-management was intended to shift our thinking away from complex legal text, and toward problem solving where

co-management practitioners focus more effort on Indigenous relationships, Indigenous priorities, and a shared vision for the future.

Taking an ICLR approach was intended to inherently disrupt traditional settler colonial research paradigms and to, instead, privilege and respect Indigenous Peoples' priorities, engagement, and knowledge in the research process. Indeed, one key decolonizing feature of this research approach was the prioritization of Inuit voices (Kovach, 2009). Furthermore, relational accountability was fostered in this research by respecting the priority areas of the Inuit Tapiriit Kanatami National Inuit Strategy on Research: 1) Inuit governance in research was advanced through the Nunatsiavut Government Research Advisory Committee who approved this project; 2) capacity in Inuit Nunangat research was enhanced by training the lead Labradorimiuk researcher (J. Snook), and engaging other Inuit community-based researchers; 3) funding for this research was aligned with Inuit research priorities; and 4) the research data are owned by the co-management board, and accessible and available to other co-management systems in Inuit Nunangat (Inuit Tapiriit Kanatami, 2018b).

Boundary work theory is beneficial in understanding ICLR, and co-management generally, as a "shared space", where multiple research communities, institutions, and individuals of different skill sets agree to work toward a shared goal by organizing their relationships for greater understanding and the creation of public policy (Clark et al., 2010; Leigh Star, 2010). The integration of boundaries does not happen without intention, and for this project, ICLR enabled the prioritizing of Inuit voices, knowledge, and well-being as they are essential in understanding Inuit, wildlife, and their shared well-being. In this dissertation, a public health science lens was integrated with the natural and social sciences to transcend the standard boundaries and understandings of traditional wildlife management. As such, the ICLR approach was transdisciplinary in that it enables the bringing together of health, natural, and social sciences and Inuit knowledge systems to co-produce new knowledge about Indigenous Peoples, wildlife, and their shared environments, and well-being (Choi & Pak, 2006).

The ICLR approach was led by co-management practitioners with an interest in improving co-management outcomes. The co-management practitioners that led ICLR created a community of place and practice who shared a history of land claim agreement implementation, working with different knowledge systems, and collaborating with Indigenous Peoples on research and public policy analysis. The ICLR approach was guided by Indigenous Peoples who prioritized the problems that were most urgent and concerning. Co-management practitioners often study problems that are historical, yet contemporary, complex, time sensitive, and extremely challenging to solve from the perspective of multiple stakeholders; therefore, the shared work environment offers promise for pathways forward. The research in this dissertation was led by myself—a co-management practitioner—within the co-management community practice, as well as Inuit in Rigolet, Nunatsiavut. This Inuit leadership is reflected by co-authorship on various articles (e.g. Chapters 4, 5, and 7) to appropriately represent the contributions of community members.

Given the contributions of co-management practitioners and community members, it was important that our ICLR approach prioritized reciprocity. Thought was given to what may be exchanged in both tangible and intangible forms with the relevant communities of place and practise. For instance, this research was supported by external funding valued at greater than \$100,000 that was held and controlled by the co-management institutions, which: 1) facilitated in-person Inuit co-management networking across the vast Inuit Nunangat geography; 2) facilitated land-based monitoring and cultural programming in one Inuit community; 3) enhanced policy analysis that is explicit about Inuit well-being; and 4) ensured research goals and prioritization resided with Inuit. An ICLR approach was intended to bridge the academic research and public policy divide, making this project proactive, action oriented, and an example of self-determination in research.

1.4 Dissertation rationale, goal, and objectives

While the co-management academic literature is extensive, important research gaps remain that have implications for effective decision-making and Inuit well-being. Given these research

gaps, the goal of this dissertation research was to examine how fish and wildlife co-management impacts Inuit lives and well-being. To achieve this goal, this dissertation research draws on co-management academic literature, co-management board member experiences from multiple Inuit homelands, as well as Inuit knowledge and experiences from harvesters in Rigolet, Nunatsiavut to: 1) Characterize the extent to which Indigenous co-management research in Canada has engaged with Inuit health and well-being (Chapter Two); 2) Examine the experiences of board members and staff within Inuit co-management systems to understand the perspective of co-management practitioners and identify opportunities for enhancing Inuit well-being (Chapters Three, Five, and Seven); and 3) Characterize Inuit perspectives, understandings, and lived experiences with respect to their interactions with fish and wildlife management in Nunatsiavut (Chapters Four and Six).

1.5 Dissertation structure and chapters

This dissertation is comprised of chapters that are presented as manuscripts; that is, each chapter (from two to seven) is formatted and prepared for peer-reviewed academic journals. For the purposes of this dissertation, each chapter has been reformatted for consistency and organized to reflect the research objectives. The chapters that follow include a systematic critical review of the literature (Chapter Two, primary research chapters (Chapters Three, Four, and Six), and policy chapters (Chapters Five and Seven).

Chapter Two is foundational to the dissertation research; a systematic critical review approach was used to identify and analyse wildlife co-management literature from within Canada's land claim regions. The systematic critical review highlights an absence of publications specifically analysing co-management from a public health or well-being lens. Given the gap identified in the literature, Chapter Three centred the perspectives of co-management board members throughout Inuit Nunangat in a qualitative case study to explore opportunities and pathways for Inuit well-being considerations in co-management. This chapter situated co-management institutions as boundary work organizations, where efforts were made to mediate between different types of knowledge and institutions, and drew from complimentary concepts such as

boundary objects, and knowledge co-production to characterize both the value of land claim agreements to Inuit signatories, and the challenges with their implementation. Chapter Three explores how the public health discipline, and the social determinants of health may be integrated inside the shared space of co-management, and begins to fill the research gap identified in the systematic critical review.

The co-management literature (Chapter Two), and the dialogue with co-management practitioners (Chapter Three) emphasized the importance of Indigenous inclusion in wildlife management processes. As such, Chapter Four explored this further through a community case study that engaged with Inuit in Rigolet, Nunatsiavut. Chapter Four provides a critique of colonial wildlife management and documents the repercussions for Inuit well-being through the examination of a historic hunting ban of the Mealy Mountain Caribou Herd in Nunatsiavut, which led to abrupt changes in Inuit land use patterns, food security, and cultural continuity. Then, Chapter Five builds on these research results by introducing and promoting the concept of co-management-led research to a public policy audience.

Chapter Six of this dissertation extends the intersectoral opportunities offered by co-management boards as boundary organizations, and expands the co-management focus of the dissertation to include ocean-based commercial fisheries within and adjacent to Nunatsiavut. Research participants shared how commercial fisheries are a way of life that is interwoven with the social, economic, and political components of Nunatsiavut Inuit culture and identity. From this analysis, extensive intersections with the social determinants of health are identified, future research is recommended, and well-being indicators for future monitoring are proposed. Then, Chapter Seven builds from the Chapter Six findings about commercial fisheries and discusses policy dimensions of treaty implementation, and fishery access and equity.

Finally, Chapter Eight is a concluding synopsis that highlights the contribution of this dissertation to research and policy, and identifies opportunities for new research, policy analysis, and program implementation. It also provides a critical reflection on Inuit co-management-led research, as well as my own learning and leadership journey.

My research positionality as a Labradorian and as a co-management practitioner motivated this research in an effort to further my community of practice, and to look for opportunities that enhanced Inuit well-being. Through this dissertation, it is my goal that readers understand why we [Labradorians] care so much about the fish and wildlife in our lives, and what they contribute to our well-being. Self-determination starts at home and for me that is here in Labrador. I am dedicated to co-management and this dissertation represents a form of individual self-determination: it reflects my ability to make decisions about how I pursue and improve my work. I know that fish and wildlife are important to the lives of Labradorians, and we have a responsibility to collectively address present-day challenges like climate change, species declines, and the threats to Inuit culture.

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2 How can wildlife co-management impact Indigenous health and well-being? A modified systematic critical review

2.1 Abstract

Globally, co-management systems have emerged as negotiated agreements designed to share responsibilities among Indigenous and State Governments for the conservation and management of wildlife. Co-management practitioners regularly make decisions that influence the ways in which Indigenous Peoples interact with the lands, waters, and natural resources—decisions which may impact the health and well-being of Indigenous Peoples. The goal of this systematic critical review was to characterize the ways in which published research on co-management governance systems in Canada did or did not consider and/or intersect with Indigenous Peoples' health and well-being. ProQuest®, Web of Science™, and JSTOR® databases were searched to identify literature published from 1973 to 2019 that involved co-management systems in Canada. The citations and articles were screened for relevance by two independent reviewers, using inclusion criteria developed *a priori*. Relevant articles were analyzed descriptively and qualitatively, using an Indigenous-focused social determinants of health framework. The search resulted in 8,652 citations; of which, 67 publications met the inclusion criteria and were analyzed. None of the publications specifically analyzed co-management from a public health or well-being lens; however, social determinants of health topics were implicit, prevalent and evidently connected to co-management. Social determinants of Indigenous Peoples' health, such as land and ecosystems, food systems and security, Indigenous knowledge systems, culture, self-determination, and colonialism, were frequently represented in the co-management literature. These results demonstrate how wildlife co-management can impact or influence Indigenous Peoples' well-being, and highlight an opportunity for co-management research to more explicitly engage with Indigenous Peoples' health and well-being. By providing a new lens through which co-management research can be approached, the results highlight opportunities for health and co-management

practitioners to collaborate, promote, support, and strengthen Indigenous Peoples' health and well-being via the co-management of wildlife.

2.2 Introduction

Globally, co-management systems⁴ have emerged as negotiated agreements designed to share responsibilities among Indigenous and State Governments for the conservation and management of wildlife. In the early 1970s, Indigenous Peoples in Canada started to negotiate land claim agreements with the Federal, Provincial and Territorial governments (Usher et al., 1992). Each of these land claim agreements contains detailed sections on how wildlife will be co-managed and sustainably utilized within land claim regions. These co-management systems have been conceptualized as creating 'shared' spaces whereby different levels of Federal and Provincial/Territorial Governments have agreed to work together with Indigenous Governments (Snook et al., 2018); however, in most cases, Ministers of the Crown have retained the power to make final decisions (Arngna'naaq et al., 2019; White, 2020). In this shared space, there is the opportunity for co-management boards to make substantive contributions and help to create supportive environments that facilitate Indigenous self-determination.

Co-management boards regularly make decisions that influence the ways in which Indigenous Peoples interact with the lands, waters, and renewable resources (including fish and wildlife)—decisions which may impact health and well-being of Indigenous Peoples. Indeed, access to natural environments and wildlife is fundamental to Indigenous Peoples' physical, mental, emotional, and spiritual health and well-being (Richmond & Ross, 2009). For instance, wildlife provide important food sources for many Indigenous Peoples; as such, access to the environment and natural resources for hunting, trapping, and fishing supports food security and provides important contributions to nutritional health (Kenny et al., 2018). Furthermore, accessing the environment and harvesting wildlife support Indigenous identity, culture, and cultural continuity (Borish, Cunsolo, Snook, Dewey, et al., 2021) which are important

⁴ "Co-management systems", for the purposes of this chapter, is a broad term to encompass a diverse range of social and ecological actors that interact holistically to manage wildlife resources.

Indigenous determinants of health and well-being (AFN, 2013; Inuit Tapiriit Kanatami, 2014). Given the close connections among Indigenous Peoples, their homelands, and the wildlife within, and the well-documented links to health and well-being (Cunsolo Willox et al., 2012; King & Furgal, 2014; Richmond & Ross, 2009), the decisions and actions that co-management boards make on a regular basis may have broad-ranging implications.

While co-management systems have been researched across multiple disciplines, such as environmental sciences, geography, law, and others, the impact or influence of co-management on Indigenous health and well-being has yet to be reviewed. This critical review systematically identified literature on land claims wildlife co-management boards in Canada, and characterized this literature using an Indigenous-focused social determinants of health framework. Specifically, this review explored the following questions: 1) how does the land claims co-management literature intersect with the social determinants of health; and 2) how could co-management systems impact individual and community well-being? While this review focused on Canada, we identified opportunities for global co-management systems to reflect on their role in promoting and supporting Indigenous Peoples' health and well-being.

2.3 Methods

A systematic critical review methodology was used for this research; a modified approach that combines the strengths of a systematic review process with the qualitative analysis opportunities of a critical analysis. This approach involved identifying relevant articles with a *priori* inclusion and exclusion criteria through a replicable, transparent, and rigorous process to systematically identify relevant literature (Moher et al., 2009; Shamseer et al., 2015); and then conducting a critical qualitative analysis to understand and characterize the intersections between the co-management literature and social determinants of health from Indigenous perspectives (Grant & Booth, 2009; Paré et al., 2015; Pawson et al., 2005).

2.3.1 Search strategy

A detailed search strategy was developed to identify English and French published literature (inclusive of journal articles, theses, and dissertations) on land claims-based co-management organizations in Canada. The search string was generated and refined in consultation with a research librarian at the University of Guelph. First, a list of the negotiated land claim agreements in Canada was compiled from the Department of Indigenous and Northern Affairs Canada website. Each land claim agreement was reviewed to identify the names of the wildlife co-management boards, their acronyms, and geographic locations. Next, co-management terms, as well as terms focused on the governance of fish, fisheries, marine mammals, and wildlife were generated (Table 2.1).

Table 2.1: The co-management board names, co-management terms, and geographic locations that comprised the search string that was utilized to search the ProQuest®, Web of Science™, and JSTOR® database.

Components	Search String Contents
Co-management Boards component	"Hunting Fishing and Trapping Co-ordinating Committee" OR "HFTCC" OR "Hunting Fishing and Trapping Coordinating Committee" OR "Fisheries Joint Management Committee" OR "FJMC" OR "Wildlife Management Advisory Council Northwest Territories" OR "WMAC NWT" OR WMACNWT OR "Wildlife Management Advisory Council North Slope" OR "WMAC NS" OR WMACNS OR "Yukon Fish and Wildlife Management Board" OR YFWMB OR "Yukon Salmon Sub-Committee" OR "Salmon Sub-Committee" OR YSSC OR "Gwich'in Renewable Resources Board" OR "Gwichin Renewable Resources Board" OR "GRRB" OR "Sahtu Renewable Resources Board" OR "SRRB" OR "Nunavut Wildlife Management Board" OR "NWMB" OR "Nisga'a First Nation Joint Fisheries Management Committee" OR "Nisgaa First Nation Joint Fisheries Management Committee" OR "Nisga'a First Nation Wildlife Committee" OR "Nisgaa First Nation Wildlife Committee" OR "Joint Fisheries Committee" OR "Wildlife Committee" OR "Torngat Joint Fisheries Board" OR "TJFB" OR "Torngat Wildlife and Plants Co-management Board" OR "TWPCB" OR "Wek'èezhii Renewable Resources Board" OR "WRRB" OR "Wekeezhii Renewable Resources Board" OR "Nunavik Marine Region Wildlife Board" OR "NMRWB" OR "Porcupine Caribou Management Board" OR "PCMB" OR "Tsawwassen First Nation Joint Fisheries Committee" OR "Joint Fisheries Management Committee" OR "Maa-nulth First Nation Joint Fisheries Committee" OR "Maanulth First Nation Joint Fisheries Committee" OR "Joint Fisheries Committee" OR "Wildlife Council" OR "Maa-nulth First Nation Wildlife Council" OR "Maanulth First Nation Wildlife Council" OR "Eeyou Marine Region Wildlife Board" OR "EMRWB" OR "Yale First Nation Joint Fisheries Committee" OR "Joint Fisheries Committee" OR "Tla'amin First Nation Joint Fisheries Committee" OR "Tlaamin First Nation Joint Fisheries Committee" OR "Joint Fisheries Committee"
Co-management Terms	OR co-management OR comanagement OR "institution of public government" OR "implementation bod*" OR co-governance OR "multilevel governance"
Canadian Geographic Locators	AND (Canada OR Nunatsiavut OR Nunavik OR Nunavut OR Inuvialuit OR ISR OR "Northwest Territories" OR Yukon OR Labrador OR "NWT" OR "British Columbia" OR BC

On August 17, 2020, the search string was used to search four aggregator databases: ProQuest® Dissertations, ProQuest® Journals, Web of Science™, and JSTOR®. The search was restricted to identify literature published between 1973 (the date the negotiating of the James Bay and Northern Quebec Agreement began, representing the first land claim process in Canada) and 2019. Bibliographic results were exported from the databases and imported into EndNote 20® reference software. Citations were then imported into DistillerSR® software, and the automated deduplication function was used to eliminate duplicate citations.

2.3.2 Relevant screening and eligibility criteria

Publications were considered for inclusion if they covered a co-management board that was created from a Canadian land claim agreement, and focused on humans, fish, marine mammals, wildlife, forestry, and/or plants. The screening process was conducted by two independent reviewers using inclusion and exclusion criteria defined *a priori* (Table 2.2), through two phases. In the first phase, a review of all titles and abstracts was conducted. Potentially relevant titles and abstracts proceeded to the second phase, where the full text of each publication was reviewed. In the cases of conflicts between independent reviewers, a final decision on inclusion or exclusion of the article was made through consensus.

Table 2.2: A final list of inclusion and exclusion criteria that was developed *a priori* for the screening process utilized in this systematic critical review.

Components	Inclusion Criteria	Exclusion Criteria
Study Design	Published in English or French Published between 1973 and 2019 Peer-reviewed journal article Academic Masters or PhD thesis Qualitative, Quantitative or Mixed Methods Design	Non-English or French article Published before 1973 or after 2019 Not a peer-reviewed journal article Not an academic paper Essays, Media, Editorials, Reports
Study Context	Main study involved a co-management board structured under a Canadian Land Claim Agreement in British Columbia, Yukon, Northwest Territories, Nunavut, Quebec, or Newfoundland and Labrador being the only Provinces and Territories with such agreements.	Studies not involving Canadian Land Claim Agreement co-management boards. Studies that were international or in the remaining Canadian provinces.
Study Focus	Studies focused on one of the Canadian Land Claim Agreement Co-Management Boards including humans, and or: Fish such as northern shrimp, snow crab, arctic char, Greenland turbot, cod, and others; Marine mammals such as narwhal, beluga whales, polar bears, and others; Wildlife such as caribou, wolves, black bears, sheep, geese, ptarmigan, moose, deer, rabbits, furbearers, and others; Forestry and plants	Studies about land use, environmental assessment, and health co-management boards.

2.3.3 Data extraction and analysis

To develop a framework to analyse the literature captured in this systematic process, four key social determinants of health (SDOH) models were synthesized: a commonly cited SDOH framework developed by Mikkonen and Raphael (2010); an Indigenous SDOH framework from Canada developed by Reading and Wien (2009); a framework developed by the Assembly of First Nations (AFN, 2013); and a framework developed by Inuit Tapiriit Kanatami (2014). The synthesis of these four social determinants of health publications resulted in a new framework comprised of 12 categories that were hypothesized to align with the management of Indigenous natural environments and wildlife. This Indigenous-focused framework was then applied in the analysis stage (Table 2.3; Figure 2.1).

Table 2.3: A comparison of four social determinants of health frameworks used in Canada.

Social Determinants of Health	Mikkonen & Raphael (2010)	Reading & Wien (2009)	Assembly of First Nations (AFN 2013)	Inuit Tapiriit Kanatami (ITK 2014)
Aboriginal status	✓			
Disability	✓			
Early life	✓			✓
Education	✓	✓		✓
Employment & working conditions	✓	✓	✓	
Food insecurity	✓	✓		✓
Gender	✓		✓	
Health services	✓			✓
Housing	✓		✓	✓
Income & Income distribution	✓			✓
Race	✓			
Social exclusion	✓			
Social safety net	✓		✓	
Unemployment & job security	✓			✓
Acculturation			✓	
Addictions			✓	
Colonialism		✓	✓	
Community infrastructure		✓		
Community readiness			✓	✓
Cultural continuity		✓	✓	
Economic development			✓	
Environment			✓	✓
Environmental stewardship		✓	✓	
Health behaviours		✓		
Healthcare systems		✓		
Historical conditions			✓	
Lands & resources			✓	
Language & heritage			✓	✓
Legal & political equity			✓	
Lifelong learning			✓	
Livelihoods			✓	✓
Mental wellness			✓	✓
On/off reserve			✓	
Personal safety & security	✓		✓	✓
Physical environments		✓		
Productivity			✓	
Racism & social exclusion/discrimination		✓	✓	
Resources & capacities		✓		
Rural/urban			✓	
Social services & supports			✓	
Self-determination		✓	✓	

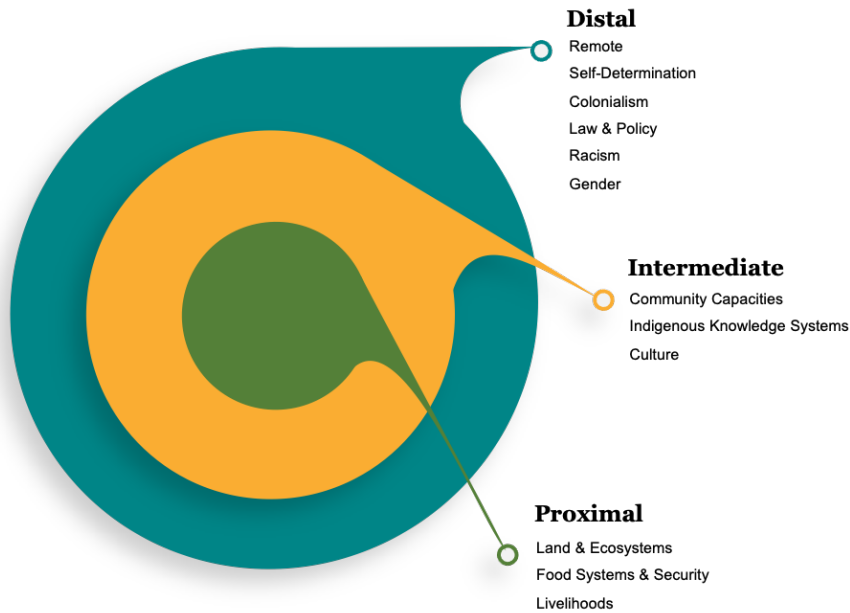


Figure 2.1: A synthesized list of 12 distal, intermediate, and proximal social determinants of health based on Indigenous perspectives, utilized as an analytical framework in this hybrid systematic critical review.

The data extraction and analysis were conducted in two separate phases and NVivo™ software was used to facilitate data coding and analysis. The first phase used data extraction forms to categorize each publication based upon the year of publication, species studied, and Indigenous Peoples in the study. Then, thematic coding was conducted to develop an overall preliminary understanding of the literature and major themes within. The second phase included additional data extraction based on the 12 categories resulting from the synthesized Indigenous-focused SDOH model (Figure 2-1). This additional data extraction aimed to a) classify which literature implicitly and explicitly intersected with the social determinants of health (Figure 2-1); and b) reveal opportunities for understanding the co-management literature through an Indigenous well-being lens.

2.4 Results

The search strategy resulted in 9,195 citations returned from three databases; after duplicates were removed, and relevance screening was completed, 67 articles remained for the final systematic critical review and analysis (Figure 2-2). Throughout the screening process, there were 148 conflicts (1.8%) that required discussion between reviewers, and a final consensus

decision on the inclusion or exclusion.

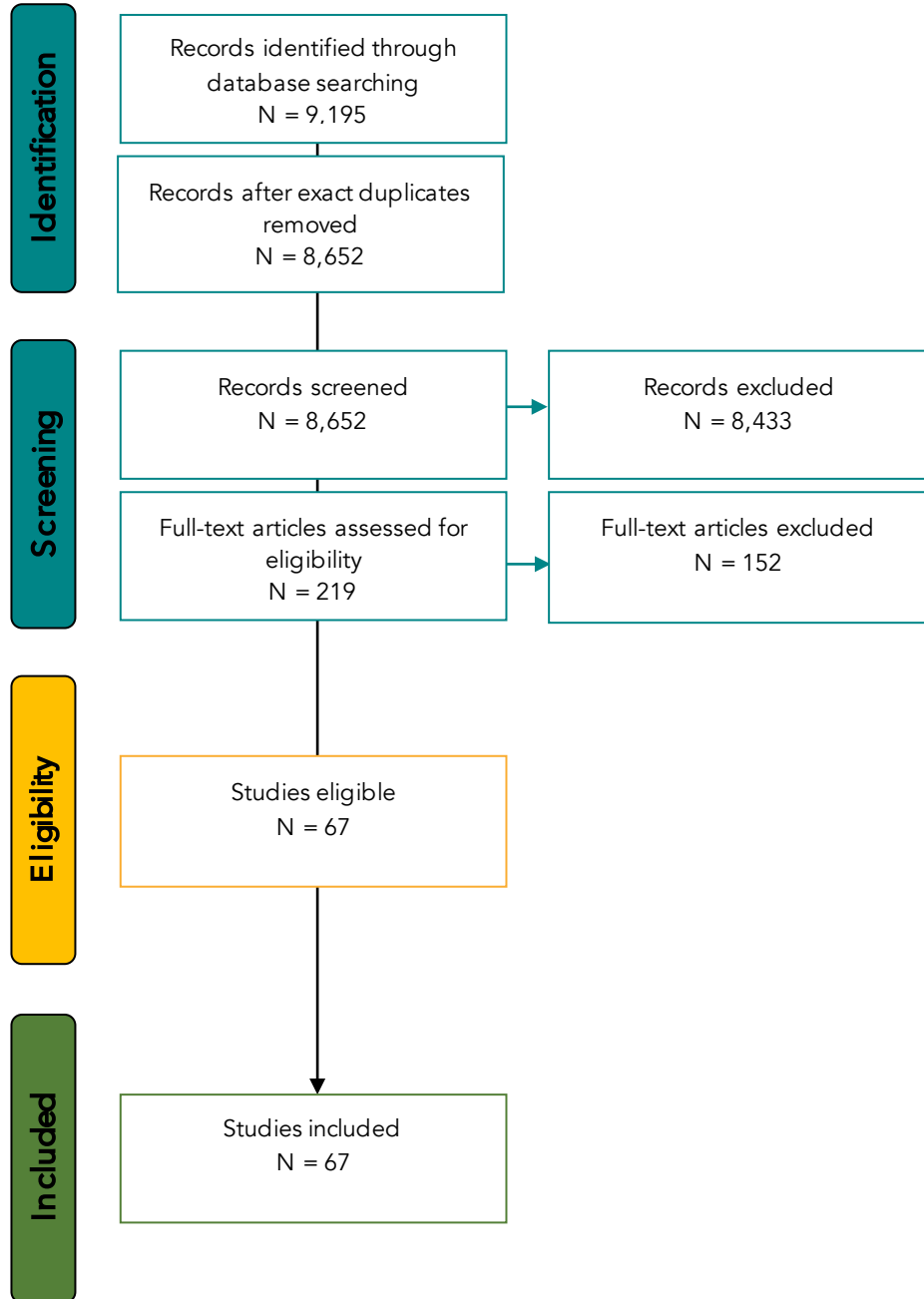
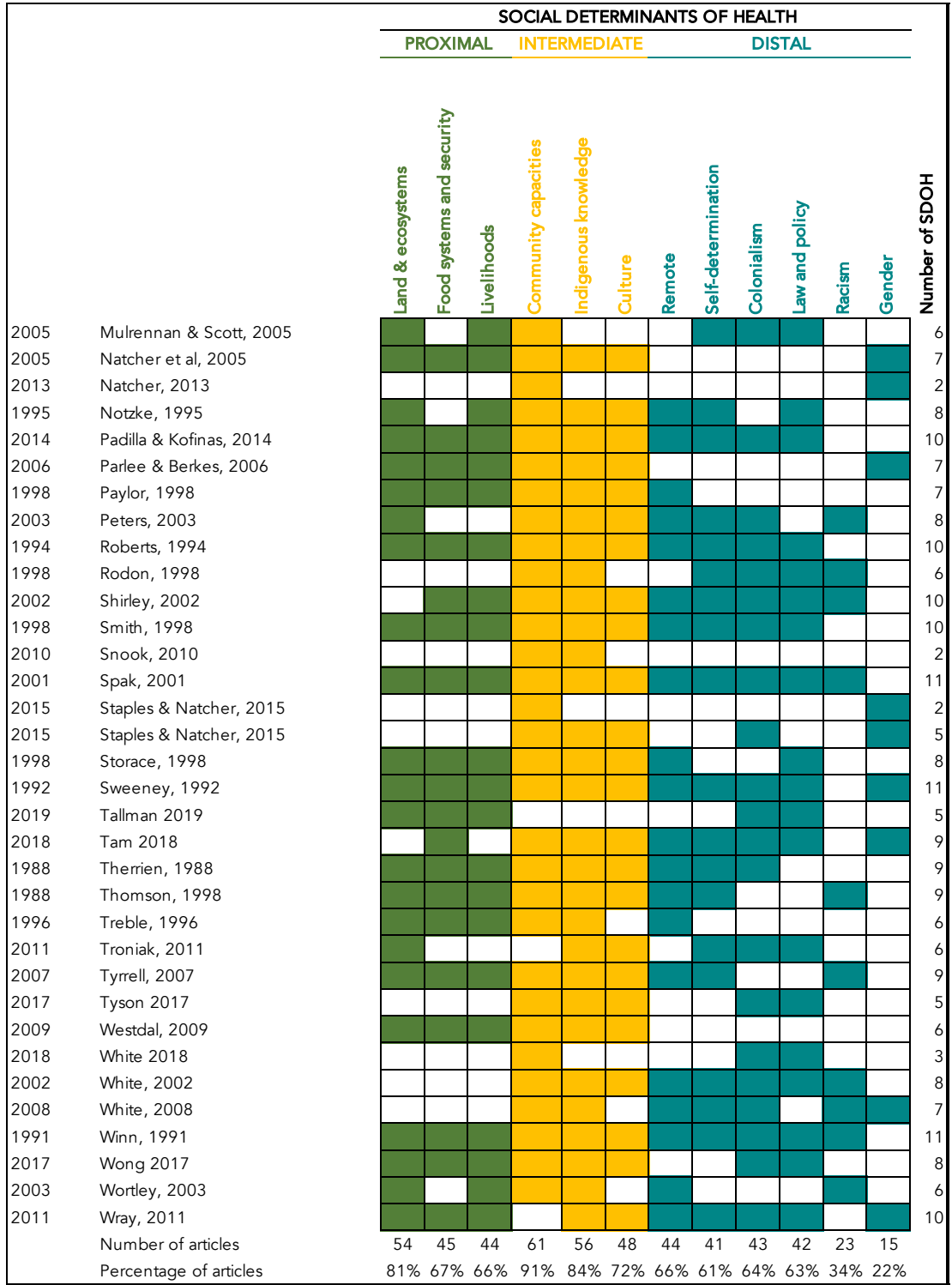


Figure 2.2: The four-stage screening process and inclusion results of this modified systematic critical review organized in the PRISMA reporting flow diagram (Moher et al., 2009; Page et al., 2020; Shamseer et al., 2015).

None of the 67 publications that were reviewed, explicitly examined co-management from a public health lens, but extensive intersections were evident between the co-management



The land and ecosystems (e.g. terrestrial, marine, cryosphere and air environments), which are vital to Indigenous health and well-being, were commonly represented in the co-management literature (n=54 articles, 81%). For instance, articles examined several topics that related to

land and ecosystem access that have impacts on hunting, harvesting, and livelihood strategies that are critical to Indigenous health and well-being. These topics included land claims processes (Roberts, 1994), critical habitats for important wildlife species (Thomson, 1998; Tyrrell, 2007), species harvesting levels and population declines (Collings, 1997), environmental contaminants in country foods (Storace, 1998), industrial and road development that brought increased numbers of people to Indigenous territories increasing outside hunting activity (Collings, 1997; Gombay, 2019; Loovers, 2010), and impacts of hydro-electric developments (Cohn, 2001; Troniak, 2011), mining (Koh, 2001; Spak, 2001), pipeline proposals (Bateyko, 2003; Loovers, 2010), and environmental shifts resulting from climate change (Dowsley & Wenzel, 2008). For instance, in Galappaththi et al. (2019, p. 6), Inuit fishers referenced how the “fishing season get[s] shorter each year”, ice was breaking up faster, not at the right time, and “ice conditions are different now. We have to be more careful. We see more thin ice”.

Food systems and food security topics were also frequently discussed in the included literature (n=45 articles, 67%). Food was identified as important to well-being due to its nutritional value, preference, and connection to culture. In the co-management literature, food-related topics with health implications focused on harvesting and consuming country foods, including, for example, arctic char (Armitage et al., 2011; Galappaththi et al., 2019; Tallman et al., 2019), beluga (Gislason, 2007; Kishigami, 2005; Kocho-Schellenberg & Berkes, 2015; Storace, 1998; Sweeney, 1992; Tyrrell, 2007), whitefish (Treble, 1996), caribou (Collings, 1997; Fischer, 2003; Kofinas, 2005; Lever, 2015; Ljubicic et al., 2018; Padilla & Kofinas, 2014; Therrien, 1988; Wray, 2011), grizzly bear (Caine, 2008; Clark, 2007), moose (Cruickshank et al., 2019), narwhal (Dale & Armitage, 2011; Keenan et al., 2018; Westdal, 2009), polar bear (Dowsley, 2009; Dowsley & Wenzel, 2008; Wong et al., 2017), eider ducks (Collings, 1997; Kishigami, 2005), eggs (Connell, 1984; Kishigami, 2005; Storace, 1998), various seal species (Dale & Armitage, 2011; Kishigami, 2005; Tyrrell, 2007), walrus (Henri, 2012; Kishigami, 2005; Roberts, 1994; Winn, 1991), berries and other plant-based foods (Teetl’it Gwich’in Renewable Resources Council et al., 2006). In relation to harvesting these important country foods, the included literature also discussed food sharing (Gislason, 2007; Kishigami, 2005), and the nutritional value and cultural

satisfaction of consuming country foods (Kishigami, 2005). Furthermore, social initiatives to support individual and community food security, such as community freezers (Kocho-Schellenberg, 2011; Lever, 2015; Teetl'it Gwich'in Renewable Resources Council et al., 2006), were discussed in the literature. For example, in Cruickshank et al. (2019, p. 373), the research team used a Yukon First Nation case study to "advance our understanding of how co-management can both help and hinder First Nations communities in maintaining sustained availability of and access to traditional foods".

The co-management literature described more proximal social determinants of health with substantive references to employment, income, and livelihoods. For example, the literature discussed many ways in which Indigenous Peoples support themselves through land-based employment (Kafarowski, 2005), craft productions (Loovers, 2010), volunteerism (Caine, 2008; Cohn, 2001), subsistence harvesting (Berkes, 1978; Mulrennan & Scott, 2005), and small scale fisheries (Galappaththi et al., 2019). Indeed, 66% of included publications (n=44 articles) discussed determinants of health related to livelihoods, including research about wildlife harvesting for sustenance (Henri, 2012), income from the sale of fish species (Westdal, 2009), outfitting and sport-hunting services (Storace, 1998), and employment with Indigenous co-management boards (Kafarowski, 2005).

All of the publications included in this review discussed at least one of the intermediate social determinants of health (Table 2.4). The intermediate determinants of health discussed in the co-management literature included community capacities, Indigenous knowledge systems, and culture (Reading & Wien, 2009). Community capacity was discussed in nearly all articles (n=61 articles, 91%). For instance, articles examined the capacity of communities within land claims regions to support wildlife co-management through co-management boards and other mechanisms, such as hunting and trapping organizations, resource councils, and other related committees (Caine, 2008; Fischer, 2003; White, 2008; Wong et al., 2017; Wortley, 2003). While some publications highlighted the long-standing community capacity to monitor wildlife activities, there was evidence of challenges that would make enhanced decision making for

community health and well-being difficult. Wong et al. (2017, p. 226) cited limited financial resources, and:

In some communities, mass turnover of community (HTO-Hunter Trapper Organization) staff might make it difficult for community members to stay up to date with research processes. HTOs often receive several (research and non-research related) reports at a time and other community priorities might take precedence over reading them.

Indigenous knowledge systems (n=56 articles, 84%) and culture (n=48 articles, 72%) are two other intermediate social determinants of health and well-being that were commonly discussed in the co-management literature. Many of the publications (Kofinas, 2005; Lever, 2015; Ljubicic et al., 2018; Wong et al., 2017) cited the importance of including Indigenous knowledge and languages into decision-making practices. Knowledge systems relating to accessing the land and harvesting for subsistence were discussed, and these same activities were also interconnected with culture and family time, and with sharing intergenerational knowledge (Gislason, 2007; Henri, 2012). For instance, these activities were discussed in the context of food sharing potential, and the related social relationships that are maintained through food sharing (Kishigami, 2005). The connection of food harvesting (e.g. hunting and fishing) with men's sense of identity (Collings, 1997) was also discussed. There were also references to how hunting and being on the land facilitates the transmission of cultural identity, language, and knowledge related to using wildlife for clothing and crafts (Lever, 2015; Loovers, 2010), and food (Loovers, 2010). Cultural continuity is a challenge that was discussed in the literature; for example, this challenge was illustrated by an Inuk who explained:

It's changed today ... we don't properly take a caribou apart the way they used to, because we don't use the sinews anymore, we don't use caribou fat for the purpose of lighting the iglu [snow house]. So we don't use them the way they used to ...today it's mostly for consumption (Ljubicic et al., 2018, p. 222).

Government intervention through quota systems was another factor impacting cultural continuity. In Keenan et al. (2018, p. 35), the results suggested that:

Government regulation of narwhal harvesting has ignored and undermined IQ (Inuit Knowledge) in various ways. These can be categorized as (1) results of the imposed quota system, (2) the perception of the ongoing role for IQ, (3) communication challenges, (4) modern-day drivers of change, and (5) the lack of decision-making authority at the community level.

The literature documented examples of how Indigenous knowledge was not being respected in co-management processes and decision-making. Most of these references cited examples of biologists, scientists, and non-Indigenous board members tending to dismiss Indigenous knowledge and practices (Collings, 1997), or policymakers discarding Indigenous knowledge as 'anecdotal' (Tyrrell, 2007); in cases when Indigenous knowledge was considered, there was still scepticism and qualification placed on its value in decision-making (Peters, 2003). Ljubicic et al. (2018, p. 228) identified that wildlife managers are consulting regularly with community members, and there is commitment to learning from Inuit knowledge; however, they also noticed "that Inuit insights tend to be included as anecdotes (referenced as personal communications) in government reports, and are rarely followed up with more in-depth, systematic collaborative efforts to get a broader set of community contributions."

Almost all publications (n=63 articles, 94%) discussed at least one of the distal social determinants of health, including remoteness (n=44 articles, 66%), self-determination (n=41 articles, 61%), colonialism (n=43 articles, 64%), law and policy (n=42 articles, 63%), racism (n=23 articles, 34%), and gender (n=15 articles, 22%). Colonial legacies captured in the co-management literature included forced resettlement (Henri, 2012) and loss of homelands (Gislason, 2007), the introduction of the wage economy (Natcher et al., 2005; Therrien, 1988), residential schools (Cohn, 2001; Loovers, 2010), language and cultural erosion (Loovers, 2010), climate change (Galappaththi et al., 2019), and influences from international institutions and populations. Joseph Issaluk was translated in Lokken et al. (2019, p. 62) and states, "people from other countries are controlling the management of polar bears based on what they hear. People who have never seen a polar bear are trying to control them." Also in Lokken et al. (2019, p. 64), Inuk, Hugh Ikoie reflected on industrial development and explained:

Our culture is entirely dependent on caribou in this area ...I am trying to think of a way to tell the Government of Nunavut that they cannot be too focused on money and development and keep pushing the resource companies to keep going. They're putting our whole lives, culture, and environment in danger...and that includes NTI (Nunavut Tunngavik Incorporated)...they need to realize that caribou is our money and economics too.

Colonialism was also an important theme in the literature. A study by Wong et al. (2017) found that Inuit did not seem to distinguish between academic and government researchers in dialogue, suggesting that Inuit likely generalise their research perspectives concerning non-Indigenous, non-Northern, outside researchers. In the Wong et al. (2017) study, Inuit shared oppositional views about the use of invasive mark-recapture methods on polar bears because of the negative effects such as ear damage and meat contamination. One Inuk from Arctic Bay shared:

He prefer not to have them surveyed ... he prefer uh when the hunter catches on...uh the fat, the meat, the penis, the heart and all that be sent down instead of them coming up here...and survey and research them ...they use helicopters to tranquilise the bears...and the tranquiliser, medication I think, is still in the body and he doesn't want that (Wong et al., 2017, p. 263).

Wong et al. (2017) also found that it was difficult to get Inuit to engage because of past researchers behaviour and misrepresentations of their research projects. An Inuk from Kimmirut explained:

They [researchers] don't report back...if they're given samples ... and they don't tell them why they're collecting, [what] they want those samples for ... the only way that you can get those is 'cause the hunters are giving those to the GN (Government of Nunavut)...he feels it would be nice if the GN or whoever they sent the samples to are—if they can get feedback on those ... they must know as to—if you receive the samples, where it might have come in from ... and they would know accurately a—if

they're given feedback of how old, and ... was that bear healthy or unhealthy (Wong et al., 2017, p. 263).

The literature also explored how the introduction of Western wildlife management and paradigms (Donihee, 2003) impacted Indigenous relationships to land and led to powerlessness in local decision-making related to the management of harvesting activities and the imposition of hunting quotas (Donihee, 2003; Gislason, 2007). The impact of wildlife laws and enforcement were also represented in the literature. In Gombay (2019, p. 191), a case was highlighted:

Where charges were brought for leaving fish in a net, was explained by one Inuk. The fisher had been prevented from checking his nets first by rough weather and then by the death of an elder, which had obliged him to stay in the settlement during a period of mourning. When eventually he did get the fish following custom, he froze and later fed them to his dogs. The fish were not wasted. Those enforcing the regulations, said the Inuk, did not know Inuit culture; they should not be enforcing regulations in such ignorance.

A First Nation example was shared from the Yukon by a Kluane National Park and Reserve Staff Member in Cruickshank et al. (2019, p. 371):

The RCMP (Royal Canadian Mounted Police) and Parks Canada had made arrests, or made efforts to remove people from the Park, and it wasn't [a situation that was] welcoming for traditional activities like hunting and fishing. ... It's a small community ... and people have long memories and ... they had some bad relations as a result. ... Just because a Final Agreement was signed and lawyers negotiated rights for First Nations within the park, this didn't make it suddenly okay for people to feel comfortable to re-enter the Park or do things. Even though they had full right and were aware of it, [they just weren't] comfortable being in the Park and being around the Parks Canada uniforms even.

Furthermore, these contextual and deeply felt determinants of health were represented through cases of Government inaction (Caine, 2008; Cohn, 2001; Lever, 2015), perpetuating ongoing inequities by impacting co-management decision-making and outcomes. An example of inaction was exemplified by a First Nation's member narrative in Cruickshank et al. (2019, p. 374):

The Duke Meadow is a very good hunting area for moose. It is Category A land. We have asked our own citizens not to hunt there for the past couple of years because the moose numbers are declining, and our citizens will drive past and they will see a non-First Nations person hunting exactly where they have been told or requested not to hunt.

The literature also documented how some Indigenous People are not being heard because of exclusion from co-management processes such as hearings because of multiple reasons. For instance, research examined gender imbalances of co-management boards, illustrating the underrepresentation of women, the privileged male voices in this sector, and the marginalized female roles by excluding them from the co-management decision-making processes (Kafarowski, 2005; Natcher, 2013; Natcher et al., 2005; Teetl'it Gwich'in Renewable Resources Council et al., 2006). Who gets heard was also a factor of spatial marginalization, in terms of invitations to participate in central places, the distancing effects of place characteristics, and the experience of being out of place. In Tam (2018, p. 335), the chairperson of the Kugluktuk HTO (Hunter Trapper Organization) stated, "I'd be more comfortable having my community in my background or behind me", and "we're feeling the brunt of being left out, and yet we're feeling the brunt of sweeping up the mess that has occurred".

The literature described how co-management boards operate within a vast amount of historical context that influences Indigenous health and well-being at multiple levels. The discussion will explore what these results contribute to the literature, and what opportunities these results present for people working in the wildlife co-management sector.

2.5 Discussion

While no paper in this systematic critical review specifically analyzed co-management from a public health lens, nor linked co-management practices and policies to health and well-being, the social determinants of health were widely present and discussed in the co-management literature through proximal, intermediate, and distal pathways. The findings from this review highlight the relationships among co-management governance systems and well-being vis-a-vis the social determinants of health, and indicate this is an important area for further research and practice, and an opportunity to connect co-management contributions more explicitly to Indigenous well-being goals.

The co-management literature contained extensive discussion about the ways in which Indigenous Peoples interact with natural environments of land, waters, and sea ice. In most cases, the literature described people regularly accessing the land for subsistence harvesting or travelling to traditional homelands, and contained evidence that these activities were impacted by management regulations and harvesting quotas (Gislason, 2007; Keenan et al., 2018). Accessing the land and spending time in nature is known to have positive physical, mental, emotional, and spiritual health benefits (Cunsolo Willox et al., 2013; Durkalec et al., 2015; Looovers, 2010). For example, there has been increasing evidence demonstrating the importance of the land to support Indigenous health (Furgal et al., 2010; Sawatzky et al., 2019) and that lands around Indigenous communities, and activities like wildlife hunting, fishing, trapping, berry picking, and travelling to remote cabins, contribute to human health and well-being (King & Furgal, 2014). Therefore, any changes to land access due to co-management decisions or recommendations may impact the well-being of Indigenous Peoples. Since co-management boards make recommendations and decisions about wildlife quotas and management regulations such as season dates, and the identification of critical habitats, this literature review highlights the direct implications for Indigenous well-being, at the individual and community levels. Indeed, co-management can both help or obstruct Indigenous Peoples' access to traditional foods (Cruickshank et al., 2019).

Based on the co-management literature, a primary pathway through which co-management impacts Indigenous Peoples' health and well-being is via regulations related to hunting and harvesting of country food—practices which are essential to the health and well-being of Indigenous Peoples, and are culturally-significant (King & Furgal, 2014), spiritually and mentally important, and provide medicine with healing powers (Kirmayer, Fletcher, et al., 2009; Kirmayer, Tait, et al., 2009). Indeed, access to country food is an essential to food security in Indigenous communities, given their nutrients, availability, and preference (Council of Canadian Academies, 2014; Thompson, 2005). Country food access can also reduce the reliance on retail foods, which tend to be expensive and over processed in many Northern Indigenous communities. Country foods are a source of income for some Indigenous families who provide for themselves through a mix of traditional activities and the wage economy (Inuit Tapiriit Kanatami, 2014). There is also evidence that hunting plays a role in the social relations of Indigenous people and remains a legitimate and viable component to many Indigenous ways of life (Borish, Cunsolo, Snook, Shiwak, et al., 2021; Therrien, 1988).

The co-management process often confronts principles of conservation and sustainable utilization; these principles can be challenging and present a source of conflict between local Indigenous people and distant government departments. Given the relationship of food to Indigenous health and well-being, the co-management boards can negatively impact Indigenous health and well-being; for example, co-management boards could suggest limiting access to preferred foods, make regulations that create unsafe harvesting conditions, raise the cost of living for families, and/or propose unsustainable harvesting levels. From a strength-based perspective, however, co-management boards also have the opportunity to positively influence Indigenous health and well-being by ensuring Indigenous Peoples and their knowledge are represented in national and international forums where sustainable and traditional food sources are often jeopardized, as an example the negotiations around the European seal hunting ban and ongoing polar bear debates at the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Lokken et al., 2019; Tyrrell & Clark, 2014). Co-management boards also have an opportunity to promote culturally-relevant food

and income opportunities, and to document the socio-economic importance of such livelihood strategies in Indigenous territories (Ford et al., 2010; Ford et al., 2014; Thompson, 2005).

The literature identified in this review also highlighted the importance of culture and Indigenous knowledge, as they intersect with land, food harvesting practices, and health and well-being. Both culture and Indigenous knowledge are important social determinants of health, as these social determinants represent a cohesion in Indigenous communities, and involve a connectedness through multiple generations of families, and elders (Reading & Wien, 2009). Inuit specifically, have identified the practice of cultural skills and passing on Inuit knowledge as a specific pathway for well-being (Sawatzky et al., 2019). Yet, this review highlighted that in some cases, co-management decision-making lacked appreciation and respect for Indigenous knowledge by not incorporating Indigenous knowledge and culture into final recommendations (Padilla & Kofinas, 2014).

Hunting is another key part of cultural identity, as the activity develops and maintains both human-animal and human-human relationships (Dowsley & Wenzel, 2008), and connects with the culture, Indigenous knowledge, livelihoods, food systems, and land social determinants of health. Having traditional skills that allow individuals to be contributors to their families and communities has been linked to self-esteem, sense of worth, and one's overall mental health and well-being (Collings, 2014). Maintaining cultural continuity and traditional knowledge is, therefore, an important determinant of health and well-being for Indigenous communities (Reading & Wien, 2009).

The historical and present-day process of colonialization on co-management and governance structures was widely evident throughout the research identified in this review, and the impact of colonialism on culture and Indigenous knowledge are documented in the Indigenous health and well-being literature (Kirmayer et al., 2003). For instance, colonialization impacts Indigenous well-being through the introduction of rules that disrupt cultural activities and traditional ways of accessing the land, and negatively impact self-empowerment or self-determination with excessive governance of Indigenous Peoples through culturally insensitive

laws and institutional racism (Kulchyski & Tester, 2007). Prior to the creation of Western-based wildlife regulations, Indigenous wildlife practices were in place, which governed harvesting (Donihee, 2003; Sandlos, 2007). Additionally, with the negotiation of land claim agreements, there have been documented challenges in bridging Indigenous and Western paradigms of management practices in law and policy (Padilla & Kofinas, 2014). It is also becoming increasingly clear that the imposition of outside laws and policies can influence health and well-being, by impacting harvesting times and the ways in which the land may be accessed (Kulchyski & Tester, 2007). Colonial policies related to land and wildlife are often further compounded by the impacts of other colonial policies, such as forced resettlement of communities (Tester & Kulchyski, 1994), and the ongoing legacies related to residential schools, forced assimilation, and language erosion (Waldram et al., 2012).

Previous literature has indicated that feelings of control and agency over one's own destiny has positive well-being impacts (Kral & Idlout, 2009), and this directly supports the evidence that self-determination is an Indigenous social determinant of health (Chandler & Lalonde, 1998; Chandler & Lalonde, 2009). Co-management governance systems and resulting decisions may provide an avenue for positively impacting well-being in situations where co-management recommendations and decisions are implemented by the dominant government. For example, decisions that provided access to traditional foods, and policies that encouraged local management provide important and clear opportunities to promote public health and well-being in co-management. Research has also documented how subsistence harvesting may be considered the "best part of life" amongst Inuit (Collings, 2014) and changes to hunting regulations that impact the ways in which Indigenous Peoples catch, prepare, share, and/or consume country foods will have health and well-being impacts in varied ways (King & Furgal, 2014).

2.5.1 Future research opportunities

In the context of the land claims co-management boards related to wildlife, this modified systematic critical review indicates that understanding the impact of co-management processes on Indigenous health and well-being is an important research opportunity, with potential for

policy uptake and positive impacts. Furthermore, co-management institutions are often thought of as adaptive, evolving, and continuously learning (Berkes, 2009). With this understanding, co-management boards, with their own capacity and partners, could be supported to develop and implement a health and well-being based research agenda in the future. This co-management-led research, then, may present the opportunity for improved co-management policy analysis, recommendations, and decisions in the future by prioritizing Indigenous People's health and well-being. This is timely and pertinent during a climate crisis where there are severe climate change risks to coastal communities and Northern communities, and the surrounding ecosystems, fisheries, and wildlife resources (Council of Canadian Academies, 2019; Meredith et al., 2019). As a starting point, for example, a culturally appropriate Well-being Impact Assessment tool could be developed for major wildlife recommendations and decisions that have the potential to negatively and severely impact human health and well-being. In a policy context, an example that could benefit from this type of health and well-being assessment is one of the wildlife manager's sharpest tools: the harvesting ban. When outright animal harvesting bans or moratoriums are put in place, there are direct and indirect health and well-being impacts on individuals and communities, such as food security and nutritional deficits, cultural continuity and sharing practices, and the transmission of traditional knowledge (Borish, Cunsolo, Snook, Shiwak, et al., 2021; Cunsolo et al., 2020; Snook et al., 2020).

2.5.2 Recommendations for Wildlife Co-Management Boards in Canada

The results of this systematic critical review provide the foundation and support for co-management governance systems to better consider their impacts on Indigenous health and well-being. Based on the results of this analysis, we call for co-management boards to:

- Consider the ways in which co-management decisions and recommendations may impact individual and community well-being. This may be implemented by developing a human Well-being Impact Assessment tool for the fish and wildlife

management sector, that is guided by Indigenous Peoples for Indigenous health priorities;

- Consider opportunities for public health promotion that explicitly draw the connections between fish, wildlife, and the social determinants of health. This may be implemented by inviting the public health sector into the shared space of co-management; and
- Identify opportunities for Indigenous management of wildlife that do not require outside intervention as a way of furthering self-determination and empowerment as a pathway toward Indigenous health and well-being.

2.6 Conclusion

This research highlights an important health and well-being intervention opportunity for Indigenous communities and co-management boards. The absence of public health research in the co-management literature was noticeable and raises questions about Indigenous well-being and whether it is absent in the list of priorities across sectors. If co-management decision-making is viewed from a social determinants of health lens, future co-management decisions may have the opportunity to not only detract from, but positively impact the well-being of Indigenous communities and mitigate against potential negative health impacts. Finally, for Indigenous Peoples in Canada who are still asserting or negotiating their own respective land claim agreements, it would be proactive to consider the health and well-being impacts of co-management governance, as new negotiated agreements have the opportunity to create co-management systems that include and consider the social determinants of health from the beginning of their implementation.

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3 “It's all you've got, you've got to strengthen it up and fight for it.” Co-management boundary work creating value for Inuit.

3.1 Abstract

Indigenous Peoples' relationships with fish, wildlife, and lands have been challenged over time due to land dispossession, forced relocation and displacement, externally-driven resource development, and the introduction of government policies that interfere with Indigenous practices and expressions of culture. In Canada, the 1970s marked the advent of negotiations resulting in land claim agreements and the formation of co-management boards. There is a large body of research examining the roles, responsibilities, effectiveness, and theory of co-management; yet, little work has centered the perspectives of co-management board members and systems from a practitioner viewpoint in Inuit Nunangat. Therefore, this research conceptualized and situated co-management institutions as boundary organizations, where efforts are made to mediate between different types of knowledge and institutions, and drew from complimentary concepts such as boundary work, boundary objects, and co-production of knowledge, in order to characterize both the value and the challenges for Inuit signatories to modern day land claim agreements. Drawing from research interviews conducted with 21 Inuit co-management board members and staff from across Inuit Nunangat, representing five different co-management boards, data were analyzed using a constant comparative approach and thematic analysis. The results demonstrate that co-management boundary work is about getting heard, it is participatory, and involves continual learning. The results also indicate that 'boundaries' in co-management are permeable and the shared space of co-management has created public value with positive well-being impacts for Inuit. These findings provide an opportunity to conceptualize co-management boards and processes differently, highlight their contributions from a practitioner perspective, and understand the diversity of influencing factors that lead to final decisions.

3.2 Introduction

Indigenous Peoples globally continue to maintain deep connections to the lands, waters, fish, and wildlife in and around their homelands (Cunsolo Willox et al., 2013; Cunsolo Willox et al., 2012; Durkalec et al., 2015; Luithui Erni et al., 2019; Nymand Larsen & Fondahl, 2015). These interconnected relationships provide subsistence, livelihoods, culture, and well-being through a myriad of pathways (Burgess et al., 2009; Gracey & King, 2009; King et al., 2009; King & Furgal, 2014; Sawatzky et al., 2019). These connections and relationships have been resilient for millennia; yet, since the advent of global colonial processes, they have been continuously adapted and negotiated (Ford et al., 2012; Ford et al., 2020; Ford & Pearce, 2012), due to the introduction of fish and wildlife laws and enforcement (Kulchyski & Tester, 2007; Sandlos, 2013; Snook et al., 2020), land dispossession (Brice-Bennett, 2017; Evans, 2012; Richmond & Ross, 2009), forced relocations (Tester & Kulchyski, 1994), ongoing disputes over development in Indigenous territories (Cargill, 2002; Goudge, 2016), and international demand for natural resources, which are often found in great quantities throughout Indigenous territories (Göcke, 2014; Gratton, 2016; Lowe, 1998; Parlee et al., 2018; Rodon & Lévesque, 2015; United Nations, 2009; Whyte, 2018).

Throughout the past five decades in Canada, the tensions between and among colonialism, land dispossession and development, and Indigenous lives and livelihoods, have initiated Indigenous political organization and activism (Christensen & Grant, 2007), court challenges (Tremblay & Dufour, 2008), and constant policy change related to Indigenous Peoples rights and access (Wilson et al., 2020). In the 1970s, for example, conflict in Quebec between James Bay Cree, Nunavik Inuit, and hydroelectric developers brought about an historic new court decision (Diamond, 2016), subsequent negotiations for Indigenous rights (Nungak, 2017), and the start of new modern treaty policies through the signing of the James Bay Cree and Northern Quebec agreement in 1975 (Alcantara, 2009).

While the start of this new period of modern treaties and land claims did not bring an end to colonialism or signal harmonious relationships between the state and Indigenous

Peoples, it did mark a clear change in strategy on behalf of some Indigenous Peoples in Canada to mobilize politically, engage with industry, utilize the court system, negotiate comprehensive land claims to protect their culture, benefit from economic activities happening in their homelands, and be included in the processes that managed fish and wildlife (White, 2020). In many ways, Indigenous Peoples negotiated land claims “to limit the greatest extent possible the continuing interference and control of governments and outsiders” (Irlbacher-Fox, 2009, p. 24).

Since the advent of land claims processes in Canada in the 1970s, there are now 30 land claim agreements signed across the country (CIRNAC, 2015). While these land claims share many similarities, they also have important differences that reflect the underlying drivers of the negotiations at the time, pressures affecting the region, the local differences of the Indigenous Peoples and regions, and changes to policy and governments over this 50-year time period (Wilson et al., 2020). One of the broad similarities throughout each of the agreements, though, is the inclusion of fish and wildlife co-management institutions, tasked with governing access to and usage of these resources and intended to provide Indigenous Peoples with increased input into how fish and wildlife are managed locally, provincially/territorially, and federally (White, 2020).

In Northern Canada, there is a network of co-management boards across Inuit Nunangat (Abele & Prince, 2006), in the Inuvialuit Settlement Region (Yukon and Northwest Territories), Nunavut, Nunavik (Quebec), and Nunatsiavut (Labrador) (Figure 3-1). These co-management boards emerged directly from each land claim agreement in Inuit Nunangat and, as a result, also developed legal parameters for the co-governing of fish and wildlife (White, 2002). These new agreements were created to share responsibilities with Inuit, and to create tri-partite decision-making opportunities with Inuit and territorial/provincial and federal government appointees to enhance Inuit self-determination over their land, waters, and species that have sustained them for millennia (Kocho-Schellenberg & Berkes, 2015). These co-management boards have a mandate to create and share knowledge, to reach consensus through dialogue, and to make decisions and/or recommendations (White, 2020).

The land claim co-management board activities in Inuit Nunangat bring together multiple worldviews and political jurisdictions into a “shared space” (Leigh Star, 2010) and the appointees to these boards put effort toward understanding multiple types of knowledge, processes, and bureaucracies to develop outputs (Clark et al., 2010; Swedlow, 2017). Examples include formal decisions or advice to federal ministers, Inuit knowledge studies, multi-disciplinary workshops, and new research projects. Co-management boards, then, become productive sites of knowledge co-production, and bring together Inuit, researchers, and government representatives to generate new knowledge and pathways forward (Swedlow, 2017; Wyborn et al., 2019). In successful co-management cases, this shared work is valued by all parties to the land claim agreement and creates opportunities for “cooperation, debate, evaluation, review, and accountability” (Cash & Moser, 2000, p. 115).

Given the nature of this shared space, co-management boards are often at the centre of tending to the tensions between Inuit and Western knowledge, as well as between Inuit communities and various levels of government bureaucracies (Peters, 2003). The co-management boards are considered autonomous, yet shared; the various levels and forms of governments agreeing to participate in the shared space are also autonomous, but the federal government retains final and ultimate decision-making authority in most cases (White, 2018).

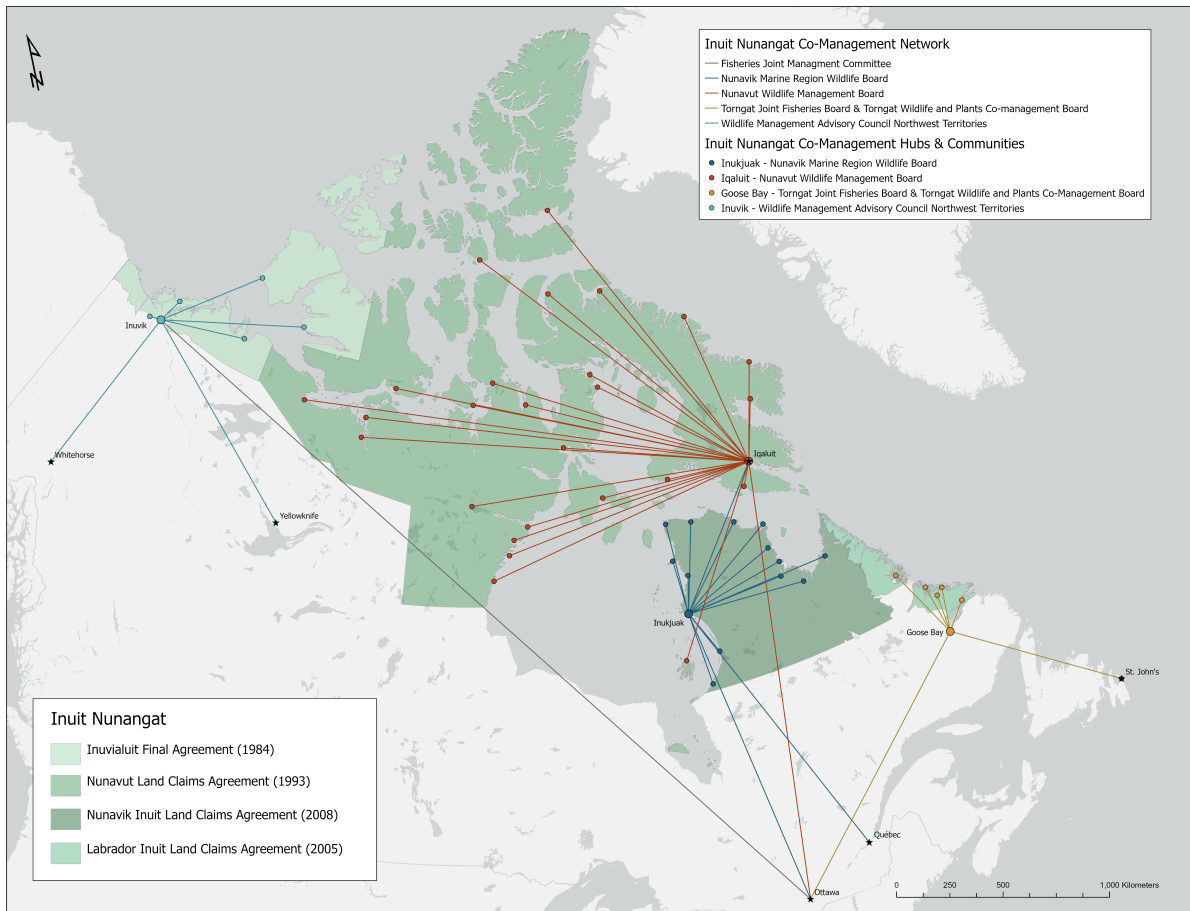


Figure 3.1: Map of Inuit Nunangat land claim regions, communities, and co-management board office locations to conceptually illustrate the Inuit Nunangat co-management board network connected through Ottawa and Canada’s federalist system.

Building from interviews conducted with Inuit and non-Inuit co-management board members and staff from across Inuit Nunangat, and situated within boundary work theory, this research examines co-management work and its effectiveness to document and understand stakeholder perspectives about co-management utility and effectiveness through the experiences of co-management board members throughout Inuit Nunangat. The results of this research provide a platform through which co-management practitioners and stakeholders can advance co-management practice and ensure that the future evolution of co-management welcomes all voices that may create and enhance fish and wildlife opportunities that promote Inuit health and well-being. While this research is specific to co-management practitioners and their

insights and experiences in Inuit Nunangat, these findings illustrate the ways in which conceptualizing co-management systems within the constructs of boundary work offers an empowering framework for understanding the roles, responsibilities, and impacts of co-management actions, as well as expands opportunities for co-management boards to understand their unique and important contributions more broadly to inform action and decision-making.

3.3 Theory and methods

This research is situated within the theory of boundary work (Clark et al., 2010). Boundary work is the process through which multiple actors from multiple settings come together to accept, reject, influence, create, and/or define social constructions, knowledge systems, and resulting actions and decisions, working at the 'boundary' of multiple perspectives and ways of knowing, and challenging already-established boundaries (Carlson, 2018). Boundary work challenges the notion that knowledge is static or there is one 'right' type of knowledge and, rather, demonstrates that knowledge and social constructs are created through ongoing and dynamic negotiations among actors (Carlson, 2018). In this understanding, the weaving of multiple knowledge systems, or boundaries, does not happen without intentional and sustained work, and requires ongoing focus, care, and effort for all the actors to work effectively together and 'cross boundaries' (Mollinga, 2010). The theoretical framing of 'boundary work' originally emerged as a concept to differentiate "science" from "non-science" to challenge perceived hierarchies of knowledge and the authority and validity of one type of knowledge over another (Gieryn, 1983). It has since evolved to be applied in a variety of different contexts, such as science, policy, and public action (Guston, 2001).

Boundary work happens within a 'shared space' (Leigh Star, 2010); individuals from diverse organizations, representing different roles, responsibilities, and jurisdictions, come together in this shared space to work on mutual interests and co-produce collaborative outputs, or 'boundary objects' that could only have been created by working together (Star & Griesemer, 1989). In this boundary work, those involved must commit to working across differences and

tensions, to find common ground and co-create useful knowledge and products from the shared work, and to agree on pathways forward both within and external to their respective boundaries.

Once each actor in the boundary work leave the shared space and enters back into their regular roles and responsibilities, they are free then to mobilize the knowledge that was created – the boundary object – throughout their own jurisdictions and for their own needs. In this sense, boundary objects “are both adaptable to different viewpoints and robust enough to maintain identity across them” (Star & Griesemer, 1989, p. 387), meaning that what is produced through boundary work can both stand alone, and find meaning in other contexts.

Within this understanding, the activities and efforts of co-management boards created from modern day land claim agreements may be understood as boundary work – in particular, collaborative boundary work (Quick & Feldman, 2014) that brings people together for a common purpose (e.g. Langley et al., 2019). These co-management boards: bring together representatives appointed by multiple levels of government, with different jurisdictions and powers; work together across different knowledge systems, to co-produce unique outputs through dialogue, evaluation, and debate; and each member brings their personal worldviews into a shared space to create recommendations for actions and for the intentional aim to enhance conservation, Inuit communities, and society (Figure 3-2). Analyzing co-management activities through boundary object theory allows for the opportunity to: discover new insights and create new knowledge or approaches; strategize how additional viewpoints may be weaved into co-management work to further support Inuit; and connect the work of co-management boards into broader national and international dialogues.

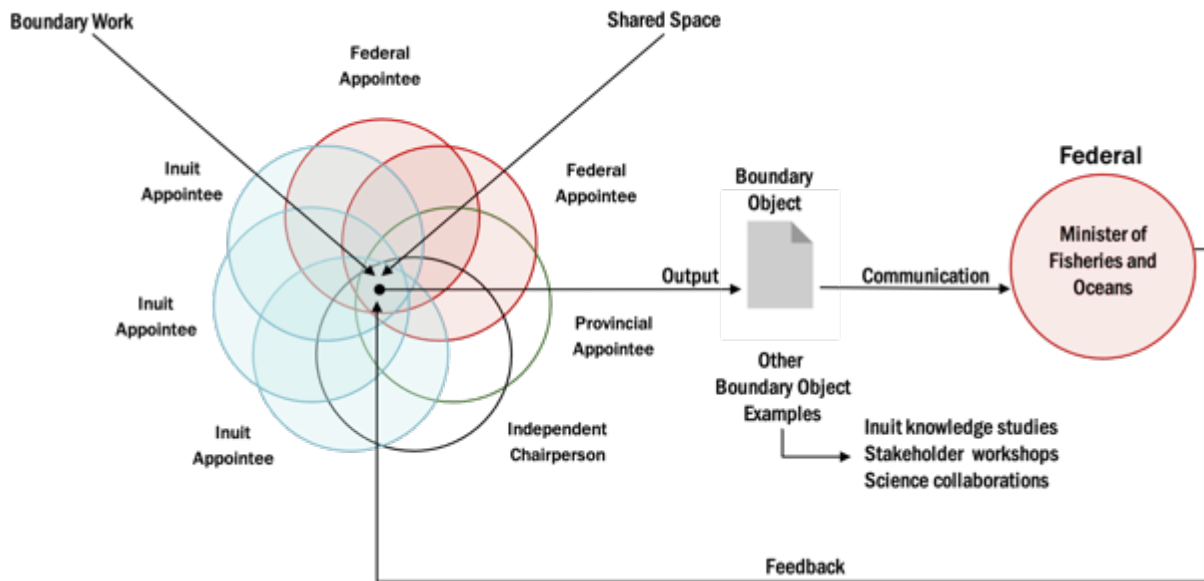


Figure 3.1: Representation of co-management boundary work, shared space, the boundary objects that are created, and the communication of those boundary objects. Within the shared space, each appointee brings their respective worldviews, education and professional backgrounds, and life histories to the dialogue. Note: this representation is using the Torngat Joint Fisheries Board as an example; not all boards are exactly comparable.

Methodologically, this research also draws from decolonizing methodological practices (Kovach, 2009; Tuhiwai Smith, 2008), recognizing that Indigenous voices have not been equitably centered in academia and, in many instances, have been harmful for Indigenous Peoples (Inuit Tapiriit Kanatami, 2018). As such, this research focused on the experiences of co-management boards created from Inuit land claim agreements, and interviewed a majority of Inuit participants to ensure these voices were centered, and that co-management board member knowledge from across Inuit Nunangat was shared. This project was also led by an Indigenous researcher with the support of a participating Inuit co-management board that collaborated on this research. By taking this approach, this research process advanced Inuit governance in research, following the principles identified by the National Inuit Strategy on Research, which aim to: 1) advance Inuit governance in research; 2) enhance the ethical conduct of research; 3) align funding with Inuit research priorities; 4) ensure Inuit access, ownership, and control over data and information; and 5) build capacity in Inuit Nunangat research (Inuit Tapiriit Kanatami, 2018). This research was approved by the Nunatsiavut

Government Research Advisory Committee and the University of Guelph Research Ethics Board.

3.3.1 Co-management boards in Inuit Nunangat

Inuit Nunangat is the traditional homeland of Inuit in Northern Canada, encompassing 2,895,943 km² of land, marine environment, and sea ice. Since 1975, six land claim agreements ("Act approving the Northeastern Québec Agreement," 1978; "James Bay and Northern Quebec Native Claims Settlement Act," 1975; "Labrador Inuit Land Claims Agreement Act," 2005; "Nunavik Inuit Land Claims Agreement," 2008; "Nunavut Land Claims Agreement Act," 1993; "Western Arctic (Inuvialuit) Claims Settlement Act," 1984) covering Inuit Nunangat have been signed (Figure 3-1), creating four negotiated Inuit regions: Inuvialuit Settlement Region (Northwest Territories and the Yukon; Population=3,110), Nunavut (Population=30,140), Nunavik (Northern Quebec; Population=11,795), and Nunatsiavut (Northern Labrador; Population=2,285). Over 72% of the 65,000 Inuit in Canada live within the 53 communities distributed across Inuit Nunangat (Li & Smith, 2016). Inuit in all four land claim regions are represented by Inuit corporations and/or self-governments, and are collectively represented at the national level by Inuit Tapiriit Kanatami (ITK).

All research participants (n= 21) were serving on co-management boards with jurisdiction in Inuit Nunangat at the time of data collection. This study included board members and staff from the Torngat Joint Fisheries Board (TJFB) and Torngat Wildlife and Plants Co-management Board (TWPCB) in Nunatsiavut; the Nunavik Marine Region Wildlife Board (NMRWB) in Nunavik; the Nunavut Wildlife Management Board (Nunavut Wildlife Management Board) in Nunavut; and the Fisheries Joint Management Committee (FJMC), the Wildlife Management Advisory Council Northwest Territories (WMAC NWT), and the Wildlife Management Advisory Council North Slope (WMAC NS), all in Inuvialuit (Figure 3-1).

3.3.2 Knowledge sharing

Given the complexities of socio-ecological research across Inuit Nunangat, and the desire to centre the voices of Inuit and co-management board members and staff, this research used in-

depth conversational interviews (Conrad, 2011) as the primary data collection tool. The first author conducted interviews from December 11, 2018 to April 11, 2019. Most one-on-one interviews took place in person (n=15), with the remaining interviews conducted via telephone (n=6). Interviewees were selected based on their participation as co-management board members or staff, as well as through an ongoing snowballing technique (Scott, 2014) through conversation with co-management board members to identify additional participants.

Interview questions were developed in collaboration with members of our research team. Pre-testing of the initial interview questions was conducted, in order to refine questions and to ensure that the questions made sense and reflected the priorities and contexts of participants. The interview guide (Kallio et al., 2016) was comprised of general topics focused on participant time and experience on the land; experiences with wildlife and key species in the North; thoughts on Inuit health and well-being; experiences with and changes observed from co-management; reflections on successes and challenges in co-management; thoughts on navigating various bureaucracies (Inuit, provincial, territorial, and/or federal) over time; and opportunities and challenges related to mobilizing co-management into practice.

All participants provided informed oral and written consent for the interviews on an anonymous basis. The Torngat Wildlife, Plants and Fisheries Secretariat managed the data for this project, reflecting ITK's National Inuit Research Strategy priority to ensure Inuit access, ownership, and control over data and information (Inuit Tapiriit Kanatami, 2018)

All interviews were audio recorded, with informed consent, and conducted in English at the participant's request. Twenty-one interviews (n=1 female and 20 males; 15 Inuit, 1 First Nations, 5 non-Inuit) were conducted, producing 19 hours and 47 minutes of recorded data for analysis (Table 3.1).

Table 3.1: Interview participants by land claim region and ethnicity (n=21 interviewees).

Land Claim	Interviewees	Inuit	First Nations	Non-Indigenous
Inuvialuit	5	4	0	1
Nunavut	3	2	1	0
Nunavik	2	1	0	1
Nunatsiavut	11	8	0	3

3.3.3 Data analysis

The audio recordings from the interviews were transcribed by a professional transcription company (Transcript Heroes) and reviewed for accuracy. Transcripts were compared with the interviewer's experience and notes that were recorded during the interviews. For analysis purposes, many of the audio interviews were listened to repeatedly for context, nuances, and tone to enrich the transcripts and add further depth to the analysis.

All transcripts were imported to QSR International's NVivo 12 software (NVivo), which was used for coding and data sorting (Auerbach & Silverstein, 2003). Initial annotations of the data were completed to illustrate preliminary research insights. After preliminary annotations, an extensive round of coding was conducted, using an inductive approach to analyze the interview data. An initial round of codes was created, discussed, and analyzed by members of the research team for accuracy and authenticity; further analysis, and expanding and collapsing codes was conducted iteratively on the initial codes with the team members (Rust et al., 2017). Next, data were reviewed deductively through boundary theory concepts, such as boundary work and boundary objects (Fereday & Muir-Cochrane, 2006). NVivo was then used for extensive memo writing about each interview, summarizing themes and key reflections. The memos were then used to finalize the list of themes, and subthemes for the analysis. After the initial emergent analysis, the themes were further reviewed and organized through a boundary theory lens, as a second layer of analytical rigor, and as a way to organize the results (Creswell,

1998). Finally, the software was used to facilitate data organization, and retrieval and organization of quotes (Leech & Onwuegbuzie, 2011).

3.4 Results

The result to follow characterize the life histories and professional backgrounds of the co-management practitioners, and document their co-management experiences. These experiences are presented in three broad categories that highlight: 1) boundary work is about getting heard; 2) boundary work is participatory and co-produces knowledge; and 3) boundaries are permeable.

Inuit and non-Inuit co-management board members and staff that were interviewed shared a wealth of knowledge about their co-management successes and challenges throughout their co-management careers. Many of the board members and staff were very long-serving on their respective co-management boards and organizations and described their commitment to implementing land claim agreements throughout Inuit Nunangat. Inuit members (n=15), in particular, identified a deep sense of responsibility to their lands and their communities—a responsibility which they felt they could, in part, fulfill through their role in co-management.

The research participants also had extensive and diverse careers related to co-management, including fisheries management, fisheries development, fisheries enforcement, fisheries compliance, Indigenous fisheries, wildlife enforcement, Indigenous guardianship, deputy ministerial roles, land claim negotiators, conservation officers, and wildlife biologists.

Connected to these positions, and reflective of where they have lived, many participants also possessed diverse land-based knowledge and experiences of their respective communities and regions, and a love for their lands. For instance, one interviewee shared: “being out on the land, living on the land, changing from season to season and, you know, that’s from my earliest memories up ‘til today: it’s something that I did and something that I still love to do.” Another Inuk board member described being out on the land as bringing peace and calm:

It's just my peace and serenity. Just nice and quiet. Lots of berries ... I can fall asleep - I don't pick very much berries - but I'll end up falling asleep if it's nice outside in the lichen. I'll show you a picture of it. You'll realize why I really like it.

All Inuit co-management board members also shared extensive stories of their lived experiences on the land and knowledge that was passed on from their families and community Elders, through regular trips, year after year. As an Inuvialuk board member shared:

Our family actually does at least one trip [out on the land] every summer or fall, where they will take my brothers' families and my sisters' families and we will all go out and stay there for two weeks and just enjoy the land.

Throughout the interviews, participants also discussed being intimately connected to fish and wildlife throughout Inuit Nunangat, and identified an extensive list of species which they hunted, fished, harvested, consumed, managed, protected, and/or connected with, including: fish (e.g., arctic char, dolly varden, salmon, turbot, cod, shrimp, crab, trout); marine mammals (e.g., polar bear, beluga, bowhead, multiple seal species); waterfowl (e.g., ducks, geese); and terrestrial mammals and birds (e.g., caribou, moose, muskox, wolves, hare, rabbit, porcupine, ptarmigan); as well as a variety of berries (e.g., cloudberries/bakeapples, blueberries, crowberries/blackberries, and redberries). This combination of personal and professional experiences, both on the land and in boardrooms, provided participants with multiple perspectives and knowledges upon which to draw during their co-management efforts dealing with complex problems and decisions. For example, one Nunatsiavut board member explained the ways in which his personal experience and his career experience came together, by always choosing careers related to lands and resources:

I fished with my grandfather for char in Nain when I was a kid and that's when we did salt fish and char. And then we went into fresh fish and just picked up ice along the shore and brought fresh fish back to Nain. ... Throughout my career, I worked in a different – my careers, I should say, I guess – but my working life, a lot of it was with the

provincial government in different departments and mostly natural resource based or lands, wildlife, forestry.

A unique blend of lifetime land experience, bureaucracy, and co-management practise have influenced our participants thoughts. The following sections highlight these co-management experiences through a boundary work lens.

3.4.1 “It's for my people. I've got to make it work:” Boundary work is about getting heard.

Many participants discussed their commitment to their roles and responsibilities in their co-management positions and to advocating for the land claims agreements' spirit and intent to be upheld, because decisions that were made by these boards directly affected their communities, families, and friends. As one long-serving board member explained, “I'm here for the Agreement. And, I'm here...to champion the implementation of the Agreement as it relates to the mandate of our Committee.”

The signing of the land claim agreements came with high expectations and feelings of empowerment; however, despite the initial excitement, participants explained that the original expectations for the scope, power, and impact of these boards have not always been met or realized. One interviewee explained: “I think that the big thing that people have always wanted was control over decision-making, and I think that it's taken different forms over the years. But there's probably some frustration now.” Our participant continues to elaborate and explains why this frustration exist:

There was a high expectation from the people that this was going to be wonderful, end-all, be-all land claim and they were going to be in control of their destiny and their own self-governance and all kinds of the new things, some of them, I don't think, had a grasp of what was coming.

Many board members discussed similar concerns and frustration about not being heard and still not having enough power to make decisions or influence decision-making, even with a land claim in place and drawing from an extensive collective knowledge base. As one board

member explained, “It’s a daily struggle [to be heard], it seems like.” Another board member commented that “the difficulty is, is that we have no real teeth, and so we’re making recommendations”—recommendations which then may or may not be accepted by ministers and decision-makers. Going further, a number of participants discussed that “the minister has the ultimate responsibility”; and these final decisions are not always based on Inuit knowledge, or the recommendations of the co-management boards.

Furthermore, not having Inuit knowledge respected or followed was described as a long-standing challenge for co-management practitioners. One very experienced non-Inuit Nunavik co-management board member reflected on the most common theme he heard throughout his career—the need to be listened to and respected: “listen to us, we have local knowledge and in particular the Elders. Please listen to us. We’ve survived and we’ve been with these resources for many years and we have a good feeling of what’s going on. Please listen to us.”

The discussion about the acceptance or dismissal of recommendations was particularly sensitive at the time of data collection in Nunavik due to a federal government decision in January 2017 concerning polar bears, which subsequently went to the Federal Court with a request on behalf of Inuit for a judicial review. As one interviewee from Nunavik summarized, despite making recommendations on the best available evidence, their board decision and recommendations were still over-turned at the ministerial level:

The board conducted their public hearings and, you know, did the traditional knowledge study and whatnot, and looked at all the aerial surveys that were available at the time. And finally, made a decision of 28 bears [for the total allowable harvest]. And that was varied by the minister down to 23 bears.

Despite the challenges, interviewees described the co-management network across Inuit Nunangat as still enduring, learning, and evolving. As one member from Nunavut explained, it has been 26 years and the Nunavut land claim is “still a work in progress”.

3.4.2 “Ninety percent of the research is coming from people”: Boundary work is participatory and co-produces knowledge

Interviewees described the work of co-management as participatory and bringing many voices together, including those at the community level, to set research priorities and direct research activities, which directly affect the lives of those living in Inuit Nunangat. A Nunatsiavut co-management board member explained how their board defined research priorities:

One of the first things we did is [we] went around and did consultations in each one of the communities. We went to every community, presented what was in the [Land Claims] Agreement, asked them what their priorities were and, then, afterwards, we came back. And, you know, three to four [priorities] popped out what they could do was crab and shrimp and char, but that was going to have the most significant impact on the Commercial Fisheries in the area.

Another board member in Inuvialuit shared his perspectives with pride on how research questions were developed:

Ninety percent of the research [now] is coming from people. People’s questions as to why is this happening, why is that happening, they bring them to the table. Then it goes from there, you know, and then it gets resolved somehow. It ends up somewhere in researchers’ hands. ... So I think that’s pretty unique, because we tell the government what we want. They don’t tell us, right? They don’t say, ‘oh, you guys might want to study this.’ No way. It’s not like that. So, I think that way we’re really fortunate.

One success story identified by a participant of weaving Inuit knowledge and sciences into research and decision-making was related to beluga whale management in Inuvialuit. In the early days of establishing the Fisheries Joint Management Committee in Inuvialuit, the Department of Fisheries and Oceans (DFO) felt it was necessary to establish quotas as a way of maintaining control and justifying their approaches to animal rights groups and international agencies despite the high population numbers and relatively low harvest. Participants described that what followed was a DFO survey of the whales with no Inuit involvement and a

final report that did not recognize what the potential errors may be in terms of the population estimate. One Inuvialuit interviewee explained:

We just don't believe that [report] because we see whales, you know, much broader than that area, and we know that the whales are diving all the time and they're not being counted, and our traditional knowledge wasn't included in that and ... they [the community] said then, 'you can't restrict us from harvesting unless you show that there's a real conservation issue; you can't just make up these numbers'.

As another participant explained, the late Elder Billy Day said, "we've been managing these whales for hundreds ... thousands of years, we don't over-harvest them, we don't want quotas, we don't want somebody else trying to tell us what the numbers should be." With strong advocacy from the co-management boards and leaders, DFO did end up recognizing the Inuvialuit Final Agreement and "sort of backed down", and the committee went on to establish a Beluga Management Plan with DFO, with harvest monitoring and science ongoing now for over 30 years.

The participants in this study spoke extensively about the importance of research and having access to timely, usable, and accessible data to support their decision-making processes and recommendations—data that reflected multiple ways of knowing and sciences. A number of participants explained that there is often a disparity between what non-Inuit researchers find through their studies, and what Inuit know and witness on the land; yet, rather than being engaged and respected as an important source of knowledge and science, participants described how Inuit continue to be systematically left out of the research process. As an Inuvialuit board member stated, "traditional knowledge is real big today. And if you're a scientist, you have to use both."

Several co-management board members spoke about the desire of boards and related organizations to enhance their capacity to lead, conduct, and evaluate research. As one individual explained: "I think that some of the HTO's or Hunters and Trappers' Organizations, they want to have their own capacity to be able to evaluate technical information and instead

of relying on government to do so.” Building from this, the co-management board representatives in this study discussed the need for the boards to lead or partner on research, and the power and importance of working with researchers and guiding the research approach and analysis. One Elder and board member shared an example from Inuvialuit, where Inuit were involved in setting parameters and conditions for research on caribou declines:

They [external researchers] did a count and said the caribou is declining. And the HTC [Hunters and Trappers Committee] at the time said, ‘Okay, you tell us, this is the numbers, but can you do another count next season, and come back to us and confirm it?’ They did. So, before they did anything, the HTC on their own [was] sort of managing [the research] already. So, with good communication, good working relations goes a long way. But I think it was the right move for them to say, ‘okay, confirm your count. Do one more.’ ...Sometimes you have to confirm again, because animals are, caribou are a really big item to us.

Another participant explained the importance of ensuring that the co-management boards themselves had sufficient research budgets and maintain the ability to have autonomy over their research agendas: “it’s important, you know, having a research budget that allows you to kind of dig deeper into, ‘well, what are the grounds for the disparity here, of findings?’”

Participants explained that having more ownership and control over the research means that questions important to Inuit get answered, and solutions that support communities and Inuit cultural determination can emerge. One long time co-management board member with extensive Federal government experience explained:

This community was saying, ‘come on DFO, we see many bowheads, they’re coming back, we acknowledge that they were decimated during the commercial whaling days, but they’re coming back and there are many moving around.’ As you probably know, when the Nunavut Board was founded or was implemented, they got, I believe, an additional \$5 000 000 to carry out a bowhead Inuit knowledge study for one time and that study was completed by Nunavut Board and they found that there are thousands of

bowhead, as opposed to what DFO was saying in the 70's, 80's were down [to] a couple hundred. So, I was involved in that from two different perspectives, so I've seen it from both sides.

3.4.3 “We basically erased the political lines”: Boundaries are permeable

Throughout these data, there were many stories from the co-management board members who represented various levels of government outside of Inuit representation or governance structures. These individuals spoke about challenges and barriers when people working for the provincial or federal government have to navigate when they return back within the boundaries of their own governmental institutions and try to promote co-management, Inuit leadership, knowledge, science, or decision-making. As one non-Inuit board member and former federal employee explained: “I tried [communicating] every way possible, like, going through the system. I'm sure other people did as well”. Another former long serving federal employee and Inuk said, “some of the most challenging times I've ever spent with the federal government was trying to get them to see something from the eyes of Inuit because they didn't see it, it was all black and white [to the government].” This participant continued:

The federal government is so used to coming in with a policy or rules or regulations that's developed somewhere that has very little impact, or very little consultation or very little input from the communities and they come in and they say, 'Here's your management plan, this is what you're going to do and this is how we're going to do it'.

Another participant explained that co-management operates in a complex multi-user, interjurisdictional space, which requires all members to play a part; yet, sometimes the responsibility is on the co-management members who also occupy privileged positions within provincial and federal bureaucracies to do the work of sharing Inuit and co-management perspectives, research, needs, and priorities. For example, one participant provided insight into the challenges faced:

And I said, it doesn't matter, it doesn't matter what we think, it's going to be their [Inuit] decision. So, you just present them with the options and then it's up to them to do that. And I know people [within government] that were kind of upset because they thought that was their job to make those decisions.

Also, participants described how complex boundary work is not devoid from political bargaining. As a one member explained, "the political will, and engaging that political will, is absolutely critical." A co-management board member from Nunatsiavut explained that provincial and federal government representatives:

Have got to play the political game. ...And they have got to be into the Minister's Office every time there's a minister change and whenever there's issues with regard to any of the major species that we utilize in order to promote the economy and employ the people. However, I don't know why the mentality is there that they will not do this.

3.5 Discussion

There is a strong body of research examining the roles (Berkes, 2009), evolution (Berkes, 2010; Kocho-Schellenberg, 2011; Plummer & Armitage, 2007), and effectiveness (Bickmore, 2003; Hayes, 2000; Paylor, 1998) of co-management boards in Canada and internationally (Spitzer & Selle, 2019) and the tensions associated with integrating different forms of knowledge for decision-making (Dowsley & Wenzel, 2008; Scott & Webber, 2001; Watson, 2013). Our research advances this literature and contributes to the theoretical constructs of co-management (Plummer & Fennell, 2007) by situating co-management research and activities within boundary work (Clark et al., 2010; Jacob, 2005; Swedlow, 2017), boundary object theory (Star & Griesemer, 1989), and knowledge co-production (Jasanoff, 2004; Wyborn et al., 2019), in order to provide both a conceptual and an analytical framework to better understand the work of co-management boards.

The results from this study highlight the existence of a strong, connected, and effective network of co-management board members, with extensive and diverse knowledge about fish and wildlife in Inuit Nunangat, and legal mechanisms from land claim agreements that facilitate

their roles and responsibilities. Inuit board members in particular shared in-depth ecological knowledge and testimony of environmental change, and affirming that wildlife resources remain a vital part of Inuit well-being, food security, and cultural connection. Many of the board appointees also had extensive careers in various levels of public service, and have made lengthy personal and professional contributions to modern-day land claims implementation in Inuit Nunangat. This unique blend of land, cultural, scientific, and administrative experience and worldviews that intersects at multiple jurisdictions, ways of knowing, and decision-making capacities within the co-management shared space (Figure 3-2), reflects the conceptualization of co-management boards as boundary organizations (Guston, 2001), engaging in the co-production of knowledge by challenging assumptions and norms about what counts as 'science', creating new recommendations that could only emerge from collaborative boundary work (e.g. Langley et al., 2019), and doing so with an explicit focus on making decisions and changing behaviours (Swedlow, 2017).

The participants in this study also highlighted that the work of co-management often involves 'wicked problems' that are large, complex, nuanced, unwieldy, and extremely challenging to solve (Rittel & Webber, 1973). Within the context of co-management in Inuit Nunangat, these challenges are often magnified due to deficiencies in data quality and availability (Brunet et al., 2014), the often-contradictory knowledge systems present (Peters, 2003), and the ongoing colonial legacies and external control over Inuit Nunangat fish and wildlife policies (Kulchyski & Tester, 2007). As described by participants in this research, these challenges contribute to feelings of frustration from not being heard (Snook et al., 2020; Stauffer, 2016), powerlessness, and unmet expectations in certain circumstances across Inuit Nunangat, as well as frustration from trying to work across knowledge and political systems to solve problems. These findings and the challenges described by participants within this research are similar to the experiences of Indigenous Peoples outside of Inuit homelands as well, who are attempting to work across jurisdictions and boundaries to enhance Indigenous self-determination, access to resources, and well-being (Bateyko, 2003; Natcher et al., 2005; Sandlos, 2007; Spak, 2001)

Interestingly, while participants in this research identified that the work of co-management undertaken at the boundaries of multiple governments and knowledge systems is challenging, none of the participants in this research suggested that the complexities of their roles outweighed the benefits, and all remained committed to collaborative boundary work to and to ensuring the full spirit and intent of their land claim agreements were implemented. This highlights that despite multiple challenges and obstacles (Snook, 2010; White, 2020), Inuit and non-Inuit co-management board members alike find value in the current work, and envision clear pathways for enhancing their boundary work to further support knowledge co-production and co-management boundary objects that further Inuit self-determination and create environments for both Inuit and wildlife health and well-being.

Interviewees highlighted that research led, produced, or in collaboration with co-management boards was essential to enhancing final decision-making and important to challenging what constitutes knowledge and whose knowledge, sciences, and ways of knowing matter and count. Co-management-led research was also identified by participants as helping to meet expectations and mitigate the feelings of powerlessness and frustration from not being heard (Snook et al., 2020). Indeed, the addition of Inuit leadership in research processes provided more holistic, locally-appropriate, and co-produced research and recommendations (Snook et al., 2018). The evolution of beluga whale management in Inuvialuit captured in the results, for example, demonstrated an example of conflict created by DFO when there was unilateral implementation of a science program and quota system reflective of only one type of knowledge system and one type of 'boundary'. When the Department entered into negotiations and co-management work (i.e. boundary work) with Inuit, a Beluga Management Plan was co-produced and represented multiple knowledge systems (Wyborn et al., 2019); over 30 years later, there is now a system in place today in which multiple parties can understand, support, and promote the necessity of working across and through boundaries and respecting and reflecting Inuit knowledges and sciences for improvement in management plans. These results suggest that many more positive opportunities still exist to enhance co-management processes, decision-making outcomes, and impact through Inuit-led and Inuit-focused

research, ensuring that the benefits of this research stay within Inuit Nunangat and that Inuit knowledges, sciences, and worldviews are respected – and given primacy – in these shared spaces (Brunet et al., 2014, 2016).

In many of the documented co-management case studies ("Makivik Corporation v. Canada (Environment and Climate Change)," 2019), the traditional knowledge and Indigenous sciences are the marginalized information (Snively & Corsiglia, 2001); yet, there are clear examples of positive results from bringing multiple knowledge systems together in a shared and collaborative space, committed to challenging what is considered knowledge and science and how they are produced (e.g. (Henri et al., 2020; Peacock et al., 2020; Schott et al., 2020). Further, it was also recognized by participants that in addition to including natural sciences, other disciplines, approaches, and perspectives should be invited inside the boundaries and into the shared space, such as more social sciences and public health perspectives in order to enhance co-management led research and related impacts (Greenhalgh et al., 2016).

Our results highlighted how co-management, when understood as collaborative boundary work, has indeed created value by: providing opportunities for Inuit influence in decision-making processes (White, 2008); creating more nuanced research outcomes that can support decision-making (Snook et al., 2018); increasing the participation of Inuit in wildlife management (Freeman et al., 1992); and in some cases, even providing access to traditional and culturally significant species that had colonial harvesting restrictions placed on them (Sandlos, 2004) – although there is still much work to be done to ensure Inuit leadership in co-management, and the acceptance of co-management advice by other levels of government. All of these examples, emergent from the shared space created by the co-management system, have, according to interviewees, enhanced Inuit self-determination in managing fish and wildlife resources within a colonial system, which would have previously not been possible in the absence of land claim agreements or co-management shared spaces; yet, this research also makes clear that there are still significant challenges to the co-management system in Canada, and more work is needed to penetrate the barriers and unknowns of bureaucracy, to

influence additional decision makers, and to ensure Inuit voices, knowledges, and sciences are heard, respected, and leading future knowledge co-production processes.

While co-management processes have in many ways empowered Inuit and increased their influence since the creation of the land claims in Inuit Nunangat (White, 2018), the final authority still often rests with other levels of government in the federalist system (Wilson et al., 2020), which Arnngna'naaq et al. (2019, p. 30) indicate is "nowhere near these affected communities, led by people who have not lived and do not live, nor represent people from affected communities. To that end, the system is still colonial." Our research, however, does provide evidence that the hierarchical boundaries between Inuit and the federal government have shifted and can be shifted again, even if only slightly at times. This slight and incremental change in power structures is encouraging, and suggests we should add to our understandings of who has power, authority, and influence – both within and over – co-management processes (White, 2008), by also asking what are the knowledge systems and research approaches needed for the challenge at hand (e.g. the 'wicked problem'), whether or not there is value being created for Inuit and other co-management partners, and how this important boundary work can be further strengthened.

Understanding co-management within the context of boundary work also provides opportunities for co-management practitioners to reflect on and understand their efforts within the concepts of collaborative boundary work, shared spaces, and boundary objectives, and to proactively determine which new actions may be more effective than others. For example, the co-management boards may ask if there has been meaningful participation in setting the agenda for ways forward and co-producing knowledge by stakeholders on all sides of the boundaries. They can also consider if their regular and ongoing outputs or boundary objects are salient, credible, and legitimate (Mitchell et al., 2006), and are maximizing their influence within other levels of bureaucracies. This moves the discussion beyond whether co-management is simply good (White, 2020) or bad (King, 2015), to a more nuanced and complex discussion that allows for multiple knowledge systems to contribute, a fluidity of decisions to occur, and recommendations that focus on outcomes to support Inuit well-being.

While the boundary work of co-management boards is complex, there are opportunities for co-management practitioners to move past the perception of having “no real teeth”, by conceptualizing their contributions through the lens of creating new knowledge and recommendations (e.g. boundary objects) by working together for the common good of Inuit, and to enhance overall health and well-being. From this perspective, then, co-management boards may also consider expanding the shared space to include explicit discussions and expertise about Inuit health and well-being (Inuit Tapiriit Kanatami, 2014). Co-management boards may also consider strategic activities such as monitoring indicators (Kourantidou et al., 2020) to assess the public value of recommendations to Inuit, and to determine the overall impact of co-management recommendations. Finally, there is ongoing opportunity for champions within the co-management network – be they representatives from Inuit, provincial/territorial, and/or federal, or academia perspectives – to engage more outside the already-present co-management boundaries to advocate and bring awareness to the roles, functions, activities, recommendations, and public value of co-management boards and to expand the sphere of work and influence for overall Inuit well-being and self-determination.

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4 “We’re made criminals just to eat off the land”: Colonial wildlife management and repercussions on Inuit well-being.

4.1 Abstract

Across Inuit Nunangat, Inuit rely on wildlife for food security, cultural continuity, intergenerational learning, and livelihoods. Caribou has been an essential species for Inuit for millennia, providing food, clothing, significant cultural practices, and knowledge-sharing. Current declines in many caribou populations—often coupled with hunting moratoriums—have significant impacts on Inuit food, culture, livelihoods, and well-being. Following an Inuit-led approach, this study characterized Inuit-caribou relationships; explored Inuit perspectives on how caribou have been managed; and identified opportunities for sustaining the Mealy Mountain Caribou. Qualitative data were collected in Rigolet, Nunatsiavut, Labrador, Canada through 21 in-depth interviews and two community open houses. Data were analyzed using constant comparative methods and thematic analysis. Rigolet Inuit described: how conservation management decisions had disrupted important connections among caribou and Inuit, particularly related to food, culture, and well-being; the socio-cultural and emotional impacts of the criminalization of an important cultural practice, as well as perceived inequities in wildlife conservation enforcement; and the frustration, anger, and hurt with not being heard or included in caribou management decisions. These results provide insights into experiences of historic and ongoing colonial wildlife management decisions, and highlight future directions for management initiatives for the health and well-being of Inuit and caribou.

4.2 Introduction

Indigenous Peoples around the world continue to rely on wildlife and the natural environment for food security (Lambden et al., 2007), cultural continuity (Zoe, 2012), intergenerational learning and sharing (Polfus et al., 2016), livelihoods (Meis Mason et al., 2012; Meis Mason et al., 2007), and physical, mental, emotional, and spiritual health, and often have deep and enduring relationships with the lands, waters, and wildlife in their homelands (Borish et al., 2021; Kenny et al., 2018). Human-induced activities, such as resource extraction (Hauer et al.,

2018), deforestation (Donovan et al., 2017), and climate change (Barber et al., 2018; Ford et al., 2017; Mameamskum, 2015), are threatening these relationships through habitat degradation and species decline (Callaghan et al., 2011; COSEWIC, 2016; Kenny et al., 2018; Parlee et al., 2018). Indeed, a recent global assessment conducted by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) documented and reported rapidly deteriorating ecosystems and biodiversity loss. The pressures from ecosystem degradation, combined with the need for Indigenous harvesting, threatens the foundations of Indigenous livelihoods, food security, and health and well-being worldwide (IPBES, 2019).

Within Canada, First Nations, Inuit, and Métis Peoples continue to have interconnected relationships with a broad range of wildlife species that are at risk from a variety of stressors, including climate change and human activities. For instance, one important keystone species experiencing declines across Canada is the woodland caribou (*Rangifer tarandus*), of which the majority of herds across the country are currently reported to be in decline (Schmelzer et al., 2004). The 51 different woodland caribou herds in Canada are spread throughout most provinces and territories, and are affected by habitat disturbances (Polfus et al., 2011; Stankowich, 2008), predation (Davison, 2015), diseases (Kutz et al., 2014), and climate change (Barber et al., 2018; Mameamskum, 2015). Of the 37 populations for which there are trend data available in Canada, 81% are declining ($n = 30/37$ populations) (Schmelzer et al., 2004). As such, the Committee on the Status of Endangered Wildlife in Canada assessed the species as “Threatened” in 2002 and, subsequently, listed them as “Threatened” under the Species at Risk Act in 2003, a status that continues to this day.

For the Indigenous Peoples across Canada who rely on caribou for food, culture, livelihoods, and well-being, this decline in woodland caribou populations—often coupled with a resulting hunting moratorium—has significant health and well-being impacts, and raises serious concerns. Inuit and their ancestors across Inuit Nunangat (Inuit homelands in Canada) have actively harvested and relied on caribou for thousands of years, utilizing the meat and skin for valuable food sources and clothing, and the bones and antlers for tools and carvings (Ljubicic et al., 2018). Despite this critical role in Indigenous life, caribou are generally managed through

the popularized North American Model of Wildlife Conservation (NAM) (Geist et al., 2001), which is anchored in a colonial framework in which Indigenous Peoples have little to no authority. Indeed, Indigenous scholars have highlighted many limitations of its use in Indigenous territories (Eichler & Baumeister, 2018), critiquing the model by commenting that “one cannot imagine a framing more centered on white male hunters than that contained in this historical overview for the origins of wildlife conservation in the United States and Canada” (Peterson & Nelson, 2017).

In the Nunatsiavut Land Claims Settlement region of Northern Labrador, Canada, caribou remain essential for food security, cultural connections, and overall health and well-being. Yet, caribou populations have been declining, with three different caribou populations listed under the Species at Risk Act: Torngat Mountains Caribou (endangered) (COSEWIC, 2017), George River Caribou (endangered) (COSEWIC, 2017), and the Mealy Mountain Caribou (threatened) (COSEWIC, 2014). For each of these herds, colonial management strategies have been imposed in order to protect the herds from further decline. For example, the Newfoundland Wildlife Division created strategies to manage the Mealy Mountain Caribou in this region with the first attempt to close the hunting season in 1959 (Bergerud, 1967). Between 1959 and 1975, wildlife biologists were unable to convince the provincial government to follow full recommendations to close the hunt, with intermittent restrictions placed on harvesting during this time. In 1976, a total hunting ban was enacted, and has been in place ever since, with the exception of one licensed hunt in 1989 (Schmelzer & Wright, 2012). Prior to 1975, the Mealy Mountain Caribou were foundational for the food security, identity, and well-being of Inuit in the region; however, with concerns of a declining population, a total hunting moratorium was issued in 1975 by the Provincial government—with no warning to, input from, or consent by Inuit in the region—which put an immediate end to the legal harvest of Mealy Mountain Caribou (Bergerud, 1967). The long-term hunting ban on the Mealy Mountain Caribou has had important implications for Inuit living in close proximity to the herd, including those in Rigolet, Nunatsiavut (Bergerud, 1967), which is the main focus of this study.

While caribou have been identified as essential for Inuit physical, mental, and emotional health and well-being, as well as identity and cultural continuity across the Circumpolar North, little research has examined the ways in which management strategies affect Inuit lives, livelihoods, and well-being through their insertion in the relationship between Inuit and caribou. Working in partnership with Inuit in Rigolet, Nunatsiavut, this research documents Inuit knowledge to: (1) characterize Rigolet Inuit relationships with Mealy Mountain Caribou; (Millennium Ecosystem Assessment) understand Inuit perspectives on how these caribou have been managed; and (3) identify opportunities for sustaining the Mealy Mountain Caribou population, while at the same time promoting Inuit well-being. While this research focuses on a case study from Rigolet, the findings provide insights into the impacts of wildlife laws, stemming from colonial approaches to management, across Canada and the Circumpolar North (Kulchyski & Tester, 2007; Sandlos, 2004) and the ways in which Indigenous Peoples globally are experiencing cultural disruptions resulting from wildlife declines and related wildlife management decisions.

4.3 Methods

4.3.1 Rigolet, Nunatsiavut, Labrador

There are over 65,000 Inuit in Canada, 73% of whom live within the 53 Inuit Nunangat communities, located in the Inuvialuit Settlement Region (Northwest Territories and Yukon), Nunavut, Nunavik (Quebec), and Nunatsiavut (Labrador). The Nunatsiavut Land Claims Settlement region has approximately 2500 beneficiaries living within five coastal communities (North to South: Nain, Hopedale, Postville, Makkovik, and Rigolet); 2200 living in the central Labrador communities of North West River, Mud Lake, and Happy Valley-Goose Bay; and 2400 living in other locations across Canada (Wood, 2019).

Rigolet (54°10'21.3204" N, 58°29'3.21" W) (Figure 4-1) is the southern-most community in the Nunatsiavut region, and is home to 305 people, 90% of whom identify as Inuit (Statistics Canada, 2018). Rigolet Inuit continue to rely on the lands, waters, plants, and animals in the region for sustenance, cultural expression, intergenerational knowledge-sharing and the passing on of land-based knowledge, and overall well-being (Cunsolo Willox et al., 2012;

Fitzhugh, 1999). The history of colonialism and contact in Rigolet spans over 300 years, including contact with explorers, traders, the Hudson's Bay Company, and the fishing industry (Rigolet Inuit Community Government, 2017). Rigolet was incorporated within the province of Newfoundland and Labrador in 1977, and was later included within the Labrador Inuit Land Claim Agreement in 2005. Rigolet is located at the mouth of Lake Melville on the mid-Labrador coast, situated within a northern Boreal ecosystem. Many Rigolet families have historic ties to resettled villages throughout the Groswater Bay area and on the southside of Lake Melville, directly within the range of the Mealy Mountain Caribou, and connected to the Akami-Uapishku-KakKasuak-Mealy Mountain National Park Reserve (Figure 4-1).

The Mealy Mountain woodland caribou sub-population is one of the herds in close proximity to Rigolet (Figure 4-1), and has an estimated population of 1696 caribou (FLR, 2019). As sedentary caribou, they move less than migratory caribou and do not venture north of the tree line to calve. The habitat of these caribou is relatively intact with very few human disturbances (Schmelzer et al., 2004). The herd size has been estimated 13 times since 1958 (Schmelzer & Wright, 2012), and while the population has estimated to be as high as 2500 and as low as 500 caribou during this time, there has been inconsistency in the research methods, budgets, and personnel involved over this time period. Today, the ongoing monitoring of the herd by government officials—without engaging Inuit—and the continued hunting ban have resulted in significant impacts for Inuit in region and no meaningful strategy for future sustainable utilization of the herd by Inuit.

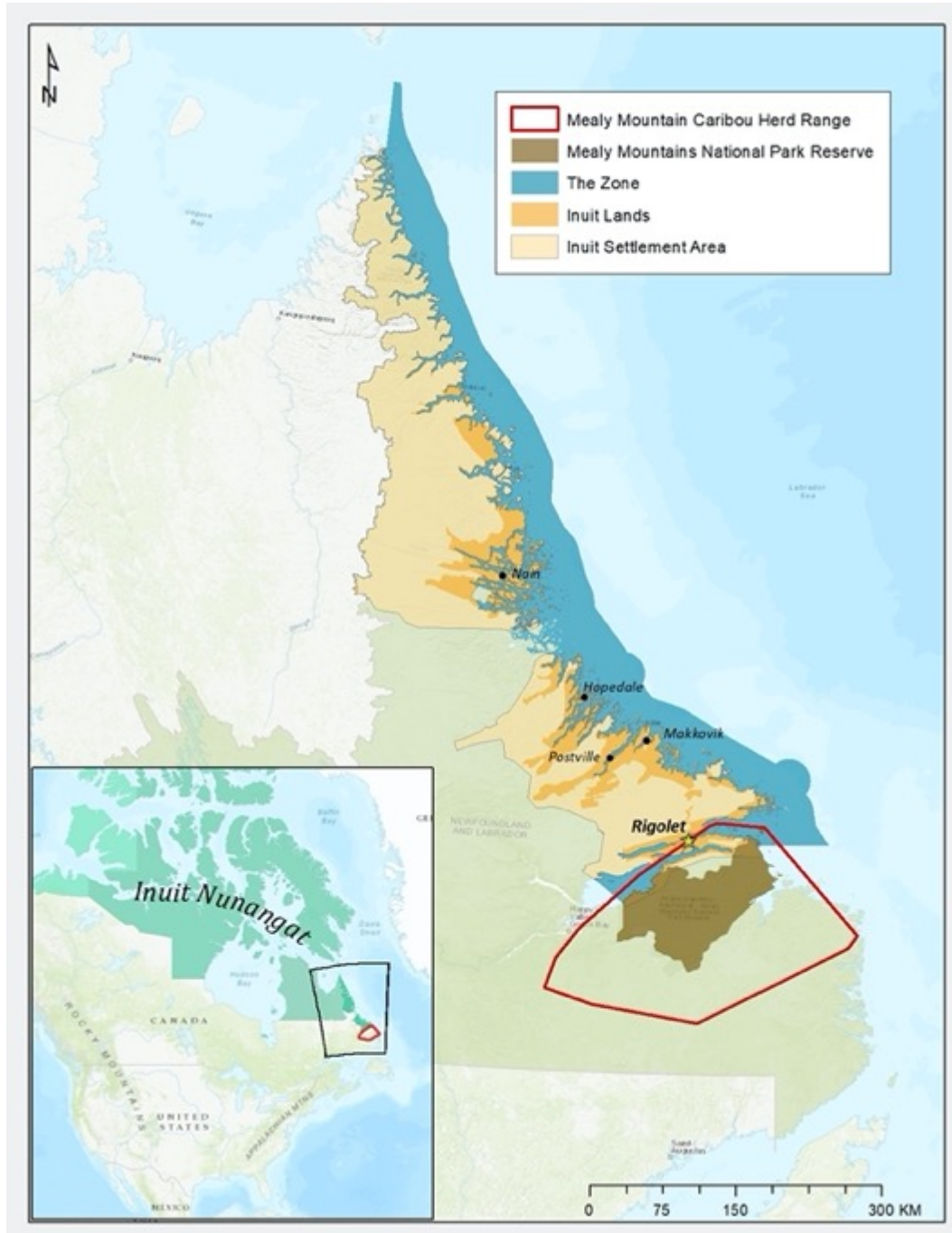


Figure 4.1: Map of the Labrador Inuit Settlement Region, the five Nunatsiavut communities, including Rigolet and its vicinity to the Mealy Mountain Caribou range.

4.3.2 Research Approach

While Indigenous Peoples around the world have always relied on their Indigenous knowledge to guide their relationships with wildlife (Berkes, 1999), this knowledge has not been included

in colonial wildlife management strategies, which is often biased toward positivist, Western-based approaches in conservation and wildlife management (Bennett et al., 2017; Jacobson et al., 2015; Newing, 2011). Co-management boards created from modern day land claim agreements—one strategy to incorporate Indigenous leadership into wildlife management and decision-making—serve to promote Indigenous knowledge as a critical consideration in wildlife management (Berkes, 2009, 2010; White, 2020). For example, the Torngat Wildlife and Plants Co-management Board was created as a result of the Labrador Inuit Land Claim Agreement signed in 2005, and is comprised of appointees from the Nunatsiavut Government, the Government of Newfoundland and Labrador, and the Government of Canada. This research was as part of a larger caribou research program led by the Torngat Wildlife and Plants Co-Management Board in partnership and collaboration with Inuit community researchers in Rigolet and with academic researchers (Snook et al., 2018). The approach intentionally aligned with Inuit Tapiriit Kanatami Research (ITK) National Inuit Research Strategy (Inuit Tapiriit Kanatami, 2018), and was reflected by Inuit: governing this research at multiple levels; ensuring the research was ethical and in line with community priorities; prioritizing Inuit access, ownership, and control over data and information; and continuing to further build capacity in Nunatsiavut research.

4.3.3 Knowledge sharing

Given the complexities of socio-ecological research, the notable absence of past qualitative research understanding Inuit perspectives on the Mealy Mountain Caribou and related hunting ban, and an ongoing bias toward quantitative methods in the conservation and wildlife management fields (Battisti, 2017; Rust et al., 2017) our research team purposefully used multiple qualitative methods, including in-depth conversational interviews (Conrad, 2011), participatory mapping (Chambers, 2006), and a results sharing, validation, and prioritization session. Given the lack of past baseline data on the Mealy Mountain Caribou herd abundance and trends in harvesting, as well as the lack of research on the hunting moratorium and subsequent impacts on Inuit, qualitative inquiry provided the strongest option to discover both rich and new insights from this study.

Interview questions were co-developed with Inuit researchers, members of the community, the Torngat Wildlife, Plants, and Fisheries Secretariat, and academics. Interview questions were pre-tested for content and context, and covered the following topics: personal caribou stories, the meaning of caribou to people in Rigolet, caribou biological features, the health of the Mealy Mountain Caribou, threats to the caribou, perspectives on caribou management, effects of management decisions on health and well-being, and ideas regarding next steps to improve caribou management. Interviewees were recruited in January 2019 through a community open house and using an ongoing snowballing technique through conversation with community leaders, Elders, Mealy Mountain knowledge holders, and interview participants, specifically focusing on individuals who had experience hunting Mealy Mountain Caribou before the ban and/or knew the lands on which the caribou lived well. Two Rigolet Inuit research associates also provided contacts, introductions, and facilitated the interviews in the community. Interviews took place from January 29 to February 10, 2019 at a location preferred by the interviewee: most interviews took place in people’s homes or in the community center. All interviews were audio recorded, with informed consent, and conducted in English at the participants’ request (translators were available). Twenty-one interviews (n = 6 females and 15 males) were conducted with Inuit from Rigolet, producing 11 h and 9 min of recorded data for analysis (Table 4.1).

Table 4.1: Interview participants by age group in Rigolet, Nunatsiavut, Labrador (n = 21 interviewees)

Age Range	Number of Interviewees
20–29 years old	0
30–39 years old	1
40–49 years old	3
50–59 years old	2
60–69 years old	5
70–79 years old	6
80+ years old	4

The participatory mapping session occurred as part of a January 2019 community research open house and caribou storytelling event, before the in-depth interviews were conducted. A group of seven people from among the larger open house attendees took an extended period of time to participate in the mapping session, which took place at the community center using 1:800,000 scale maps in a WGS84 projection. Each map was printed using a large format printer (each map was 88 cm × 66 cm) and was secured on a table for participants to see the area in its entirety. Participants were invited to walk around the map and mark locations on the map with a marker, and provide narrative explanations of their map markings [54] from their lifetime of experiences. Common markings included caribou sightings, harvest sights, cabins, trapping areas, hunting routes, trapping routes, and significant geographical areas.

In March 2020, the research team held a result sharing, validation, and prioritization open house, open to all members of the community. There were 37 community members who attended and participated, 20 were female, and the age range was from 10 years old to over 75 years old. Of those who attended the community open house, six were also interview participants. This provided an opportunity to present preliminary results, for Inuit to engage with the data, and to record new insights or contradictions in the data. The open house was further complimented by a presentation to the Rigolet Inuit Community Government and key informants, including interview participants, from the community for their insights, reflections, and approval.

4.3.4 Data Analysis

All audio recordings from the interviews were transcribed by a professional transcription company and checked by at least one member of the research team for accuracy. All transcripts were uploaded to QSR International's NVivo 12 software, which was used to facilitate data organization, retrieval, and manual inductive and deductive coding. The hybrid inductive and deductive coding approach (Fereday & Muir-Cochrane, 2006) followed a constant comparative method (Mathison, 2005), which involved the research team holding regular debriefs throughout the analysis to discuss the interviews and data. The team constantly compared concepts, codes, and themes within, between, and among the data.

These debriefs were held throughout the research process, including after the initial open house, after each individual interview, after full completion of the interviews, after the results sharing and validation activities, and through the process of choosing key quotes to illustrate the main themes discovered through the analysis process. Authenticity and reliability of the results were supported by this team-based approach, and included researcher and team reflexivity and ongoing dialogue, and ground truthing and validating the results with Rigolet Inuit participants (Creswell & Miller, 2000).

4.3.5 Data Management and Consent

This research was approved by the University of Guelph Research Ethics Board and the Nunatsiavut Government Research Advisory Committee. All participants provided informed oral and written consent. The Torngat Wildlife, Plants, and Fisheries Secretariat managed the data for this project. Data management procedures reflected ITK's National Inuit Research Strategy priority to ensure Inuit access, ownership, and control over data and information (Inuit Tapiriit Kanatami, 2018) by providing copies of all the data at the end of the project to the Rigolet Inuit Community Government and the Government of Nunatsiavut.

4.4 Results

Results from the participatory mapping session, based on extensive place-based knowledge, indicated four main themes: caribou are essential for Inuit culture, livelihoods, and food security; caribou management decisions have disrupted these Inuit-caribou connections; the socio-cultural and emotional impacts resulting from the criminalization of a cultural practice, the perceived inequities in caribou hunting ban enforcement, and the lack of meaningful engagement with Inuit in wildlife management decision-making; and potential pathways forward that would ensure a sustainable caribou population, while supporting and promoting the role of caribou in Inuit culture and well-being (Figure 4.2).

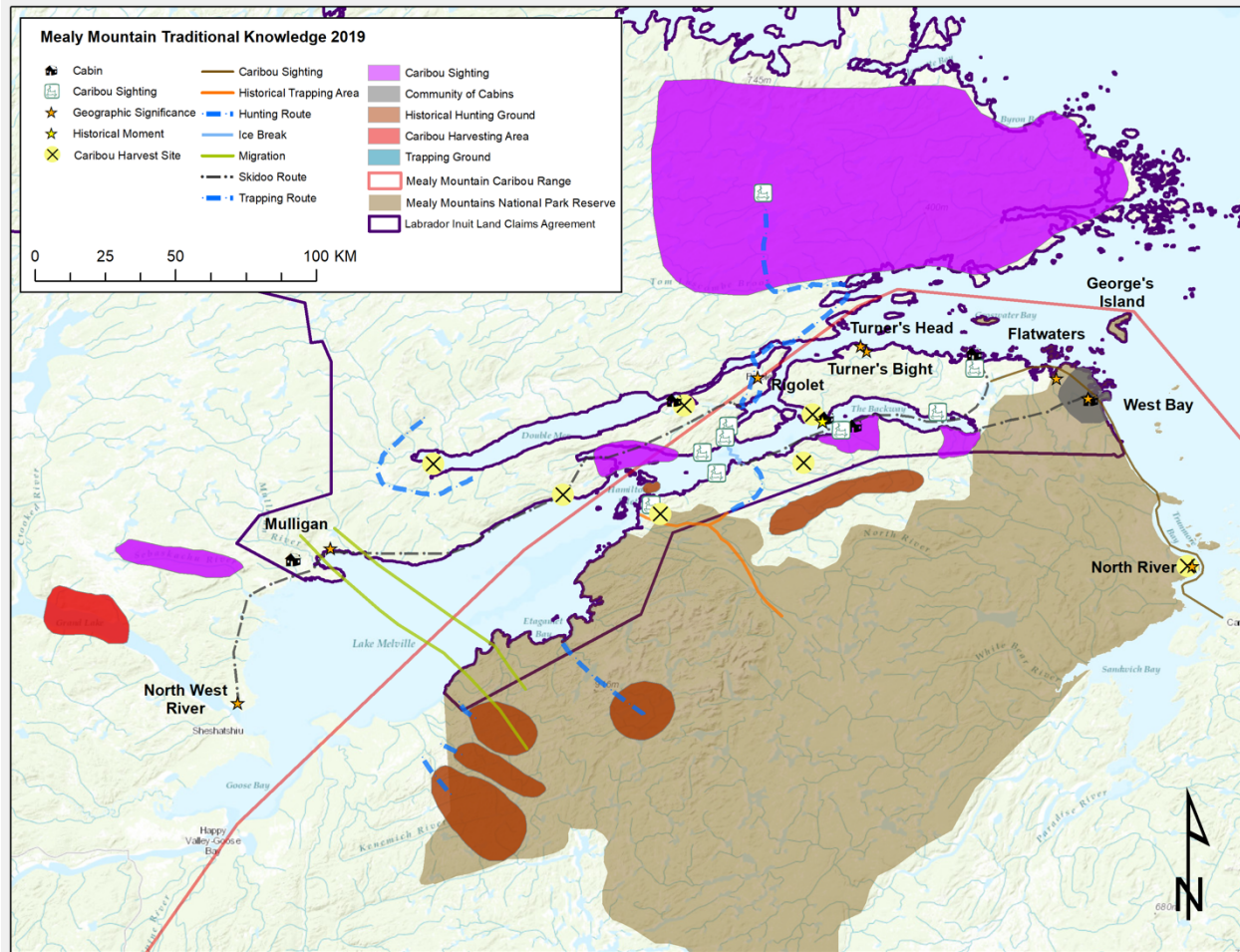


Figure 4.2: Geographic data provided by Rigolet Inuit in a participatory mapping activity in Rigolet in January 2019 identifying knowledge related to range, habitat, behavior, and Inuit-caribou interactions.

Through the in-depth interviews, Rigolet Inuit shared extensive knowledge of and stories about Mealy Mountain Caribou. The range of this knowledge spanned understandings of: caribou biology, ecology, and habitat; Inuit hunting values; wildlife management perspectives; interconnected changes in climate, environment, and herd abundance; and connections to food security and Inuit health and well-being. In the participatory mapping session, participants marked 33 points, 18 polylines, and 14 polygons of geographic significance related to caribou and caribou interactions. Sites marked as key points in the session included cabins, caribou sightings, historical moments, geographically significant points, and harvest sites. Sites marked as polylines included trapping routes, skidoo routes, hunting routes, caribou migration routes, and ice edge. Sites marked as polygons included caribou sighting areas, communities,

historical hunting grounds, harvesting sites, and trapping grounds. Through these illustrations, participants in the mapping session documented a long-standing relationship to and knowledge of Mealy Mountain Caribou for Rigolet Inuit (Figure 4.2).

4.4.1 “Part of Our Culture Down Here”: Rigolet Inuit and Mealy Mountain Caribou

Many participants shared personal memories and stories about significant moments with caribou, such as their first hunt, traveling via dog teams, traveling long distances on snowshoes, and experiencing extreme weather exposure during the hunts (Figure 4.2). Rigolet Inuit described the “hard work” associated with hunts in the past, but reflected fondly on the entire experience as “fun”, a source of “pride”, and “excit[ing]”, “happy”, and “healthy” experiences. For example, as one participant shared, “I was only a young fellow first time when I went across there, about 14 or 15, with the old man over to Mealy Mountain. That was back in the ‘60s.” Another interviewee explained, “One of my favorite stories relating to caribou? Hunting around with my father, killing caribou to eat, living off the caribou all my life.”

The majority of participants described the ways in which activities involving caribou were interwoven with local livelihood and survival: “It was more of what you did to survive. You either went and you got your caribou or your seal or your birds. But it wasn’t easy to do but you did it ‘cause your survival depended on it.” One life-long hunter explained:

“A hunter person without a gun is the same as the city man without a job, you know, a high-powered city man without a big job. If you take his job away, he got nothing to eat. If you take my gun away, I got nothing to eat.”

Other participants highlighted the link between caribou and Inuit identity. Participants shared throughout the interviews, “that [caribou hunting] is part of who we are. Caribou...that’s our food. ...caribou is our staple food, or was, or still is if we can get it.” As another individual explained, “We’ve always hunted the Mealy Mountain Caribou. That sustained our family for generations and generations and generations.”

Given the links between caribou and Rigolet life and culture, many participants were openly concerned that part of their culture and knowledge related to caribou is at risk of eroding, and that, in particular, the introduction of the hunting ban in 1975 changed the ways in which knowledge of the Mealy Mountain Caribou is being passed on (Figure 4.2). As one hunter explained, “My buddy’s father, he’s older than me, and he was probably the last generation that went up on the mountains caribou hunting, legally.” Another participant stated:

“There’s not too many people left in this community here that actually participated in that hunt, they’re mostly all dead, they’re all old and gone. So, I mean you know, it’s going to be a big part of who we are and our identity, when that goes away.”

4.4.2 “I Was Raised to Learn How to Share My Stuff”: Caribou, Food, Culture, and Well-Being in Rigolet

Participants in this study were unified in their experiences of missing caribou meat. People shared enthusiasm around the taste of caribou. For instance, one participant explained that “it’s delicious. The best meat ever. And that’s telling the truth.” Others talked about their preference for it, the beneficial health aspects of consuming caribou meat, and the many ways it can be prepared. As one participant noted, “like we fry and stew and bake and dry it and roast it; all ways. Make cakes.”

Many people also discussed the nutritional benefits of consuming caribou meat, and described how it made people feel physically, mentally, and emotionally healthy. As one participant explained, “From the health side, I think that’s really lean meat. Caribou is like, really lean meat. So really tasty meat and things, so I think there’s things we just miss out on [as a result of the hunting ban].” Another participant stated:

“I think there’s a loss in that opportunity to teach and to learn, as well as to have more of an appreciation for a local diet, a healthy diet, an organic diet. Those things aren’t said to children often—you’re eating organic food today.”

These experiences of missing eating caribou meat were compounded by disruptions to cultural practices that were changing stemming from the inability to travel and hunt in the Mealy

Mountains. People indicated that without the possibility of hunting caribou, their patterns and frequency of use, and reasons for spending time in the Mealy Mountains had changed. As one person explained, "At the end of the day, you have to have a reason to go [out on the land]." Another hunter explained further that caribou hunting in the Mealy Mountains "gives us a meaning to get up in the morning. It really gave us—we look forward to it from year to year to year."

Several parents also discussed the stress of not being able to effectively share cultural knowledge with their children and grandchildren. As one parent explained, "I would be teaching my son how to do it [caribou hunt], too. Right now, it's something you can't—it's almost like a tradition that you can't pass on."

For many people, the caribou hunt was more holistic than solely the meat that it produced. As one person explained, "It's not the same to have just the meat. I think it's the process of the hunting, and the knowledge that come with it." Another interviewee elaborated further:

"You're not going to increase the quality of life of people just by having access to food, I think it's the part of what the food [means to Inuit]—the interaction with the food, and food getting, and food preparation, and food sharing."

Many participants talked about the importance of sharing not only the experience of the caribou hunt with friends, family, and the broader community, but also the meat itself. The distribution and sharing of meat was identified as a key part of Inuit culture. As one person explained:

"Daddy always killed caribou. He used to always come back here and share [the meat] with the people, like his family. Even though it was legal [to hunt], but we used to share it out to our families when they couldn't get out and get it."

A significant consequence of the hunting ban identified by participants, then, was a change to the way caribou meat is allocated throughout local food systems. Participants commented that

they did not share caribou widely or openly anymore “because it’s illegal now. It’s illegal [to hunt], so they’re giving [caribou] to their immediate family.”

Many people discussed concerns about cultural erosion related to knowledge around the Mealy Mountain Caribou, particularly given how long the hunting ban has been in place. As one person stated, “It’s too bad you couldn’t have done [this research] twenty years ago, because you would have been able to talk to a lot of the older people who actually went in there and the hardships they went through.” Another person shared this concern, and explained that:

“We have probably two or three people here in this community that’s over 80 years old now and every year we’re losing several people from each community in Nunatsiavut and once that knowledge is gone, it’s all gone, is that what the government’s waiting for?”

Given the concerns about cultural erosion and loss, several people discussed the need for all generations of Rigolet Inuit to be involved in maintaining the culture, particularly the youth: “If these young people are not given a chance to do that, they’re not going to learn.” Some parents talked about their plans to keep the knowledge of caribou and caribou hunting alive. As one father explained, “I’m definitely going to take her [his daughter] into the Mealy Mountains where we trap and take her to the herd. They’ve got some nice spots where I picked out now when she gets big.” Continuing opportunities for connecting youth to caribou through time on the land observing and connecting with caribou was also identified as important by some parents and grandparents: “Observation is the very key thing to a lot of hunting, especially. I passed it onto my children and they know now what to do.”

4.4.3 “We’re Made Criminals Just to Eat off the Land, Eat Our Food That Our Ancestors Ate”: Criminalization, Enforcement, and Equity

Participants described how people in Rigolet were not consulted when the ban on the Mealy Mountain Caribou herd was enacted. One participant spoke about coming home from a hunt

and wildlife enforcement officers “stopped us and talked to us, [and they said] ‘No more hunting caribou. These mountains are closed’.” Another interviewee shared, “They [the government] just sort of force regulations on you.” Many of the participants described the long duration of the hunting ban on the Mealy Mountain Caribou herd, and described continued consequences associated with the ban. As one participant explained:

“In this community of Rigolet, we know what a ban is like. We know what a ban is like and there’s been several times that there’s been raided [by enforcement officers]. This community has been raided so many times. They’re looking for people and they’re looking for caribou.”

Most participants identified that living under the ban also led to being criminalized for harvesting a species that was previously paramount for survival. As one hunter explained, “Unfortunately some residents became criminals because they had to go and kill a caribou to survive and somebody told on him and they got their livelihood taken away.”

The strong emotions associated with the ban and the consequences of wildlife enforcement were compounded when participants felt a sense of unfairness or inequity. For instance, some participants explained that they felt the hunting ban was not being enforced in a consistent way, both within and external to the community, which raised questions such as: “What’s the point in putting a ban on it, if everyone is not going to abide with it, right?” Another participant further explained, “I think the process of equity around hunting is becoming massively tense. I think when it looks at where it should be coming from, how much should be had...it’s not applied across the board, it’s creating tension.” Another interviewee commented, “We all bleed the same. We all eat. We all live. We all got to pay bills. And, so, treat us all equal [for hunting ban enforcements].” Furthermore, while participants were not opposed to Indigenous Peoples illegally harvesting caribou for food security and cultural connections, participants did share particular frustration when acts of illegal harvesting were conducted in a way that countered Inuit values and culture, but still were not penalized by wildlife authorities. Examples of these situations included people hunting and then selling the animal; hunting a

caribou and not sharing it; and excessive harvesting that put the sustainability of the caribou populations at risk.

Participants were not optimistic that the hunting ban on the Mealy Mountain Caribou herd was ever going to be lifted, which has created skepticism and distrust around how the caribou are managed. Given the frustrating experiences and concerns about not being consulted prior to the ban, some participants did not feel that the current hunting ban or management was sustainable. One participant explained:

“It pisses me off, to be quite frank with you. I believe in conservation and I don’t want to be known as the person that killed the last caribou. But, I see what’s going on and I’ve seen that for the last 50 years and we’re farther back now than what we were 50 years ago. And, we’re farther back now with the ban on the George River Caribou herd than what we were in 2013. So, it’s obvious it’s not working [current management strategies], not from my perspective or not from the people that I’m talking to.”

4.4.4 “We Talk until We’re Blue in the Face”: Consultation, Accommodation, and Ways Forward

Throughout the interviews, Rigolet Inuit often described how they did not feel like they were “heard” when it came to their concerns regarding Mealy Mountain Caribou. Words such as “frustrated”, “unnerving”, “disheartening”, “anger”, “hurt”, “it makes me sad sometimes”, and “it depresses you” were all used in the context of the current caribou management system, and the ways in which Inuit were not consulted in decision-making. It was evident that the feelings associated with not being heard shaped perceptions of the current management of Mealy Mountain Caribou. For example, one participant explained:

“Well, I don’t know if the government is focusing on anything. Just going out and doing these studies and saying there’s only these many caribou here and—I don’t believe that. I don’t believe a thing that the government is saying.”

Going further, another experienced hunter in the community explained:

“We haven’t been able to participate into it [caribou management] and I’ve asked the question many times to different levels of government, all three different levels of government—federal, provincial and Nunatsiavut government—who the hell are you saving the caribou for? What are you saving them for? Work with the people rather than against the people. When you hear a government agency coming [into the community] for 50 plus years and tell you ‘no, no, no, no’ every time you put a request down, they say ‘no you can’t do this, you can’t do that’ well I mean that people, you can’t work and you can’t get constructive co-operation in that kind of an atmosphere. People right away put their backs up.”

Participants emphasized the need for future action to include input from the community. As one participant explained, “You have to have the people in the communities [participate in decision-making]. The people who know the land and the people who participate, who hunt and who wants to...be able to go on the land and connect.” Another person stated, “We don’t have no input into what’s being done. We have to have input from the local communities, from who we are, our identity.”

Many participants reflected on one particular incident that left many people feeling “not good”, “sad”, and “frustrated” when some Mealy Mountain Caribou became stranded on George’s Island (Figure 4.2). An interviewee explained, “There were caribou out here on an island, George’s Island. There was 500 [caribou] out there. They all died of starvation. Rather than let [Inuit] people kill them, the government rather let them die.” When the community suggestions of a restricted hunt on the island went unheard, Inuit then questioned the Government’s ability to manage caribou for sustainable utilization and to incorporate input from Inuit.

Despite a strong sense of not feeling heard, many people described wanting to be involved in decision-making. Participants noted that “people are really wanting to sink their teeth into something” and “the Rigolet people will be the caretakers of that caribou.” Participants regularly shared strong desires to protect caribou. As one hunter explained, “So, it’s a choice

you've got to make personally. But me, personally, I see both ways. I really want it for food and I really want it protected. That's how I feel about caribou."

Some Rigolet Inuit also saw opportunities for a leadership role in reconnecting with the Mealy Mountain region and caribou: "I really do think there's options for us to spearhead the movement around caribou, and not necessarily be informed of provincial bans." This participant elaborated further to say, "I think you can have living, breathing, moving conservation efforts that aren't on paper, that aren't enforced from what would seem to be third parties, that aren't just accessed by outside visitors, but are of the community."

Many conservation ideas emerged from participants, including monitoring, approaches to hunting and sharing caribou, and ways to pass on Inuit knowledge. During the community open house in March 2020, Rigolet Inuit prioritized Inuit-identified pathways forward for Mealy Mountain Caribou management (Figure 4.3). Suggestions regarding management approaches included ongoing monitoring of the Mealy Mountain Caribou, led by Rigolet Inuit and based on Inuit knowledge:

"Why can't they go up and monitor them every year? Like three, four, five people from town go up and see how they extended beyond their borders. What's the quality of the caribou moss this year, are their feeding grounds as healthy as we would expect? We had a really dry winter, we didn't have much snow, so are the bodies of water substantiated in there... all those types of things. So, why can't we create capacity here through those processes and make us the stewards?"

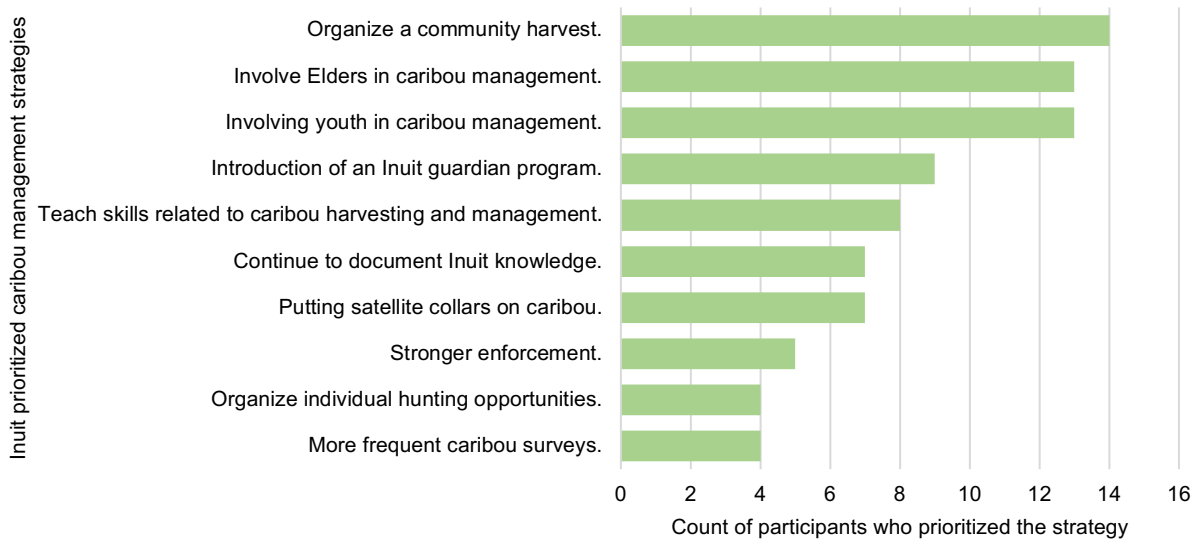


Figure 4.3: Rigolet Inuit identified and prioritized Mealy Mountain Caribou management strategies shared at the community open house in March 2020 (n = 31; numbers indicate total votes; selection options were not mutually exclusive). Note: while 37 people attended the open house, 6 people declined to participate in this strategy sharing and prioritizing activity.

For many participants, Inuit-led monitoring and stewardship provide important and healthy opportunities to be on the land:

“You know, we’re supposed to be Inuit. Inuit are supposed to be on the land...[it would be beneficial to] have a community hunt where we can go and we can participate into it and we can take people and we can feel happy, we can feel proud.”

A number of participants discussed the idea of a limited, controlled hunt, to connect youth to caribou hunting and related knowledge, and to support Inuit food sharing and food security. As one participant explained, “I would like for them [youth] to see one day and maybe have a little harvest sometime.” Participants explained that the idea of a community hunt would rely on sharing the meat equitably around the community: “Share it [caribou meat] out amongst the people. It wouldn’t take away much, everybody around here to get a meal, you know, about 20. You know? Everybody is happy with a little bit of fry or roast or something.” In addition to happiness, pride, and sharing, participants also described how a limited hunt could continue to facilitate cultural continuity and passing on traditional knowledge:

“A limited hunt, a cultural hunt you know, just to be out on the land, just to bring people on the land, to show them where the caribou live to. Certain times of year they move around, show them where they’re feeding to, where their habitat is too and where they live to, because we know, we know those things.”

4.5 Discussion

Our results characterize the long-standing relationship that Rigolet Inuit have with Mealy Mountain Caribou, and how the practice of harvesting these caribou permeates their culture, is vital for cultural continuity, and has connections for well-being that extend beyond the clear implications for food security. Rigolet Inuit shared stories and memories with pride and described activities of hunting, preparing, sharing, and eating caribou (King & Furgal, 2014) as important for health and well-being. Our results illustrate how the imposition of a hunting ban by the provincial Government with no Inuit collaboration has altered the Inuit-caribou relationship. For example, the longstanding hunting ban has had an effect on Inuit food security and Inuit culture (Schmelzer et al., 2004), and as demonstrated by our results, also changed food sharing patterns, including the amount of meat shared, who it is shared with, and how it is shared. Given the deep importance of food sharing for maintaining social and familial bonds and supporting intergenerational learning, the disruption to food sharing networks of highly-valued cultural items, such as caribou meat, skin, bones, and antlers, has had significant and lasting negative effects on Inuit well-being and socio-cultural networks and practices.

Additionally, the hunting ban has also made many Inuit feel like “criminals” for participating in a cultural activity. Indeed, Rigolet Inuit expressed a sense of deep loss after the imposition of the hunting ban and the resulting criminalization of an important cultural practice (Cunsolo et al., 2020), which suddenly saw hunters go from being celebrated to being criminalized. These experiences are not isolated to Rigolet Inuit; Inuit in Nunavik, for example, have shared similar frustrations related to illegally harvesting culturally important wildlife such as caribou, polar bears, and other mammals (Gombay, 2014). This raises several questions, including whose laws

are more relevant (the state or Indigenous laws), who owns the lands where harvesting is taking place, which rights take precedence, and which knowledge systems decide if an animal is in need of protection or not (Gombay, 2014).

These results indicate that some caribou harvesting continues for household consumption for a variety of reasons, including as an active expression of Indigenous sovereignty and self-determination, as an expression of traditional land use rights, as a way to support food security and connections to cultural practices, and as a disagreement with wildlife regulations (Muth & Bowe, 1998). As Rigolet Inuit shared through this research, the presence of wildlife regulations did not mean the new laws were accepted or followed in the region by Indigenous Peoples, which is also reflected in wildlife biologist recognition of many harvests over the years (Schmelzer et al., 2004), albeit little formal documentation of these harvests exist, perpetuating misconceptions and imprecise accounts of Indigenous caribou hunts (Campbell, 2004). Further, the criminalization of hunting Mealy Mountain Caribou over a sustained period of time has led to strong feelings about the necessity of Government wildlife management enforcement, and concerns that enforcement is not being implemented fairly. Concerns about equity in enforcement have increased tensions between and among Indigenous Peoples, both within Rigolet, and with other Indigenous communities in the region. In particular, Rigolet Inuit expressed concern and frustration about both local community members and members of other communities or Indigenous groups hunting and/or harvesting in disrespectful ways. While many people who were interviewed were not opposed to Indigenous Peoples harvesting caribou for food security and cultural connections while a hunting ban was in place, they were opposed to wasteful practices that conflicted with Inuit values and culture, and to the perceived differential enforcement of the hunting ban among different Indigenous Peoples and communities.

Rigolet Inuit had little involvement in early Mealy Mountain Caribou research efforts in the 1950s (Bergerud, 1967), or were not consulted on original management measures. Today's ongoing monitoring through Western scientific methods (Schmelzer & Wright, 2012) too often includes the bare minimum of Inuit consultation and involvement. In this context, Rigolet Inuit

shared experiences of trying to inform caribou management efforts, only to feel unheard, silenced, ignored, and often powerless to fight against externally posed Western conservation approaches that ignored Inuit traditional knowledge systems, and approaches to sustainably managing caribou. The stories that were shared resonate with the concept of “ethical loneliness” (Stauffer, 2016, 2018), or feeling abandoned by those who have the power to help compounded by the experience of not being heard. For Rigolet Inuit, this resulted in a missed opportunity for wildlife managers and Government officials to listen to the caribou stories, knowledge, and sciences of Rigolet Inuit and take action in a manner that enabled caribou conservation while supporting Inuit cultural continuity, food security, and well-being. Our research demonstrates that wildlife management must consider these other bodies of knowledge to understand how being ignored or not being heard “impacts how the past resonates in the present” (Stauffer, 2016). Our research also highlights the diversity of ways of knowing and being with Mealy Mountain Caribou and for caribou management (i.e., ontological pluralism) (Harrison, 2015), and illustrates that wildlife management strategies need to reflect the plurality of knowledge systems, perspectives, and ways of knowing, doing, and being for stronger health outcomes for both humans and animals.

Rigolet Inuit also expressed feelings of resentment for their losses, their treatment, and the lack of consideration and recognition of the importance of maintaining Inuit livelihoods, lifestyle, culture, identity, and well-being (Jeffery et al., 2007) clearly highlight the inequities and injustices in much of wildlife management and conservation. Recognizing this ethical loneliness and redressing the impacts of past decisions presents an urgent and critical challenge that current wildlife managers must begin to reverse and redress and find ways to rectify the impacts they caused; otherwise, this past will continue to affect the present for Inuit in Rigolet regarding the Mealy Mountain Caribou, as well as for other Indigenous Peoples who experience ethical loneliness resulting from the multi-generational impacts of colonization in the form of exclusionary and discriminatory wildlife management regimes and externally imposed management decisions.

These stories and Inuit knowledge from Rigolet demonstrate current and ongoing impacts resulting from experiences prior to modern day land claim agreements ("Labrador Inuit Land Claims Agreement Act," 2005) and post 1980s jurisprudence when Indigenous rights advanced significantly (Borrows, 2005). Recent advancements in Indigenous rights and international guidelines (Beltrán, 2000; Borrini-Feyerabend et al., 2004; Wild & McLeod, 2008) can and should influence the way wildlife management decisions are made and implemented; however, even with the settlement of modern-day land claim agreements, and the introduction of new processes such as co-management of resources, the state has retained the ultimate decision-making authority (White, 2020). While perspectives and power can be balanced to a degree through co-management boards and initiatives, more work is required and, as our research shows, there could be mutual benefits for wildlife conservation and cultural sustainability if the state listens to—and respects and prioritizes—Indigenous Peoples' stories, histories, and knowledge, and lessens its authoritative grip on species that are so critical to Indigenous Peoples.

Although Rigolet Inuit indicated frustration and anger about being left out of previous decision-making processes, many people expressed optimism and strong ideas for moving forward with joint caribou management strategies, and with leadership from Inuit knowledge, sciences, and expertise (Figure 4.3).

First, many people suggested and prioritized a community organized harvest as an important management strategy that promotes caribou sustainability alongside Inuit health and well-being. Many people reflected on and shared positive stories about a community harvest in 1989 and believed organizing a similar community harvest—where the meat is shared—was still a good strategy. Both the Federal Species at Risk Act ("Species at Risk Act, SC 2002, c 29," 2002) and the Newfoundland and Labrador Endangered Species Act ("Endangered Species Act, SNL 2001, c E-10.1,") have sections that permit the issuance of licenses for such a meaningful purpose, with reasons ranging from cultural continuity, caribou conservation, science, and public health. Second, Inuit prioritized the need for Inuit inclusion in decision-making processes, through the creation of both an Inuit guardian program and a program

designed to bring Elders and youth together for shared learning, to support the management of Mealy Mountain Caribou. Third, through the implementation of these strategies, participants felt that Inuit knowledge should continue to be documented and skills be taught about caribou harvesting and management. As such, it became clear through these results that any future management approach without Inuit engagement would fail to support caribou sustainability and promote Inuit well-being. Finally, it should be highlighted that individual hunting licenses received the least amount of support from Rigolet Inuit, which reflects the Inuit value of sharing within the community and how wildlife enforcement has interfered with this practice.

Through this work, Rigolet Inuit are calling for collaboration between communities, a co-management board, levels of Inuit Government, and a Provincial Government to initiate action toward Inuit inclusion, cultural continuity, and the long-term sustainable utilization of the Mealy Mountain Caribou. The results from this research are being used to spark further dialogue that considers values, approaches, ethics, and implementation of new ideas, all of which will ultimately be needed to change the status quo. Special initiatives and success stories, where Inuit are leading caribou management and decision-making, could prove invaluable for conservation and restore a sense of value for the community to help repair damaged relationships and reclaim parts of Inuit identity.

Understanding the effects of the Mealy Mountain Caribou hunting ban hold lessons for other externally-imposed species moratoriums on Indigenous lands and the diverse and lasting negative socio-cultural and health impacts resulting from these management decisions—including, for example, the more recent hunting ban on the George River Caribou herd in Labrador in 2013, as well as many other government-imposed and enforced hunting bans. Indeed, the multi-generational and enduring negative effects of exclusionary and discriminatory Western management policies, enacted with little to no Indigenous involvement or consideration, is clear in this research, and illustrates not only the limitations of many Western approaches to wildlife management, but the need for rectification and redress.

4.6 Conclusion

Through this research, Rigolet Inuit clearly articulated and demonstrated how colonial wildlife management decisions had disrupted important connections among caribou and Inuit, particularly related to food, culture, and well-being. Rigolet Inuit described their efforts to engage in caribou management decision-making, and expressed particular “frustration” and “hurt” with not being “heard”, which created perceptions that current caribou management approaches were unfair, not inclusive, and put Inuit relationships with Mealy Mountain Caribou and related aspects of their cultural continuity at risk. In particular, Rigolet Inuit described the socio-cultural and emotional impacts of the criminalization of an important cultural practice, as well as perceived inequities in wildlife management enforcement. These results not only provide insights into the historical and ongoing experience of ethical loneliness related to wildlife management decisions and actions for a culturally important food-species, but they also demonstrate the long-term, multi-generational effects of externally imposed hunting moratoriums on food security, cultural continuity, and health and well-being.

Despite the past injustices and ongoing legacies of the hunting ban and colonial management practices, these results highlight opportunities to promote caribou sustainability and abundance, while simultaneously improving Inuit well-being and strengthening cultural continuity, not only for Rigolet Inuit, but also for other Indigenous Peoples globally who have been challenged and impacted by wildlife management decisions.

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5 Co-management led research and sharing space on the pathway to Inuit self-determination in research.

Over the past 50 years, Inuit throughout Inuit Nunangat have steadily asserted their rights over their lands and waters by pushing back against colonial policies through political organization, filing court injunctions over rights and sovereignty, and establishing national inquiries on development in the North. These processes have also led to four completed land claim negotiations: the Inuvialuit Settlement Region (ISR) in 1984; Nunavut in 1993; Nunatsiavut in 2005; and Nunavik in 2008. Another land claim is currently being asserted in Labrador (NunatuKavut). These mobilizations have also led to the emergence of culturally-relevant organizations that support health, well-being, culture, language, and community development, and reclaim Inuit sovereignty and self-determination.

One outcome of this political mobilization and the land claims processes is a robust network of wildlife co-management boards, regional wildlife organizations, hunting and trapping organizations, and committees across Inuit Nunangat. These co-management boards, such as the Fisheries Joint Management Committee and the Wildlife Management Advisory Committee NWT in the ISR, the Nunavut Wildlife Management Board in Nunavut, and the Torngat Wildlife and Plants Co-Management Board in Nunatsiavut, play essential roles in decision-making. This network of co-management across Inuit Nunangat has continually evolved since the 1980s and has matured into a strong network for Inuit inclusion, collaboration, and stewardship.



Figure 5.1: Torngat Mountain Caribou. Photo credit: Serge Couturier

These co-management boards are also responsible for conducting and reviewing research to support evidence-based decision-making about species within the land claims regions. In many cases, co-management boards are overstretched and under-resourced, creating barriers to conducting co-management-led research and fulfilling this aspect of their mandates. Yet, designing and leading research through these boards can be an essential component of self-determination and sovereignty over research. Indeed, Inuit Tapiriit Kanatami (ITK), the national Inuit organization, argues that “Inuit self-determination in research means that Inuit have oversight in setting the research agenda in our regions and communities, work as equal partners with researchers in the design, implementation and dissemination of research, and have access to and – as appropriate – control over how information gathered about our population is used and disseminated” (Inuit Tapiriit Kanatami, 2016). In this light, co-management boards can be one such network to support Inuit research sovereignty and determination.

This article highlights the ways in which a co-management board in Nunatsiavut, Labrador, responded to Inuit requests for research around caribou management and stewardship. It

illustrates opportunities for co-management boards to be understood and supported as Inuit-led research organizations, producing research that responds to pressing needs in the North.

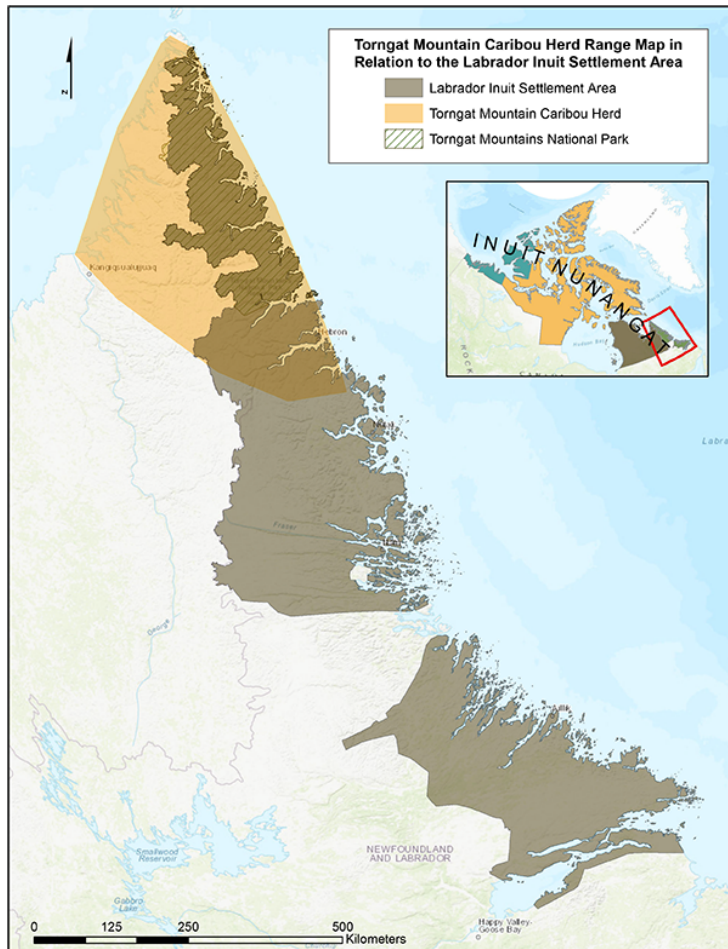


Figure 5.2: The Labrador Inuit Settlement Area, Torngat Mountains National Park, and the Torngat Mountains Caribou Herd Rang. Map by Bryn Wood, Torngat Secretariat

5.1 Co-management in Nunatsiavut

The Nunatsiavut region of Inuit Nunangat was formed on December 1, 2005, emerging from 40 years of concerted political mobilization from the Labrador Inuit Association. Nunatsiavut is home to approximately 2,500 people, comprising 4% of the Inuit population in Canada. There are five communities in the land claims settlement area (North to South): Nain, Hopedale, Postville, Makkovik, and Rigolet.

The Labrador Inuit Land Claim Agreement (LILCA), the legal framework that underpins the Nunatsiavut settlement region, is a negotiated agreement between the Government of Canada, the Government of Newfoundland and Labrador, and the Nunatsiavut Government (formerly the Labrador Inuit Association). As part of the agreement, two co-management boards were created, including the Torngat Joint Fisheries Board and the Torngat Wildlife and Plants Co-Management Board, both supported by the Torngat Wildlife, Plants, and Fisheries Secretariat (Snook et al., 2018). These Boards are responsible for providing advice to ministers on migratory species and making decisions on non-migratory species, based on the best possible and available evidence from both Inuit and Western scientific approaches, in order to support decisions for stewardship and management of renewable resources.

The Torngat Wildlife and Plants Co-Management Board (TWPCB) is comprised of three Inuit representatives, two provincial representatives, one federal representative, and one independent chair. Decision-making occurs in a “shared space,” where the different roles and responsibilities in the management of critical species come together to reach consensus on management decisions (Figure 5.3). The shared space created by the TWPCB is not static and has continued to evolve over the first 12 years of land claims implementation as the Board has become more established and mature. One of the key components of this evolution is a focus on leading research and, in recent years, the TWPCB has focused on building capacity to analyze and synthesize research and to collaborate on community and Inuit-led research. This process is perhaps best illustrated through recent research led by the Secretariat and the Board around the Torngat Mountains caribou herd.

5.2 Co-management-led research and Torngat Mountains caribou

The Torngat Mountains caribou herd (TMCH) is a small montane herd, mainly defined by their geographic distribution within the Torngat Mountains, with a population size of approximately 1,000 (Figure 5.1). Inuit from both Nunatsiavut and Nunavik have harvested from this herd, and have identified this herd as distinct from other herds, based on their location, behaviour, size, and taste. This herd has always held an important place for Inuit, supporting them in the region

for generations, and holding much historic and spiritual significance. Yet, from a management perspective, little was known about the herd, due to government budgetary constraints and their remote habitat (Figure 5.2).

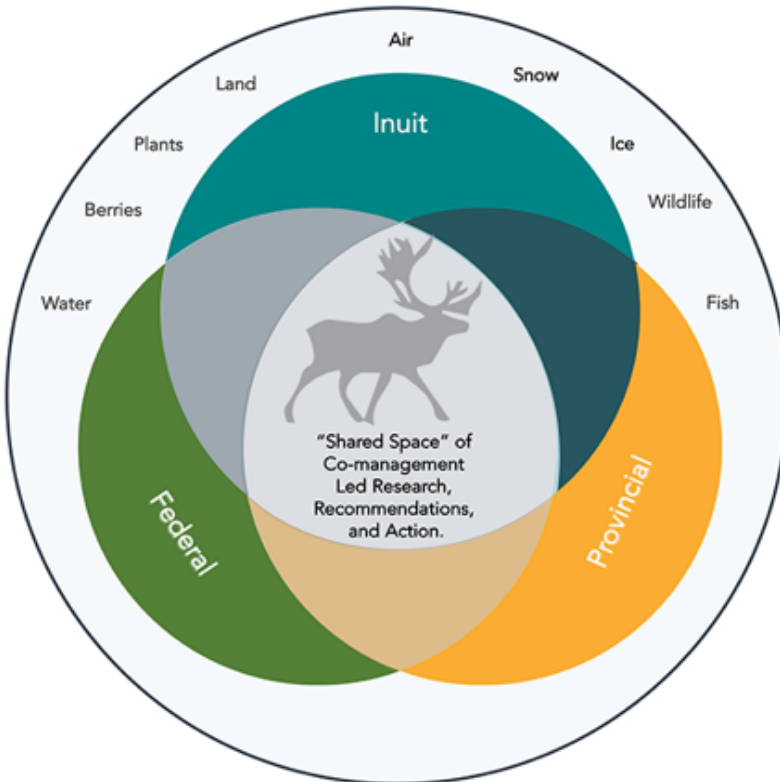


Figure 5.3: A conceptual representation of the 'shared space' of co-management research, recommendations, actions, and decision-making.

In 2010, Nainimmuit (Inuit from Nain, Nunatsiavut) raised concerns with the Torngat Wildlife and Plants Co-Management Board about the future of the TMCH, as the adjacent and sometimes overlapping George River caribou herd was in the middle of a precipitous decline. The community was worried that the TMCH might not be able to endure extra harvesting pressure due to an impending ban on the George River herd. These community concerns mobilized discussions in the region with provincial and federal representatives, and it was soon realized that there was little useful scientific knowledge about the herd, and that the extensive Inuit knowledge and wisdom around the TMCH had not previously been documented. These discussions evolved into the creation of a TWPCB-led research project that would unite Inuit

science with Western science to co-create critically-needed research and knowledge on the Torngat Mountains herd that would be robust, rich, usable, and timely.

Research was gathered through three complementary processes: 1) an in-depth traditional knowledge study with Inuit in Nain, Nunatsiavut, and Kangiqsualujjuaq, Nunavik (Wilson KS, 2014); 2) fitting 25 caribou in the herd with satellite telemetry collars to track their seasonal movements and land use patterns; and 3) aerial distance sampling surveys to understand population distribution and abundance. Data and wisdom from the traditional knowledge study helped to define the TMCH as distinct and important; shared valuable historic and cultural understanding of the importance of this herd; provided much-needed insights on previous herd abundance; and mapped out the parameters for the aerial surveys. The data gathered from satellite telemetry was then combined with the traditional knowledge study, and final decisions were made around the geographic boundaries of future aerial surveys. After the 2014 survey, the herd population was estimated to be around 930 animals. Another survey in 2017 estimated the herd size of 1,326 (Couturier et al., 2015; Couturier et al., 2018).

The aerial surveys conducted in 2014 and 2017 represent an important collaboration between the TWCPB and Inuit (as represented by the Nunatsiavut Government, the Makivik Corporation, the Kativik Regional Government and Nunavik Parks, the communities of Nain and Kangiqsualujjuaq), Parks Canada, and the Governments of Newfoundland and Labrador and Quebec. The partnerships that emerged around this issue were critical to the success of this research and underpinned all aspects of the work. Inuit in Nain and Kangiqsualujjuaq were instrumental in all aspects of the project, from identifying and prioritizing the need to research the Torngat Mountains caribou, through the design of the methods and the study area, through participation in the field, and to the interpretation of results.

5.3 Inuit knowledge and co-management empowerment

This new research and knowledge on the Torngat Mountains caribou herd empowered Inuit in the region with new knowledge, creating a stronger base of research from which to make decisions and recommendations in the future, based on the newly co-produced knowledge.

This research has also proven to have regional and national benefits, providing policy makers at other levels of decision-making with needed research and information. For example, in 2013, when the Committee on the Status of Endangered Wildlife in Canada assessed the Torngat Mountains caribou herd, it was unable to make a decision about the status of the herd due to lack of data. Following the TWPCB-led research project, the Committee was able to recommend that the TMCH be designated as endangered (COSEWIC, 2017).

Through this experience, we have witnessed the ways in which co-management-led research can produce positive outcomes in the areas of knowledge gathering, knowledge sharing, knowledge integration, knowledge interpretation, and knowledge application (Dale & Armitage, 2011). However, this research is not easy. There are challenges to doing research in the North that include high costs, remote landscapes, inter-jurisdictional roles and responsibilities, research politics, different worldviews, geo-politics, and local stress associated with processes such as climate change and large-scale development pressures. In addition, co-management boards are often not resourced or trained to conduct their own research, leading to gaps in internal organizational capacities. Despite these challenges, however, organizations like the Torngat Secretariat are continuing to find ways to support the research needs of their regions to add further richness and diversity to the research landscape in the North.

5.4 Conclusion

We share this particular case study of co-management-led research and its impacts in hopes of highlighting the ways in which Indigenous people, researchers, governments, and decision-makers can benefit and learn from the robust co-management network that exists in Canada. Now, more than ever, is the time to trust, empower, and encourage the full implementation of co-management processes that have been negotiated through land claim agreements, and to understand the importance of these organizations within the research landscape.

Within the current climate of reconciliation and building nation-to-nation relationships in Canada, and the increasing understanding of the need for Northern-led research, the “shared space” of co-management is a strategic way to support research in the North. Co-management

boards have community connections, the opportunity to integrate knowledge systems for robust research, experience with navigating bureaucracy, financial resources for leverage, and the ability to influence harvest decisions and conservation recommendations to decision-makers. And, perhaps most importantly, co-management boards have clear processes and mandates that provide constitutionally-protected rights through the land claims processes to support the health and flourishing of people and the land in Inuit Nunangat.

The co-management boards across Canada are an important outcome of the land claims political mobilization process, and the research they lead not only represents the implementation of land claims, but also furthers the visions for Inuit sovereignty and determination.

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6 “Just because you have a land claim that doesn't mean everything's going to fall in place”: An Inuit social struggle for fishery access and well-being.

6.1 Abstract

Commercial fishing supports coastal communities around the world and fishing livelihoods are often interwoven into local societies, including Indigenous Peoples' culture, identity, knowledges, and economies. Through a case study with co-management board members in Nunatsiavut, Canada, we explore how access to commercial fisheries is a determinant of Inuit well-being. Conversational interviews with fisheries co-managers were conducted and analysed deductively and inductively using a conceptual well-being framework to characterize the ways in which commercial fisheries intersect with Inuit well-being. Our results highlight how commercial fisheries in Nunatsiavut have been a longstanding way of life, with multiple familial connections, and are interwoven with the social, economic, and political components of Indigenous culture and identity. Participants described how the fishing livelihood in Nunatsiavut was put at risk due to overfishing by foreign fleets who exploited Inuit waters during the fishery's formative years. Extensive narrative about fisher committees and community organizing highlighted how political participation and self-determination efforts in the 1970s led to a measure of sustainability through new Northern Shrimp access. Despite periodic success stories, the Inuit commercial fishery remains in a social struggle. The results show how the fishery has continued with multiple injustices and forms of inequity. The combination of events over time, shared through stories, highlight that these small-scale Inuit fisheries were subject to ocean grabbing or ocean dispossession. Based on these results, future research that facilitates an Inuit vision of Nunatsiavut's fishing sector is critical, and reclamation policies that facilitate new pathways forward for reconciliation to centre Inuit well-being are needed. Furthermore, these results illustrate how Inuit identified well-being indicators could be adopted for immediate baseline monitoring and to measure progress.

6.2 Introduction

Global fish production from marine resource captures was estimated at approximately 84.4 million tonnes in 2018 (FAO, 2020, p. 3), providing essential nutrition to billions of people around the world, and critical livelihoods throughout the world's coastal communities.

Renewable marine resources have proven continually vulnerable to overfishing, often causing dire social and economic consequences (Fowler & Etchegary, 2008; IPBES, 2019; Schrank & Roy, 2013; Schrank, 2005). The trends are troubling from a global perspective: by 2017, 34% of stocks fished were being harvested at unsustainable levels – a substantial increase from 10% per year in 1974 (FAO, 2020). There is an urgent need to reconcile sustainability, economic efficiency, and the equitable distribution of benefits from the fishing sector globally (Cochrane, 2000, 2021), particularly with increasing pressures from: climate change and the resultant shifting of species and opening of the Arctic ocean (Barange et al., 2018; IPCC, 2019); advances in technology and capacity to fish (Palomares & Pauly, 2019); challenges in the accuracy of reported versus actual catches (Divovich et al., 2015); and increasing social struggles around the fair distribution of fishing resources and political recognition of small-scale fisheries and their contributions (Bavinck et al., 2018).

With the world's largest coastline, Canada's commercial fishing sector has generated approximately \$3 billion CAD in Gross Domestic Product (GDP) and provided over 26,000 direct and indirect jobs across Canada annually (DFO, 2021). The fishing sector in Canada is diverse, with large-scale offshore operations, small-scale commercial fisheries, subsistence fisheries, and recreational fisheries. The magnitude of the Canadian fishing sector has grown over the past five centuries, from a period with the arrival of European migratory fisheries in the late 15th century by Portuguese, Spanish, English, and French fishers who exploited whales and cod and returned to Europe to sell the catch (Castañeda et al., 2020), to the current-day, multi-billion dollar industry.

Canada also has a longstanding, growing, and important Indigenous Peoples' fishing sector. Indigenous Peoples' fisheries were active and integral to survival prior to European contact and

have persisted throughout the period of growth and expansion of fisheries both before federation and after. To this day, Indigenous Peoples have remained involved in all levels of commercial fisheries, but it has not been without its conflict with the Canadian state (McMillan, 2018). When Canada became a country, one of the first acts of legislation was the creation of the Fisheries Act, which ensured Federal management and control of fisheries. The Fisheries Act supported the growth of non-Indigenous fisheries and displaced Indigenous fishing practices through state-controlled fisheries management (McMillan & Prosper, 2016). It has been difficult for Indigenous Peoples' to maintain their connection to both subsistence and commercial fisheries because of persistent conflict through litigation, legal challenges, and continued oversight and oppression (McMillan, 2018). Despite the importance of Indigenous fisheries in Canada, there is little statistical data available on their economic contributions. Further, centuries of fisheries colonialism and injustice evolving into government policies that limited the access of inshore fisheries, including small scale Indigenous fisheries, but favoured the offshore trawler industry (Matthews, 1995), as well legal conflict between Indigenous fishers and the State has resulted in historical and present day inequities in the fishing sector (Hoover et al., 2021), which require reconciliation and reparations (Snook et al., 2019).

There is increasing recognition that in order to understand the true nature and extent of the holistic benefits of small-scale fisheries, additional metrics and well-being approaches need to be utilized (Coulthard et al., 2011). The idea of measuring well-being⁵ across diverse sectors has received increasing global attention in recent decades as the limitations of GDP as an indicator of economic performance and social progress have become widely acknowledged (Stiglitz et al., 2009). Member countries of the Organisation for Economic Co-operation and Development (OECD), for example, have been monitoring well-being indicators since 2011

⁵ While well-being is a broad concept that considers "psychology, neuroscience, anthropology, sociology, public health, economics, and many other disciplines to understand human flourishing and prosperity" (Plough, 2020, pg 26), this paper frames well-being based on Breslow et al.'s definition: human well-being is "a state of being with others and the environment, which arises when human needs are met, when individuals and communities can act meaningfully to pursue their goals, and when individuals and communities enjoy a satisfactory quality of life" (2016, pg. 250).

(OECD, 2020), and individual OECD countries, including Canada, are tracking their own well-being progress (Canadian Index of Wellbeing, 2016). Within fisheries management in Canada, science and economic indicators remain the dominant considerations of decision makers; further, research specific to fishing and human health has predominately focused on physical health indicators, without taking a broader well-being approach (Woodhead et al., 2018). Measuring well-being outcomes provides important understandings of the broader social, cultural, and well-being impacts of fisheries on individuals, families, and communities (Coulthard, 2012b). Building from fishery research initiatives around the world, there is increasing focus on incorporating well-being indicators in small-scale fisheries and with coastal fishing communities by creating new social well-being approaches (Coulthard et al., 2011), developing method handbooks (Coulthard S., 2015), and developing new frameworks for ecosystem assessment that centre human well-being, community flourishing, justice, and equity (Breslow et al., 2016).

As such, this paper moves beyond the dominant economic and ecosystem resilience models (Armitage et al., 2012) to understand the importance of fisheries from an Inuit well-being perspective. A qualitative case study with fisheries co-management board members in the Inuit region of Nunatsiavut, Labrador, Canada is used to identify and characterize effects of commercial fisheries on Inuit well-being.

6.3 Theory and methods

6.3.1 Nunatsiavut

This research was conducted in collaboration with fisheries co-management practitioners with responsibilities in the Nunatsiavut region of Inuit Nunangat, along the Northern Labrador coastline in Subarctic Canada. The Nunatsiavut region encompasses the five coastal communities of Nain, Hopedale, Postville, Makkovik, and Rigolet. The region is governed through the Labrador Inuit Land Claim Agreement (signed in 2005), a modern-day treaty which included the creation of the Torngat Wildlife, Plants, and Fisheries Secretariat, which is the co-management organization for the region (Snook, Cunsolo, & Morris, 2018). The land claims

agreement for Nunatsiavut outlines the roles and responsibilities for fisheries management through the Torngat Joint Fisheries Board, covering jurisdictional boundaries within tidal waters referred to as the Zone [48 690 sq km], and defining adjacent waters as due east of the Zone [318 683 sq km] (Figure 6.1).

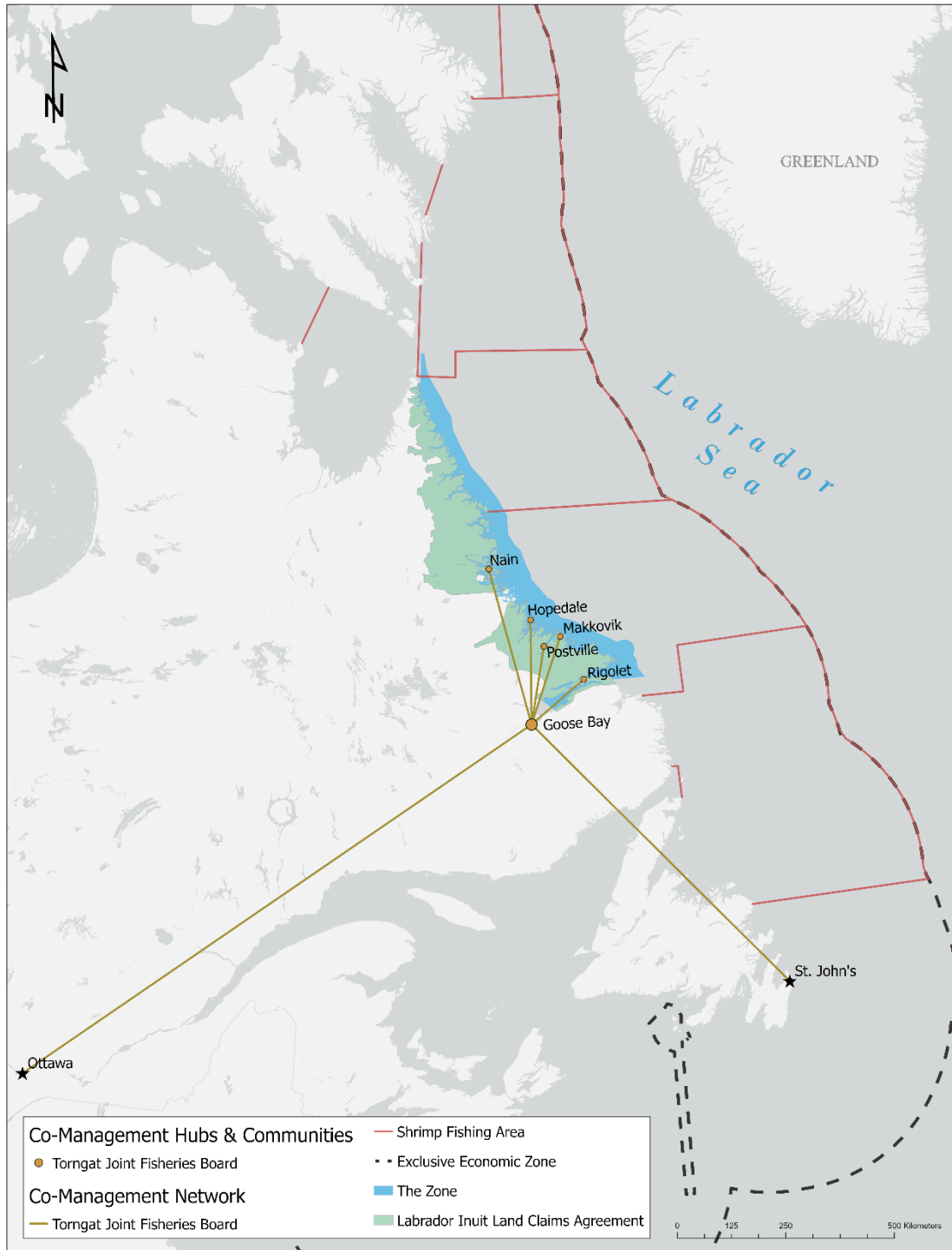


Figure 6.1: Map of Nunatsiavut land claim region including the tidal waters referred to as the Zone, communities, and marine regions. Nain and Hopedale represent the administrative and legislative centers for the Nunatsiavut Government. St. John's represents the Provincial capital of Newfoundland and Labrador. Both St. John's and Ottawa represent regional and head offices, respectively, for the Department of Fisheries and Oceans. Torngat Fish Producers Co-op fish plants are located in Nain and Makkovik.

Nunatsiavut Inuit have an important attachment to their marine environment that predates European contact (Brice-Bennett, 1977). Since the onset of colonialism, there has been extensive exposure to external commercial fishing enterprises that exploited and unsustainably fished valuable fish resources in the region for over 300 years (Cadigan & Hutchings, 2017) and that exploitation severely limited what would have been available to Inuit communities for subsistence and livelihood strategies. This pattern of fisheries exploitation by external interests has persisted for hundreds of years, with fishing interests from European outposts to harvest valuable species such as whale, cod, and salmon in the region.

Presently, the Nunatsiavut region has five commercial fisheries focused on char, scallops, crab, shrimp, turbot, and two fish processing facilities operated by a local fish co-operative in Nain and Makkovik. In addition to these commercial fisheries, Inuit in the region also harvest char, salmon, seals, and cod for subsistence. Currently, there is concern that warming ocean temperatures and high exploitation rates are impacting the two most valuable fisheries – shrimp and crab (DFO, 2019a, 2019b; Mullaney & Baker, 2020). The uncertainty and potential fishery closures are not new to the region; but with the signing of the land claims in 2005, there is a new level of self-determination in the fisheries, and local rightsholders are increasingly able to define and advocate for new objectives in fishery management in the region.

6.3.2 Knowledge sharing

Given the complexities of socio-ecological research in Indigenous territories (Tuhiwai Smith, 2008), and the imperative to prioritize the voices of Inuit (Inuit Tapiriit Kanatami, 2018), this research used in-depth conversational interviews (Conrad, 2011) as the primary research tool. Interviewees included co-management board members with the Torngat Joint Fisheries Board (TJFB) and the Torngat Wildlife and Plants Co-management Board (TWPCB). Interview questions were developed in collaboration with members of our research team, including an experienced Inuit researcher from Nunatsiavut to help pre-test the format and approach. The interview guide was comprised of questions focused on participant time and experience on the land; experiences with wildlife and key species in the North; experience with and changes observed from fish management; reflections on successes and challenges in co-management;

thoughts on navigating various bureaucracies (Inuit, provincial, territorial, and/or federal) over time; and opportunities and challenges related to mobilizing co-management into practice.

Eleven interviews (n=0 female and 11 males; 8 Inuit, 3 non-Inuit) were conducted, producing 19 hours and 47 minutes of recorded data for analysis. Interviews were conducted by the lead researcher (Inuk from Labrador) between December 11, 2018 and April 11, 2019. Most interviews took place in person (n=8), with the remaining interviews conducted via telephone (n=3). All interviews were audio recorded, with informed consent, and conducted in English at the participant's request. At the time of this research, there were no women appointed to the Torngat Joint Fisheries Board or the Torngat Wildlife and Plants Co-management Board; as such, there were no women in the pool of potential interviewees. There were three non-Inuit interviewees, as the Board is also comprised of appointees from the Federal and Provincial Governments. At the time of these interviews, the Government appointees were exclusively non-Inuit and generally past or previous members of the public service.

The audio recordings from the interviews were transcribed and reviewed by the lead researcher for accuracy, and for comparison with the interview experiences and note taking that occurred during the interviews. The research protocol was approved by the University of Guelph Research Ethics Board, and the Nunatsiavut Government Research Advisory Committee. The Torngat Wildlife, Plants and Fisheries Secretariat managed the data for this project, reflecting ITK's National Inuit Research Strategy priority to ensure Inuit access, ownership, and control over data and information (Inuit Tapiriit Kanatami, 2018).

6.3.3 Data analysis

Using the 4C well-being framework from Breslow et al. (2016), we applied a comprehensive conceptual framework of human well-being to our data to explore the relationship between Inuit fisheries and the intersections with Inuit well-being. The 4C framework draws from literature in international development, anthropology, geography, and political science, and was influenced by ecosystem-based management, which endeavours to balance the many interrelated dimensions of ecological integrity and human well-being. The 4C framework is

comprised of four constituents of well-being: 1) connections; 2) capabilities; 3) conditions; and 4) cross-cutting domains. Each constituent contained a list of nested domains, followed by a list of nested attributes (See Figure 6.2, Appendix 9.1, Appendix 9.2). For example, nested within the 'connections' constituent is the 'tangible connections to nature' domain, and nested within 'tangible connections to nature' are attributes such as 'resource access and tenure'.

To analyze our data, we developed a deductive code book (Appendix 9.1) using the constituents, domains, and attributes in Breslow et al. (2016) to facilitate data coding. Throughout the coding process, we allowed opportunities to inductively develop new attributes if necessary, to fit the context and social differences associated with research in Nunatsiavut and reflecting an Inuit context. Throughout the analysis process, the audio interviews were listened to repeatedly for context and nuances to enrich and add further depth to the analysis. Initial annotations of the data were completed to elicit preliminary research insights. After preliminary annotations, extensive deductive coding was conducted. Finally, memo writing was utilized to summarize key reflections for each interview transcript. A qualitative analysis software, QSR International's NVivo™ 12 software (NVivo™), was used to support coding and data sorting, to facilitate data organization, and for retrieval and organization of quotes (Leech & Onwuegbuzie, 2011).

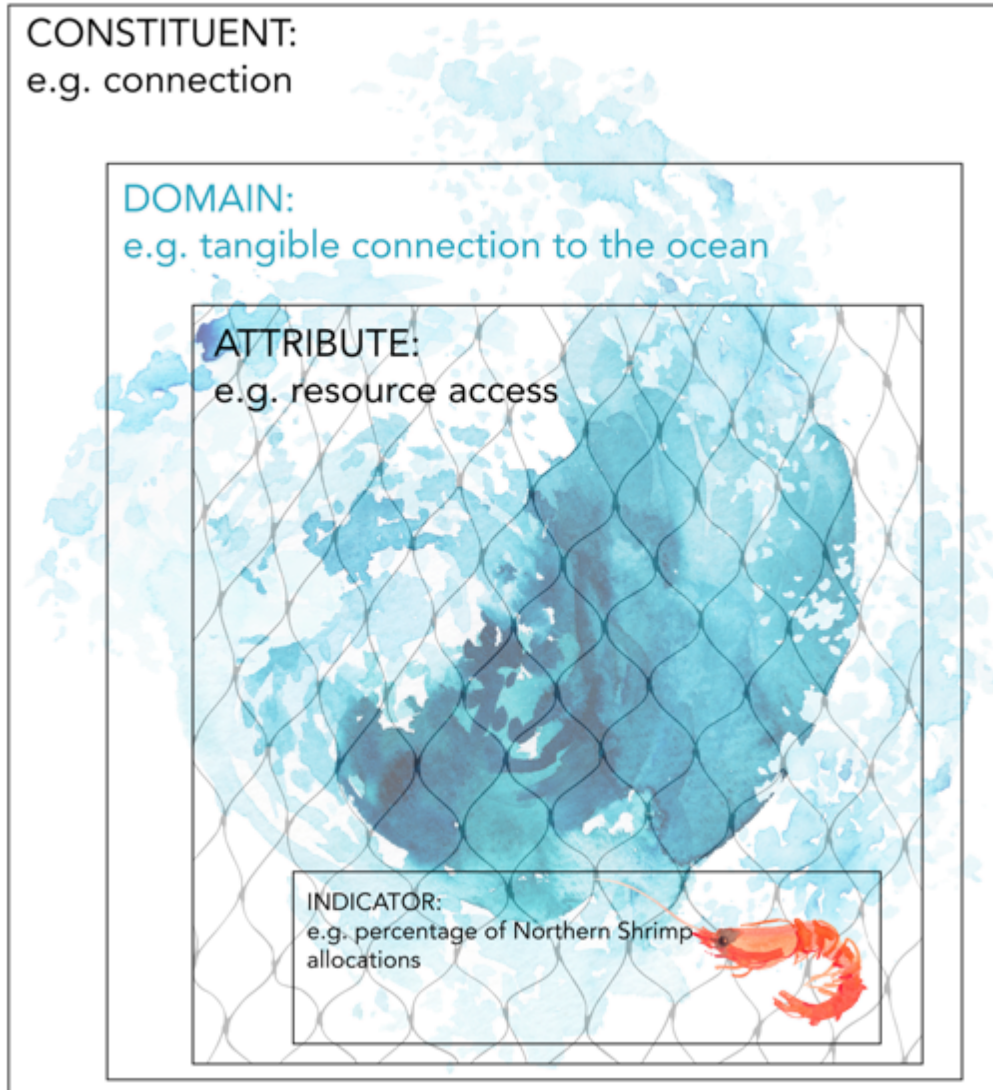


Figure 6.2: The nested structure of the 4Cs framework of human well-being. Adapted from Breslow et al. (2016) and using a tangible connection to nature domain example, through access to Northern Shrimp.

6.4 Results

6.4.1 Fishing as a way of life and Inuit identity

Fishing was described as a way of life for many people in Nunatsiavut, with numerous positive impacts on Inuit well-being (Appendix 9.2). Individuals explained that “it was wonderful”, “that’s all I wanted to do”, “we lived on fish”, we “grew up on it [fish]”, and that they “just loved the life”. Fishing in Nunatsiavut was also described as a family affair, with references to grandfathers, fathers, brothers, and uncles. For example, “I fished with my grandfather for char

in Nain when I was a kid”; “I grew up fishing. I was four years old, my father was a fisherman”; “I went with my uncle for a few years and when I was 17, I took over. I got my own boat, and I took over the premises where my father fished and I had fished there until 1968”; and “I went cod fishing for one summer with a crew but, just to help with my brother. I didn’t make any money at it. My brother was part of a crew, so, my share went towards his” (Figure 6.3). As one participant explained, while people loved fishing and being part of the fishery, this way of life had its challenges and was not always a viable livelihood: “as a young child, nine years old, I started fishing with my brothers, and that continued until the – I guess I was about 13 when it just wasn’t viable anymore”.

Maintaining this lifestyle connected to fisheries in the Nunatsiavut region required perseverance and resilience, and the interviewees showed that a lack of security and stability in the fisheries at times also had major impacts on Inuit well-being. There were multiple stories about change as Inuit on the North coast of Labrador were constantly forced to switch fisheries, whether due to, for example, the collapse of cod stocks in the 1960s or the closure of the salmon and char fisheries in the region in the 1990s. As fishers and communities adjusted to the closure of multiple fisheries over time, strong emotions were described in the interviews: “heart-breaking”, people feeling “destroyed”, and sharing that they “miss them [the fish]”. One participant explained, “I don’t know if people from the outside had a full appreciation for what that [closing a fishery] done to people”.

While Inuit throughout Nunatsiavut used mixed livelihood strategies to adapt to all these changes in fisheries stocks and markets, it was evident through these data that these changes all resulted in major implications for Inuit well-being:

People were happy, they were out working, and they were involved in something they wanted to do, and they loved it, you know, and it was their life. It was their way of life and then all of a sudden, the rug was pulled out from under them and they were lost.

Even though the fisheries remembered and discussed by participants in this research often dated back to the 1950s, 60s, 70s, and 80s, strong feelings of inequity still remained. In

particular, the collapse of the cod stocks was a strong example of inequitable support for fishers throughout the Province of Newfoundland and Labrador. When the cod stocks disappeared in Northern Labrador in the 1960s, the fishers had to adapt and survive with no Government support and, as one participant explained, “by 1968 everybody just went, and that’s when they started to open up the salmon and char fishery”. Further, participants explained that many fishers had to leave the waters entirely and relocate for other work opportunities in other regions.

While many people in this research discussed the pain that came from government-imposed fishery management decisions and the forced closures, one Inuk participant shared the difficulty of having to enforce the government decisions:

The thing that really bothers me to this day was when I had to go to an individual who fished all of their life, I had to hand him a paper and they had to sign a waiver saying that they had – in order for them to receive compensation from the government – they had to sign away every fishing apparatus that they had and never to participate in a commercial fishery again; salmon, trout, or char, and they signed that waiver. I’ve seen many people with tears in their eyes, tears running down their cheeks signing that, and to this day the older people that didn’t really fully understand or appreciate it, that still bothers me. That was very difficult to work through, you know. Then I had to take their gear to the dump and burn it. I took their livelihood to the dump and I burned it because that’s what the government told me to do.

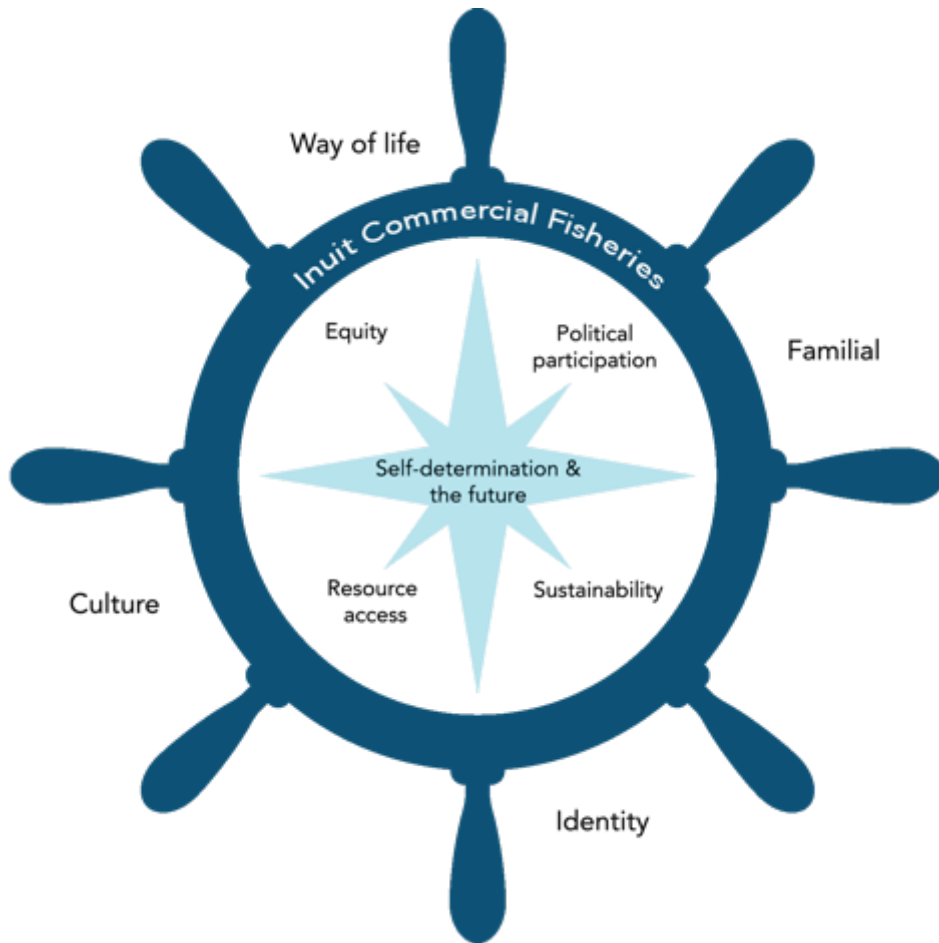


Figure 6.3: Summary of results for the cultural and identity, tangible access to nature, and freedom of voice domains from the 4Cs framework of human well-being adapted from Breslow et al. (2016). The all-encompassing outer ring is representative of data in section 6.4.1. The inner ring is representative of data in sections 6.4.2 and 6.4.3. The center is representative of the future direction and data in section 6.4.4.

6.4.2 Political participation leading to a level of sustainability

The time periods discussed in much of the data was prior to the settlement of the Labrador Inuit Land Claim Agreement with the Governments of Canada and Newfoundland and Labrador in 2005; indeed, Inuit self-government had yet to be negotiated in any Inuit region of Canada. Participants in this research indicated that in the absence of a settled land claim, Inuit in Nunatsiavut were still participating politically and advocating for their inclusion in fishery access opportunities (Figure 6.3). For example, Inuit on the North coast of Labrador mobilized politically in the 1970s onward through the formation of fisher committees when the Federal and Provincial Governments started to introduce fishery regulations and licensing to the

region, providing an organized front when Government officials visited the areas. One interviewee had a very lengthy career in the Federal public service and he shared his experiences with the Fishermen Committee in Nain, in the late 1970s and early 1980s related to the char and salmon fisheries:

Fisheries committees were really front and centre and so they should have been because who knew the fishery better than the people who participated in it, and you know I have to give credit where credit is due, and a lot of the things that was done in the fishery would not have been done had it not been for those fisheries committees. They were a powerful force. The committees were very good to work with, I must say, and they were a wonderful help or assistance to us in trying to develop and assist the fishery in Northern Labrador. Things they got involved with, as I mentioned, there was char quotas established in certain bays in Northern Labrador and this was done through the Science Branch of DFO, fisheries management and the fishermen's committees, so local input, local allies was very much taken into consideration when developing any kind of management plans. And the first management plans inshore for Northern Labrador were really char and salmon. And the fishermen's committees had major input into those for the Northern part of Labrador.

Building from the fisher committees, participants described how other Inuit-led groups began to form and advocate for access to fishing rights, including the Labrador Resources Advisory Council, a Fishery Policy Emergency Committee, the Labrador Inuit Association, and the Labrador Inuit Development Corporation. Today, the Nunatsiavut Government, the Torngat Fish Producers Cooperative, the Nunatsiavut Group of Companies, and the Torngat Joint Fisheries Board all work together to support Inuit fishing rights and access in the region. As another interviewee who also had a lengthy career in Labrador with the Federal public service, explained, "in fact the work that we did in Northern Labrador in all of the locations came as a result of the strong lobbying from these fisheries committees and they were a big factor" and "the Labrador Resources Advisory Council were a powerful lobby group without question".

These earliest political interactions with Government involved topics such as the introduction of licenses, management plans, enforcement measures, the establishment of the Canadian Saltfish Corporation, and building infrastructure such as wharves and fish plants. The political engagement proved to be beneficial when there were opportunities for new fishing opportunities, especially related to shrimp. As one participant explained:

When the discussions came up regarding the expansion, or development of the shrimp fishery, I guess all of us – we did anyway – thought it was a great opportunity for the fishery in Labrador to get involved. And we had discussions with the Labrador Resources Advisory Council, fishermen’s committees and up the line within DFO.

Participants discussed at length about the shrimp fishery and how it continued on to be one of the region’s most successful fisheries. One interviewee explained how the Minister’s office and unions were all involved with the shrimp fishery decisions to be made and a change in policy did occur, as originally “those licenses when they were issued were for other areas of Eastern Canada other than Labrador. But Labrador was what we were concentrating on”. Ultimately, during this time, three offshore shrimp licenses were issued to the Labrador region, and one of those was for the communities of Northern Labrador. It was issued to the Labrador Inuit Association “to be held in trust for a cooperative to be formed”. Interestingly, it was stated that the Minister of the Department of Fisheries and Oceans issued the license the way he did based on recommendations from the region from the Fishery Policy Emergency Committee and the Labrador Inuit Association. One Inuk interviewee who attended some of these meetings in the 1970s explained:

A co-op fit right in with the native [Inuit] lifestyle because in a co-op you share, it’s a sharing society and that’s all the native lifestyle really is or was in the past anyway, it was a sharing society; so everybody said, “Yeah we’ll go for the co-op”, and they voted so democratically and chose the co-op.

As a result, the Torngat Fish Producers Co-op formed in 1979 and remains one of the main fishing stakeholders in the region, with an offshore shrimp license, and fish plant operations in

Nain and Makkovik. Participants reflected on how the co-operative model has proven to be sustainable for Inuit in the region, and the data highlighted many examples of social initiatives undertaken by the Torngat Co-op, such as special fishery initiatives bringing Inuit who were forcibly relocated from communities back to their former communities for summer fisheries, and contributions to community foodbanks that help with food security.

Participants also discussed how revenue generated by the offshore shrimp fishery has been able to cross-subsidize other fishing opportunities that were not financially viable on their own, but produced employment and other community benefits: “we had cross-subsidized all our operations based on shrimp revenue” and “everything that comes to the Co-op, goes to the fishery on the North Coast of Labrador. Everything.” This Inuk participant elaborated further to say:

The shrimp revenue was something that was constant. It was there that you could rely on. You could use it to go right back into the fishery. Running the plants, giving assistance to the fishers. Using it to borrow to do infrastructure. So, I mean it was as it was intended to do.

6.4.3 Resource access and inequity

This research revealed multiple examples of injustice in the Nunatsiavut fishery, including the collapse of the cod fishery (Figure 6.3). Participants spoke about the over exploitation of cod fish by fishermen from outside of the region, which eventually led to the end of the commercial and subsistence cod fisheries in Northern Labrador. At that time, there were no Government supports for displaced fishermen; however, when the Government of Canada later announced an official cod moratorium in 1992, “the North coast was not included” in the forms of compensation offered to southern based fishing interest. One of the participants working with the Federal government in those times explained: “we fought like hell because what they were saying it was the 2J, 3K [regions included] cod. So Southern Labrador was included but not the North”. One interviewee who worked for the Federal government shared:

To be honest with you I couldn't understand why 2GH [Northern Labrador] wasn't included. And we at the time made as best representation we could at our level to have it included, but it never did. It was I guess at a very senior level the decision was made on that. But you know, we weren't in a position to get right to the heart of it perhaps, or I wasn't anyway.

A second example of a resource access inequity related to legal interpretation of the modern-day treaty (Labrador Inuit Land Claim Agreement (LILCA)). Interviewees shared their frustration that despite ongoing increases to shrimp access, many believed there was still an inequitable amount available to Inuit who are adjacent to the resource and have a land claim agreement. One of the interviewees talked about the challenges of interpreting and implementation of the LILCA:

The problem is the wording. Licences – you're supposed to get X amount of fish licences, right? And they [knew] there'd be no new licences, or if they have, they'd be very small. Because everything is now [fish] allocations, so it's a question of, you know, should the allocations really be considered licences.

A third example of a resource access inequity that participants highlighted in this research related to Inuit snow crab harvesting capacity. After the cod moratorium, a snow crab fishery developed in Newfoundland and Labrador. One interviewee with direct experience in this topic explained:

We continued doing those surveys. When we do a survey, we find a resource, we'd probably issue licences to three or four fishermen who had participated in a lot of cases, in the survey. But, in most cases, we actually chartered a boat. So, we paid for them to do the survey and, we got data.

Eventually, these surveys would make their way to Labrador and crab became a major species that created employment in the communities; but for Northern Labrador, in order to access the fishing resource, fishers needed access to capital and boats. One interviewees explained: "I

saw copies of letters, for instance, that came from the Harbour Grace Shrimp Company who wanted to partner with the North coast licences and fish it on one of their vessels". And continuing, he explained that while the Labrador Inuit Association at the time wanted Inuit to become vessel owners, "we recognized that the economics was not there in the resources available on the North coast for them to become vessel owners" and it was decided joint ventures would be made with Newfoundland boat owners in the south as a trial project. Once this decision was made, multiple trial projects were initiated with varying degrees of success; to this day, the majority of enterprises remain without an Inuit vessel owner. While crab quotas get allocated to Inuit, as one participant explained, "the [financial] beneficiaries of that resource for the most part is the vessel owners" and "the bigger bulk of the money still goes south. We have not addressed that issue".

6.4.4 Self-determination and the future

It is clear from this research that there are multiple and sometimes-competing interests in the Nunatsiavut commercial fisheries, often including potentially conflicting ideas of the future of the fisheries in the region, who should govern them, and how (Figure 6.3). For example, one interviewee commented, "well the NG [Nunatsiavut Government] should be a government, that's what they are. Quit trying to be a business operator". Another interviewee held similar views and stated that the Nunatsiavut Government should be setting objectives, "but not being directly involved because I don't believe [the Nunatsiavut Government] belongs in private industry".

There were also multiple ideas shared by interviewees about restructuring the commercial fishery in Nunatsiavut. One participant discussed a past report that recommended a consolidation of fishing assets in the region but the different fishing entities "didn't always see eye-to-eye", so that particular vision of the fishery was not acted upon. One detailed idea that was shared by another participant included:

If you restructure the fishery you can have a good fishery up there, you could have a half a dozen ninety footers supplying everything you need. They got lots of quota, they

got turbot and there's lots of scallop, they got shrimp, they got crab and cod may come back; but there's unutilized species, there's species not even tempted, you know.

Another participant shared different ideas:

Those quotas should be utilized as like nursery quotas or incubator quotas so that you can get people into the fishery and then you should also be able to expect them to put some money and effort into getting their own. But you should also help that way that you'd get more people into the fishery but utilizing your quotas just to, not just, but as a steppingstone into their own independence.

As the data show multiple ideas about roles, responsibilities, and the appropriate structure for the Nunatsiavut fishery, there were also hopes from a co-management board perspective as well. As one participant shared: "we do with what we have and we do make good recommendations on some of the fisheries. So, I would like to think that Nunatsiavut and the federal government and to some extent, the province, would look at these recommendations and consider them and give them fair evaluation and utilize where possible".

6.5 Discussion

The results from this research highlight that subsistence and commercial fisheries in Nunatsiavut are a longstanding way of life and identity for Inuit, and often a family and intergenerational affair. Fisheries in the region have long been entwined with the social, economic, and political fabric of Inuit communities, with fishing supporting food security and livelihoods for generations in Nunatsiavut, from both subsistence and commercial perspectives. Furthermore, this research clearly revealed connections between fishing and Inuit mental and emotional well-being with negative impacts occurring as a result of inequitable fisheries management, fishery closures, and a deep connection to fishing grounds and former fishing communities, representing "way of life", culture, and identity. Yet, due to circumstances outside the control of Inuit and the resulting fisheries collapse, Inuit in Labrador were forced to adapt to the loss of fisheries access, and the resulting lack of financial security and economic, mental, emotional, familial, and cultural hardships. While this experience is not unique to Inuit

in Nunatsiavut, little is understood about the impacts of adaptation on people in fishing-reliant communities, and the broader impacts beyond economic loss to identity, wellness, culture, and social connections (Coulthard, 2012a; Galappaththi et al., 2019).

Fishing, and access to fisheries, can be understood as a determinant of Inuit health and well-being, and may be a protective factor against threats to well-being. For example, Sawatzky et al. (2019) highlighted the myriad ways in which land and waters are a determinant of well-being in Nunatsiavut, and how the lands and waters are 'kin', 'healer', 'teacher', and 'connector'. Further, Sawatzky et al. (2019) also highlighted how the passing on of traditional knowledge, practising cultural skills, participating in community activities, spending time with family, and supporting each other and sharing in struggles were also connected to well-being in a Nunatsiavut context. This dissertation research resonates with other research that links connections to land and Indigenous well-being (Tobias & Richmond, 2014), and also highlights the multiple intersections between and among participating in the fisheries and connecting to water, culture, and identity, and Inuit well-being. This framing of fishing and fisheries access as a determinant well-being, then, further expands the scope of analysis and consideration when fisheries decisions are being made, as it situates fisheries beyond solely economic considerations, to include broader social, cultural, mental, and emotional impacts and outcomes.

Inuit in this research also shared that participating in the fisheries was a struggle by many families and multiple community representative organizations over generations. The struggle has been prolonged and spanning over seven decades, and the issues have been very serious in nature due to their direct connection with food security, livelihoods, threats to overfishing by outsiders, and threats to community survival. This resonates with the concept of a 'social struggle' (Bavinck et al., 2018, p. 47), resulting from the injustices and deprivation experienced by those participating in small-scale fisheries, the negative economic, social, and community effects, and the resulting collective responses. This 'social struggle' over fisheries is ongoing in Nunatsiavut, Labrador, where a sense of unfairness and inequity remains and efforts toward distributional justice are active to support Inuit well-being.

Connected to the concept of a 'social struggle', participants in this research identified a collective history of marine access, whether speaking about the loss of access, or the struggle to gain access. There was evidence throughout the interviews of the many ways in which governments and external fishing interests deprived Inuit of access to fisheries, and the related well-being benefits, particularly during the long period of colonization when Inuit self-government was limited, restricted, and marginalized. Participants talked about the cod collapse, and highlighted that: the collapse happened during a time when Inuit were not recognized in Newfoundland by the Provincial Government, and well before a land claims existed for Inuit in the region; overfishing by outsiders clearly undermined Inuit security and livelihoods in the region; and the resulting impacts of the cod collapse reduced social-ecological well-being for Inuit. These experiences related to the cod collapse reflect the concept of 'ocean grabbing', defined by Bennett et al. (2015, p. 62) as the "dispossession or appropriation of use, control or access to ocean space or resources from prior resource users, rights holders, or inhabitants". Inuit have been historically and systematically marginalized, displaced, and dispossessed of access to marine resources in Nunatsiavut, which not only restricts livelihoods and economic opportunities, but also eliminates a vital well-being opportunity for Inuit in Nunatsiavut.

Further, ocean grabbing or ocean dispossession can be linked to the understanding of land dispossession, which has been shown to have direct and indirect health and well-being impacts on Indigenous Peoples' throughout Canada and globally (King et al., 2009; Tobias & Richmond, 2014). Participants in this research shared powerful experiences about how they, themselves, or their family members, had to leave fishing entirely and, in many cases, relocate from land and waters they were deeply connected to because of fisheries decline, with resulting negative impacts to their well-being. Participants shared stories of how outside fishers knew the damage they were causing to the fish resources in Inuit waters. Some of the outside fishers were also International pointing to the wider consequences of globalization and ongoing colonization. All of this activity was happening with the active involvement of the

Provincial and Federal Governments through their various agencies and roles in fish management.

The themes of inequity and a sense of unfairness permeated these data. Following the 1992 cod moratorium, government introduced programs to encourage fishers to leave the fishery through a variety of incentives (Woodrow, 1998); however, participants in this research discussed the inequity of the government assistance, as Inuit fishers in Northern Labrador were impacted by an earlier cod closure in 1960s and deemed ineligible to receive compensation or benefits even after the 1992 moratorium. This issue was further compounded when new fisheries such as crab were developed in Newfoundland and Labrador, as fishers who benefited from the moratorium programs and ultimately still stayed in commercial fisheries were able to rebuild livelihoods through crab (Woodrow, 1998), whereas fishers in Northern Labrador have struggled to build a crab fishery on par with other regions of the province. Indeed, while there are crab in Inuit waters, Inuit harvesters have struggled with access and the ability to derive benefits from the resource (Ribot & Peluso, 2003), because a harvesting fleet has not developed, and the majority of benefits continue to flow to southern-based vessel owners.

When policies were implemented that supported communities and cooperative development, there was clear evidence from this research of the resulting benefits – benefits that have kept the fishing industry alive in Nunatsiavut. For example, participants in this research shared the example of northern shrimp access as the time when fishing capabilities started to change in Northern Labrador in the 1970s, particularly through the leadership of organizations such as the Labrador Inuit Association and the Torngat Fish Producers Co-Op. This led to a period of increased Inuit self-determination and agency over their fisheries (Coulthard, 2012a), which has created a sustained period of stability for commercial fisheries in Nunatsiavut, albeit still within the context of an ongoing social struggle.

Given the complex social struggle that has involved inequity and challenges to benefit from marine resources in Nunatsiavut Inuit waters, decisions need to be made about the future of these fisheries. Participants shared different ideas and thoughts about how to approach future

fisheries development and the Nunatsiavut fishery could benefit from the development of shared objectives and a vision that is determined by Inuit (Cochrane, 2000). The Nunatsiavut rightsholders, all levels of government, and researchers have a responsibility to give more attention to this specific social struggle (Bavinck et al., 2018). This further reflects calls for 'blue justice' (Chuenpagdee, 2020, p. 1), an approach to understanding how small scale fisheries and their communities may be impacted by initiatives that focus on ocean development, but do not consider the role of small-scale fisheries in ocean sustainability and ocean justice.

Understanding Indigenous fisheries within the context of blue justice enables the Nunatsiavut rightsholders, and Indigenous rightsholders globally, to give added motivation for their social struggle, and to call for governments to make up for past failings and injustices (Jentoft, 2019, p. 307).

Finally, it is essential to track and monitor the holistic well-being impacts of fishing on Inuit health and well-being; new approaches for developing appropriate and reflective indicators for ongoing monitoring of well-being are required. In Breslow et al. (2017, p. 1), for example, the authors used a robust methodology to develop an approach for evaluating indicators of human well-being within a fisheries context, focusing on resource access and self-determination attributes. After evaluating over 2,000 possible indicators, they found that many of the existing indicators and related data do not have the ability to adequately reflect the ways in which environmental change impacts human well-being, and are further limited in their ability to assess issues of social justice and equity. The authors highlighted a need for new social indicators tailored to specific questions and involving those whose well-being is most directly affected. Our data analysis provided case study data for all 38 attributes and the 4 cross-cutting themes of the 4C framework [see Appendix 9.2] showing extensive intersections between commercial fisheries and Inuit well-being. The 4C framework proved to be very effective for the analysis of data in the Nunatsiavut context. While we focused our results on select themes from the framework, there are multiple other attributes that future research may prioritize. Future use of the 4C framework could allow policy makers to determine where their knowledge is deepest, where there are clear gaps in available data, where there may be

opportunities for special policy initiatives, and discovery of persuasive policy recommendation that may influence a Minister of Fisheries and Oceans to support specific directions in the future. Therefore, we recommend that a set of locally-identified well-being indicators be adopted for monitoring the wide-ranging impacts of the fisheries in Nunatsiavut. This presents an opportunity for local stakeholders to determine their future by selecting the attributes and indicators they may want to track over time based on their understandings of Inuit well-being and working to co-produce this data moving forward through co-management led research (Snook et al., 2018).

6.6 Conclusion

While Inuit self-determination in fisheries is often a significant, unjust, and inequitable social struggle, there have been major advancements in Nunatsiavut over the last 50 years from local organizing, to co-operative society development, self-government, and the introduction of co-management structures in 2005. Currently, there are troubling ecological signs in the region's two most valuable fisheries (shrimp and crab) (Pantin, 2020); therefore, the time is right for research that considers Inuit futures in commercial fisheries and for research and initiatives that center an Inuit vision for the fishery, to support Inuit self-determination and thriving, flourishing, healthy communities, with equitable access to marine resources (Bennett et al., 2018; Snook, 2019). This is particularly relevant and essential at this time, given the Government of Canada now has a fisheries reconciliation strategy (DFO, 2019c), and are developing a new Blue Economy Strategy (DFO, 2021). This is an important opportunity for the Government to engage with communities differently, include diverse indicators of well-being –social, cultural, mental, and emotional impacts – rectify past harms and inequities, and focus on a future of reconciliation and blue justice for small-scale Indigenous fisheries.

6.7 References

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7 Enhancing fisheries co-management in the eastern Arctic.

In January 2019, the three co-management boards from Nunavut, Nunavik, and Nunatsiavut gathered together in Happy Valley-Goose Bay, Labrador, for an unprecedented opportunity to discuss commercial fisheries in the Eastern Arctic, and decision-making responsibilities of the Nunavut Wildlife Management Board (NWMB), Nunavik Marine Region Wildlife Board, and the Torngat Joint Fisheries Board (TJFB)⁶. This was the first gathering of its kind, and was driven by the boards' individual recognition of the essential need to collaborate across land claim regions in the Eastern Arctic, to work together for shared species, and to learn from each other in order to improve how land claims are implemented throughout Inuit Nunangat (Inuit homelands).

Access to fisheries is a critical necessity and a determinant of health and well-being for Inuit throughout the four regions of Inuit Nunangat—Inuvialuit Settlement Region, Nunavut, Nunavik, and Nunatsiavut (Figure 7.1)—and Inuit access to fisheries is a fundamental concern and major policy issue. Yet, inequitable policies have limited the extent to which Inuit peoples and communities benefit from commercial fishing opportunities in Canada, both within and adjacent to their respective territories. For example, Inuit currently experience inequitable access limitations, depending on geographic location, provisions of land claims agreements, and species of interest, both within Inuit Nunangat and when compared to southern interests and access. Current commercial fisheries access for Inuit is also not well documented, creating the need for North-to-North dialogue and for interjurisdictional learning about shared challenges and shared opportunities.

⁶ These three boards provide advice to the Minister of Fisheries, Oceans and the Canadian Coast Guard, and in the case of the NWMB and the NMRWB, they make co-jurisdictional decisions with Fisheries and Oceans Canada (DFO) within their respective land claim settlement regions. The boards have many fish species in common such as Greenland halibut, northern shrimp, snow crab, and Arctic char, and each of these fish stocks have significant impacts on the economy and local livelihoods in each Inuit region.

Within this context, participants at this gathering were brought together to discuss strategies for the implementation of land claims through co-management boards, to share experiences with implementation and fisheries access, and to learn from the challenges and successes of the Eastern Arctic co-management boards. Three key themes were discussed: the spirit and intent of co-management as negotiated in land claim agreements, benefits of the fishery in Inuit Nunangat, and responsibilities in research. (See <https://www.youtube.com/watch?v=2m5OUP49Tbo> for a video of the event.)

7.1 What is the spirit and intent of co-management as negotiated in land claim agreements?

7.1.1 A renewed commitment to co-management: “This is important because we all have common interests.”

It was clear from the gathering of the three Eastern Arctic co-management boards that more productive opportunities between co-managers would be possible if more time was spent focusing on the intent of land claim agreements. Inuit co-managers at the gathering repeatedly made comments about this, with one person remarking on the need to “pay more attention to the land claim agreements that have been signed. Pay more attention to the spirit and not just the words and interpretation,” and another saying that co-management is “a good process and the government of Canada should honour the spirit and intent of why the boards were set up and not be so literal in their interpretations of these processes.”

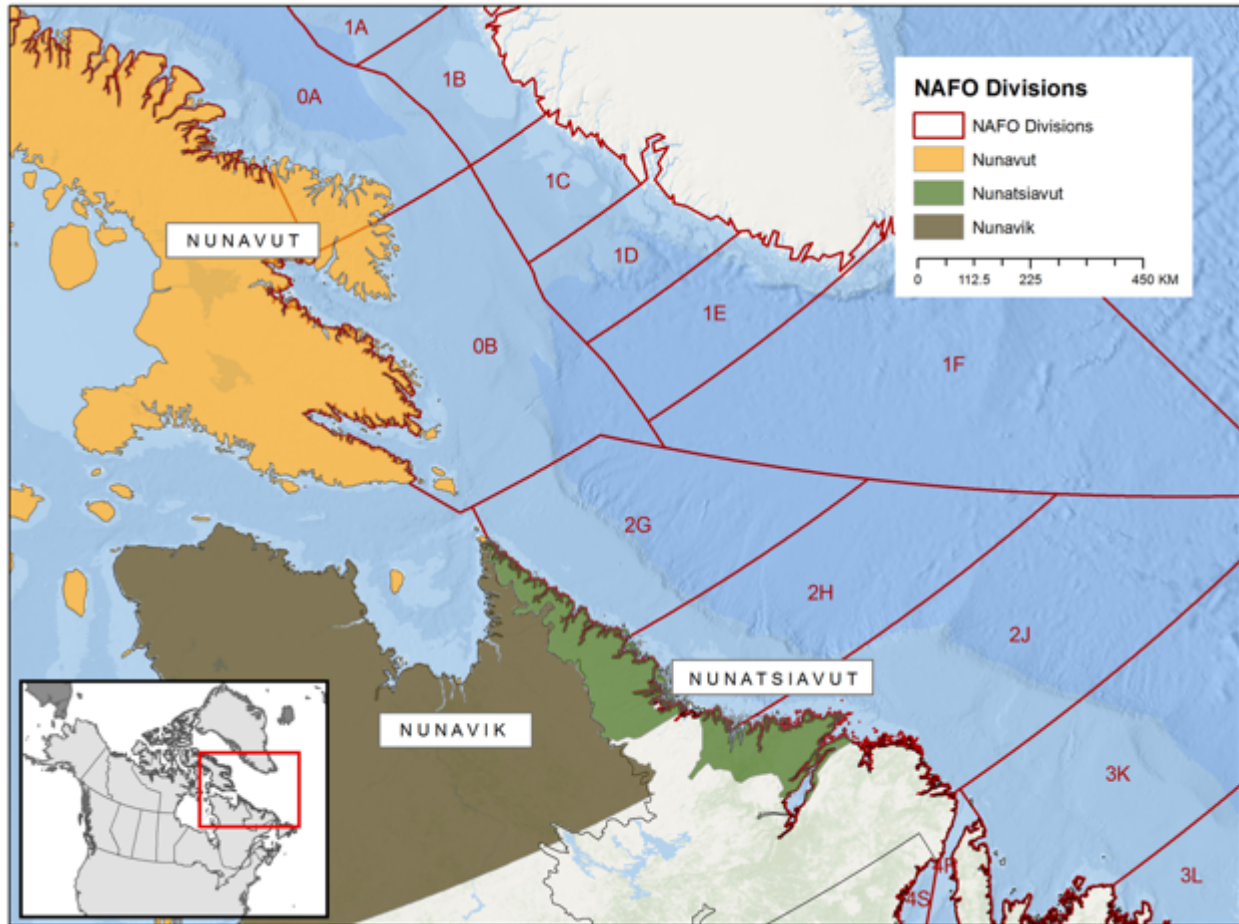


Figure 7.1: Inuit regions in the Canadian Eastern Arctic and NAFO fishing areas.

These interpretational challenges were generally discussed in situations where it was felt that advice provided by a co-management board was not thoughtfully considered by the responsible minister. For example, as one participant shared, “What we have seen to date is the minister seldom heeds the advice of the board, and the board rarely hears from the minister on why a decision was made. To me that is not co-management.” Another participant echoed this sentiment, and explained: “When someone acts honourably you don’t question it. You know it. There is a lot of questioning [of co-management board decisions and recommendations] and still uncertainty years after the agreement is signed.”

There was also a sense on the part of some co-managers at the gathering that, as one person said, “Any good that has come for Indigenous fisheries has come from the Supreme Court.” While recent court cases (Clark & Joe-Strack, 2017) have suggested that the courts remain an

option to settle disputes related to land claim implementation and treaty rights, it would be more proactive, cost-efficient and respectful if a renewed commitment to co-management was demonstrated through tangible policy statements and implementation of co-management advice. A participant provided an example of this desire by explaining:

Co-management is about trust and it is about agreements that have been made. In the context of fisheries co-management in our region, I believe we have matured enough to the point now that the Minister of DFO [Fisheries and Oceans Canada] and others need to trust that the advice we are giving is well founded and well researched and a lot of people have been involved and allow our decisions to stand. This, to me, is what co-management is: trusting and having faith that the decisions will work out for the betterment of those that signed the agreements.

7.1.2 Responding to substance with substance: “Canada set up these boards and should heed advice that comes from these boards.”

There was consistent dialogue at our gathering about the responses received by the co-management boards when their recommendations and/or decisions are provided to the Federal Minister of Fisheries, Oceans and the Canadian Coast Guard. There was an overall feeling that well-founded, quality advice was being provided to the minister, but equally substantive responses were not being received. This lack of “responding to substance with substance” prevents an understanding of ministerial decisions, limits shared learning opportunities, and diminishes an authentic sense of co-management. One co-manager explained that it is important to have “the federal minister give thoughtful consideration and merit to decisions and recommendations that come from boards that are established through land claim agreements,” and that this is essential to support continued relationships between the co-management boards and the federal minister. Going further, another participant indicated that “it’s very important to understand the underlying concerns and issues and try to resolve them together.”

7.1.3 Having confidence and trust in co-management: “Trust the wisdom of the people who have been appointed to these boards.”

The Fisheries Act in Canada is clear that the minister has absolute discretion ("Fisheries Act (RSC, 1985, c. F-14),"). This creates challenges for Inuit co-management boards when recommendations submitted to the minister are not implemented by the DFO. As one participant explained, "Canada has the ultimate responsibility to manage commercial fish resources. They haven't relinquished that authority." Another individual shared that "ultimately the minister has all the authority, if the minister doesn't like our decision. We have a feedback loop for the minister to reject our decisions, so is that co-management?" Going further, one of the participants at the gathering articulated:

There is an exceptional depth of knowledge amongst the people who have been appointed and trust that when they do make advice it's good advice, it's gone through a very thorough process, and in the end following the recommendations will be to the betterment of those that have negotiated modern day land claim agreements.

Even with such an understanding of jurisdictional powers, there is nothing in the Fisheries Act that prevents the minister from expressing confidence in the network of co-management boards that have matured and are established in Inuit Nunangat. In other words, just because the minister has discretionary power, they do not need to use it.

Participants at this gathering agreed that confidence can be expressed by the Minister of Fisheries, Oceans and the Canadian Coast Guard by allowing the advice and/or decisions from the NWMB, NMRWB, and the TJFB to be implemented by departmental officials, or at least provide a sound rationale for not following a board decision and/or recommendation. This step would show openness and transparency and could be a learning opportunity for all parties involved. Implementing co-management decisions/recommendations would be the most tangible action possible.

7.2 Benefits of the fishery in Inuit Nunangat

There was a clear understanding on the part of co-managers and Inuit representative organizations in this gathering that Inuit should be the primary beneficiaries, benefitting fully from fish within and adjacent to Inuit lands and waters, as represented by this clear explanation from one of the participants: “When he [the federal Minister of Fisheries, Oceans and the Canadian Coast Guard] is allocating resources in an Inuit region...Inuit [should] be given priority consideration over other interests. We are talking about regions that are adjacent and Inuit should be given priority in these areas.” Discussion of these issues with all meeting participants considered a number of regulations and policies such as the land claim agreements themselves, the limited socio-economic opportunities in Inuit Nunangat coastal and remote communities, and DFO policies that support concepts such as adjacency and facilitating Indigenous involvement in commercial fisheries (Department of Fisheries and Oceans, 2008, 2012).

The co-management process for each of the three regions highlights similarities in the co-management systems, as well as substantive differences in processes, fishery development histories, current fisheries status, and approaches to planning for future allocations in each region. Yet all agreed that, as one participant said, “The opportunity for Inuit in the commercial fishery is pretty significant. Greater access, a greater share.”

There were also many comments shared about viable communities, and the importance of remembering, as one person remarked, “that all those resources that are available [to communities] are necessary to make the communities sustainable and [it’s important to] work with the organizations to improve access and the standards of living. If not, they [the communities] can’t exist.” These sentiments highlight the connection to the social determinants of health and how fish resources can play a vital role in the health and well-being (and food security) of Inuit communities and individuals.

7.3 Responsibilities in research

Dialogue about research responsibilities was intertwined with discussions related to honouring the spirit and intent of co-management agreements contained within land claims agreements. There were many discussions about the essential role of research to support evidence-based decision-making related to fisheries in Inuit Nunangat, but there were a number of questions about who funds, leads, and benefits from fisheries research. Successful co-management requires access to all types of knowledge if co-learning is going to occur in order to make accurate and meaningful decisions and or recommendations. Yet co-management boards are often struggling to gain access to the needed research to support their decision-making processes in timely, reliable, and transparent ways.

Participants made it clear that there is a funding and resources gap in Northern science and, as one attendee explained, the “North is always served last.” As mentioned above, the DFO has not relinquished its authority for the management of fisheries in Canada. Many participants argued that, as one put it, “Canada has management responsibility, so it needs to have science responsibility,” meaning that DFO needs to fund research in the North to support decision-making by federal and territorial co-managers. Participants explained that there were examples of DFO-funded research being discontinued after the settlement of land claims, despite the continued need for fisheries data, including a long-standing Arctic char research program in the Nain Bay region of Nunatsiavut. Perspectives from the meeting included discussing DFO’s responsibility for funding fisheries science and conducting research related to Northern needs and priorities. In some cases, the commercial fishing industry is providing data to fill science gaps; for example, funds raised from shrimp allocations are currently used by DFO to fund northern shrimp science, rather than using government funds. In response, the Torngat Joint Fisheries Board have continued to recommend that this shrimp research be funded by DFO, and the fish allocations be made available to support and sustain Inuit fishing entities.

In examples where DFO conducted research, there were concerns raised about the timeliness of information, accessibility of the information to co-management boards, and the resources

required for the boards to engage and review the science for decision-making purposes. Yet fisheries management in Inuit Nunangat is not just about science, with all land claim agreements making reference to the use of traditional Inuit knowledge or Inuit Qaujimagajatuqangit (IQ) in decision-making. Financial support should also be considered to strengthen Inuit traditional knowledge research initiatives.

It was clear that, as one participant said, the “boards need science to do their work” and the co-management boards can play a role in bridging the gap in Northern fisheries research. There were benefits associated with co-management-led research, as one participant pointed out: “Whoever needs the information from our area, if they come to us and ask, they will get a lot more information than they would on their own.” These points illustrate the role that co-management boards may play in research. They highlight that the “shared space” of co-management is an opportunity to enhance the quality and quantity of research that is conducted. It can ensure that a single treaty signatory does not hold responsibility for all facets of research required to sustainably manage fisheries in the North. Co-management boards have community connections, experience integrating different knowledge systems into fisheries decisions and recommendations, and familiarity navigating bureaucracy. They provide transparent decision processes, based on treaty mandates to make decisions, and/or provide advice to the Minister of Fisheries, Oceans and the Canadian Coast Guard (Snook et al., 2018).

7.4 Discussion and opportunities

The gathering’s success highlights what is possible when co-management boards meet to share perspectives, co-learn, and discuss collective options that support Inuit livelihoods, self-determination, and well-being. As one participant said, the gathering was “unique in bringing all the co-management boards together for a topic like commercial fisheries...I think the fact all the boards can come together and talk together coming from a somewhat unified stance is unique and really interesting.”

Participants viewed establishment of a new Arctic Region of the Department of Fisheries and Oceans as a potential catalyst to repeat a meeting of all the Inuit co-management boards. In

the fall of 2018, the Government of Canada and Inuit Tapiriit Kanatami announced that the new Arctic administrative region of DFO would be created, which would focus on the regions covered by Inuit land claims and their respective co-management board (Department of Fisheries and Oceans, 2018). There were many perspectives shared on this news. While some participants acknowledged that the co-management board network had not been engaged prior to the announcement, there was hope for future opportunities for Inuit co-management boards to fully participate in shaping the approach to the new regional administration's design.

Anticipating these changes, co-managers at this gathering thought it would be important that a DFO Arctic administration have resources comparable with the existing regional administrations in terms of powers, staffing, and budgets for research. It was important to participants that an extra level of bureaucracy not be created if it would not facilitate co-management in Inuit Nunangat, and further burden the existing system.

There are opportunities to enhance fisheries co-management in the Eastern Arctic and more dialogue and collaboration may be the first step in that direction. As one co-manager explained:

"I hope that the future includes a lot more trust on behalf of the mature co-management network that is there and people will look to these boards in the future to see what their advice and decisions are going to be, and everyone can have confidence that these decisions went through good process and whatever they end up being they went through a process that everyone agreed to and trust[s] and we can move forward together."

As co-management boards in Inuit Nunangat continue to evolve and mature, they become capable of handling more responsibilities and further leading co-management decision-making and policy implementation in commercial fisheries (Inuit Tapiriit Kanatami, 2017). With decades of practical co-management experience, each board is well positioned to play a governance leadership role in Inuit Nunangat and the Arctic. During a time when building nation-to-nation relationships in Canada is of increasing importance (ibid), all sectors of government may

contribute more. Co-management boards are uniquely positioned to model innovative relationship building, given their community connection and frameworks to understand and respect multiple knowledge systems.

7.5 References

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8 Conclusion

Make your own tracks, get that confidence that you can – don't be scared if you go off the road a little ways for – you know, if you make the wrong turn or you went around the wrong point or something ... that's how you learn, doing stuff on your own, you know, whether it's putting up a tent or cutting down a stick of wood – Rigolet research participant

8.1 Reflecting on the research

An opportunity to do a PhD while living and working in Labrador—at home—was a privilege that very few people get to experience. I am also aware of, and thankful for the experience of PhD learning while simultaneously working professionally in a co-management context. The overall academic-professional environment was demanding, but it also afforded the unique opportunity to unite academic and theoretical learning with hands-on, practical, and real-time co-management and well-being issues that are of interest and make a difference to Inuit. As such, this dissertation is a convergence of research and praxis, which I will take forward into my future endeavours as I make my own tracks.

8.2 Summary of findings

Moving forward in my co-management work, there are key over-arching themes that I will keep at the forefront of my thinking and praxis. In particular, four overarching themes emerged from the research presented in this dissertation, all of which have important implications for co-management practitioners: (1) the importance of considering Inuit health and well-being in co-management decisions; (2) the demonstrated importance of fish and wildlife as sources of Inuit identity, health, and well-being; (3) the health and well-being impacts of Inuit not feeling heard with regard to fish and wildlife management; and (4) the critical role of self-determination in Inuit well-being.

8.2.1 Co-management and Inuit Well-being

Inuit continue to remain deeply connected to the lands and waters in their homelands through hunting, gathering, fishing, and travelling. This research resonates with work throughout Inuit Nunangat that highlights the ways in which Inuit health and well-being are connected to and reliant on the land for physical, mental, emotional, and spiritual health (Cunsolo Willox et al., 2013; Durkalec et al., 2015; Richmond, 2009; Sawatzky et al., 2019). Yet, with the advent of colonial wildlife management policies, land-based activities that have sustained Inuit for generations, such as hunting and fishing, now often fall under externally imposed harvesting rules, regulations, and quotas (Kulchyski & Tester, 2007; Sandlos, 2013; Snook et al., 2020). Despite the prevalence of co-management boards throughout Inuit Nunangat—and across many other Indigenous homelands in Canada and internationally—little research or policies consider the impacts of co-management decisions on health and well-being.

As a long-standing Executive Director of the Torngat Wildlife, Plants and Fisheries Secretariat, I have seen first-hand how wildlife management decisions are connected to and affect Inuit health and well-being. Yet, human health and well-being is rarely, if at all, a topic of consideration when making decisions, or a lens through which co-management policies and practices are examined. Interestingly, despite the clear connections between co-management systems and Inuit well-being identified in my dissertation research, the modified systematic critical review (Chapter Two) did not reveal any co-management-related publications that explicitly discussed the linkages between co-management and health and well-being; yet, by applying a health lens to the analysis of the publications, it was clear that health and well-being were inherent but not explicitly explored in this literature.

Understanding this notable gap in co-management research, policy, and practice, my dissertation research characterized the many ways in which wildlife co-management affects many facets of Inuit health and well-being. From food security to cultural continuity to mental and emotional well-being to intergenerational knowledge sharing, time on the land hunting and harvesting wildlife strengthened Inuit well-being, sense of identity, and well-being. Examining and mobilizing co-management through a health and well-being lens, then, is not

only an academic exercise, it is also an opportunity to inform and change co-management practices, policies, and decision-making in ways that highlight, foreground, and enhance the health and well-being of Indigenous Peoples.

8.2.2 Fish and wildlife are sources of identity and well-being

This dissertation has explored the many ways that caribou and fisheries are sources of well-being for Inuit in Nunatsiavut. For example, Inuit referred to hunting caribou as “fun”, “excit[ing]”, “happy”, and “healthy” experiences, which were a source of “pride” (Chapter Four). The in-depth stories and experiences shared throughout the interviews highlighted that not only were caribou an integral part of the culture in Rigolet, Nunatsiavut and surrounding areas, but that they were important to health and well-being because caribou hunting provided food, connections to family and friends, sharing of culture and knowledge, a sense of strength and identity, materials for clothing and carvings. Unfortunately, when these activities were met with significant challenges such as species decline and harvesting restrictions, the inability to hunt caribou led to negative effects on health and well-being (Chapter Four). This finding is supported by other research which found Inuit struggled emotionally and experienced ecological grief from the loss of access to hunting the caribou, and anticipatory grief from fear that there will be an ongoing shortage of caribou and people will lose the important and multi-faceted connections with the species (Cunsolo et al., 2020). Research participants also talked about land skills that were being lost, connection to traditional areas were in jeopardy, and traditional food was missed (Chapter Four). As one participant commented, “I think there’s a loss in that opportunity to teach and to learn, as well as to have more of an appreciation for a local diet, a healthy diet, an organic diet” (Chapter Four). These findings were consistent with other community-based research examining Inuit-caribou relationships with multiple herds across Nunatsiavut and NunatuKavut communities and highlighted that ongoing adaptive strategies to replace caribou were insufficient for Inuit well-being (Borish et al., 2021). Through this case study of Inuit and caribou, and looking at the impacts of a long-term harvesting ban, it is clear in this dissertation research that wildlife management decisions impact Inuit well-being.

As such, explicitly considering and prioritizing the human health and well-being effects of these wildlife management decisions has the potential to enhance Inuit well-being.

In Chapter Six, Inuit shared fond memories of commercial fishing and thought the way of life “was wonderful”. Some said, “that’s all I wanted to do”, “we lived on fish”, we “grew up on it [fish]”, and that they “just loved the life”. Similar to caribou hunting, fishing in Nunatsiavut was also a family affair and involved immediate and extended families, time together on the water sharing knowledge, and a sense of connection to culture and identity. Indeed, by using a well-being framework (Breslow et al., 2016), the analysis in Chapter Six highlighted extensive well-being attributes connected to commercial fishing, particularly the connection to culture, family, access to nature, access to the fish for income and subsistence, community resilience, and sustainability. Fishing, and access to fisheries, then, can be understood as a determinant of Inuit health and well-being, and may be a protective factor against threats to well-being.

Inuit on the North coast of Labrador were forced to change livelihood strategies in the 1970s, 80s, and 90s due to the collapse of cod stocks, and the closure of the commercial cod, salmon, and char fisheries. When reflecting on these events, Inuit described strong emotions such as “heart-breaking”, feeling “destroyed”, and sharing that they missed the fish. Adding to the emotional impact was the tangible loss of mixed livelihoods when Inuit were left without a cod resource. It meant these cod were unavailable for sale and income, as well as subsistence. There was no government assistance provided in Nunatsiavut to open pathways for training or adapting to new economic opportunities. In the worst-case scenarios, Inuit described having to leave their communities, their traditional lands and waters. As shared by one participant, “it was their way of life and then all of a sudden, the rug was pulled out from under them, and they were lost” (Chapter Six).

These dramatic experiences related to caribou (Chapter Four) and commercial fisheries (Chapter Six) reveal a population that is living with high levels of uncertainty and risk to their culture and identity. These uncertainties connect to the concept of ontological insecurity, where an individual may struggle with their sense of identity after order in one's life, and the

way one sees and understands one's life, has been disrupted or broken (Laing, 1960). This connection to ontological insecurity resonates with work by Borish et al. (2021) in relation to Inuit and the loss of caribou, and the related sense of disorientation, anxieties, emotional distress, and feelings of fear of what was being lost.

8.2.3 Not feeling heard

For Inuit in Rigolet, there was a clear sense of frustration from not being heard by government officials and those in decision-making positions with responsibility for fish and wildlife management (Chapter Four). One participant in Chapter Four remarked, "we talk until we're blue in the face" and community members in Rigolet indicated that they did not feel their concerns in relation to Mealy Mountain Caribou were ever being heard or accommodated. These feelings have been sustained over decades through often negative experiences with decision-makers, and many Inuit shared they will no longer attend government-led meetings around fish and wildlife conservation and access because they feel their perspectives will not be meaningfully considered and that the federal or provincial governments will not take any actions based on their contributions. The feelings expressed by Inuit in this research resonate with the concept of ethical loneliness (Chapter Four)—the experience of being ignored, dismissed, or even abandoned by those with power and the capacity to help (Stauffer, 2016). Many of the stories shared in this dissertation highlighted how Inuit were not heard, resulting in feeling abandoned by government decision-makers because those who had the power to help stayed silent or failed to act. Inuit expressed feeling ignored, unjustly treated, and criminalized, as well as experiencing inequity due to the perceived inconsistent enforcement measures between different Indigenous Peoples.

There was also evidence of not being heard and ethical loneliness in Chapter Six in relation to commercial fisheries. Inuit in Nunatsiavut shared their thoughts about the 1992 cod moratorium and how they were left out from government support because cod had been exploited in their region decades before an official government moratorium. Not being heard during this defining moment in the Newfoundland and Labrador fishery has created a sense of inequity that was commonly discussed by research participants. One participant who worked

for the Federal government during these times and is now serving as a co-management board member shared, “to be honest with you I couldn’t understand why 2GH [Northern Labrador] wasn’t included” (Chapter Six).

Further, not feeling heard and being abandoned in caribou and commercial fisheries management resonates with the concept of cultural trauma, or the experience of going through a difficult or traumatic event that fundamentally alters individuals, communities, and potentially even identity (Alexander, 2004).

While this research identified many examples of the ways in which Inuit were neither considered nor included in decision-making processes around fish and wildlife access, Chapter Six outlined a critical example of when Inuit were heard, which led to sustainability in the Nunatsiavut fishery (Foley et al., 2017). In the 1970s, when Inuit were allocated shrimp quotas in waters adjacent to Nunatsiavut, they were able to not only access the resource, but leverage it to cross-subsidize other fisheries, support seasonal incomes, and increased mixed livelihoods in multiple Inuit communities. One participant who was close to this industry commented that the shrimp revenue was constant, “you could rely on [it]. You could use it to go right back into the fishery. Running the [fish] plants, giving assistance to the fishers. Using it to borrow to do infrastructure”. This example of being heard and receiving access to Northern shrimp within and adjacent to Inuit waters may be appreciated as an example of ‘blue justice’ (Chuenpagdee, 2020), whereby Inuit were provided resource access, and they were heard as stakeholders at a critical time in the Labrador fishery. The impacts of exclusion at that time would have been irreparable. The Minister of Fisheries and Oceans at the time included small scale fisheries and Inuit communities when shrimp licenses were issued, “to be held in trust for a cooperative to be formed” (Chapter Six). One Inuk interviewee was proud to talk about this government decision by commenting, “A co-op fit right in with the native [Inuit] lifestyle because in a co-op you share, it’s a sharing society and that’s all the native lifestyle really is” (Chapter Six). This policy decision resulted from Inuit community consultations and subsequently being heard at the federal level of government as evidenced by the action taken. This instance of blue justice

provides an example of what is possible when Inuit are heard and access to fish resources are provided by the Federal Government of Canada.

8.2.4 Inuit well-being through self-determination

In Chapter Three, co-management board members from across Inuit Nunangat shared their perspectives and provided stories of Inuit prioritization of co-management research, and examples of co-management work that led to a sense of inclusion and pride in implementing a comprehensive land claim agreement. As one participant stated, “it's for my people. I've got to make it work” (Chapter Three). There were stories shared by Inuit that exemplified co-management processes leading to reconnection with cultural keystone species providing community togetherness, traditional foods, and collective pride. Some of these co-management successes included beluga and bowhead whale management, Inuit knowledge studies, and caribou surveys (e.g. Chapter Five). Within the shared space of co-management, board members demonstrated commitment to ensuring Inuit voices were heard, Inuit knowledge was considered, and land claims were being respected. One long serving board chair remarked, “I'm here to champion the implementation of the agreement as it relates to the mandate of our committee” (Chapter Three).

It is outside the shared co-management space where frustrations were documented. For example, one co-management board member shared “it's a daily struggle [to be heard], it seems like” and another board member commented that “the difficulty is, is that we have no real teeth, and so we're making recommendations”. The narratives that were analyzed suggest that co-management has contributed toward Inuit well-being but if Inuit ideas and research results are not acted upon, co-management processes could become characterized as contributing to ethical loneliness when action is not taken.

This dissertation shared Nunatsiavut Inuit aspirations for future fish and wildlife management. For example, when Inuit in Rigolet shared their knowledge of the Mealy Mountains Caribou Herd they referenced a community harvest as a well-being initiative, “where we can go and we can participate into it and we can take people and we can feel happy, we can feel proud”. Inuit

felt this action would reconnect people to their traditional lands, while still respecting the harvesting ban, and taking care of the caribou. Inuit expressed worry that people who still remember hunts in this area are now elderly and it would soon be too late to pass on this Inuit knowledge. This community harvest idea was also connected to cultural continuity and a desire for young Inuit to not lose the opportunity to learn traditional hunting skills. This type of harvest could also serve as a form of caribou monitoring. One participant questioned, “why can’t they [we] go up and monitor them every year?” This participant shared how a small group of Inuit could spend time assessing the quality of caribou habitat each year, the body condition of caribou that were seen, and other observations that could make Inuit caretakers of this herd on Labrador Inuit lands. These ideas have been implemented in other Indigenous territories in Canada. For example, when the Bathurst Caribou Herd declined, a self-imposed ban on caribou hunting was initiated by the Tłı̄cho Government in 2015. Subsequently, a *Boots on the Ground Program* started to collect knowledge of the herd and its habitat (Jacobsen & Santomauro, 2017).

For the commercial fisheries in Nunatsiavut there was consensus that research participants wanted a different future for the industry than the status quo. There were different ideas, however, on what that future may look like in terms of a restructured fishery, approaches to multi-species vessels, and strategies to bring new entrants into the industry. The lack of Inuit control over Inuit fisheries has led to major external influences in this fishery and, as documented in this dissertation, some Inuit felt they were not the primary beneficiaries of the fishery because of a limited number of Inuit owned boats.

One of the issues at the forefront of this research is inequitable access to the fish resources. Inuit need the ability to use and benefit from marine resources within and adjacent to their waters. Bennett et al. (2018) argued that taking action now could ensure flourishing Indigenous communities in the future. The results from this dissertation research suggest that action by government that increases marine resource access would also give Inuit a sense of being heard, valued, and supported in their pursuit of sustainable communities. It is argued in Chapter Six that blocking Inuit from equitable fisheries access is a form of ocean grabbing or

ocean dispossession akin to land dispossession. Ocean grabbing happens when there is inadequate governance, there are actions that undermine livelihoods, and impacts are produced that reduce well-being; which is the case when Inuit are left without a resource in the case of cod fish, or inequitable access to current and emerging fisheries (Bennett et al., 2015).

8.3 Implications of this research

This dissertation highlights a new sphere of research linking Inuit health and well-being with wildlife co-management. This dissertation not only sheds light on a new area of research inquiry, but it also a new *approach* to research inquiry by demonstrating how co-management boards can lead the research and implement the results through land claim agreement processes. Co-management boards are well established decision-making structures across Inuit Nunangat, and are well-placed to lead, develop, and design research, as well as mobilise the research results in ways that matter to Inuit and support their lives, livelihoods, and well-being (see Chapter Three).

Through co-management-led approaches, this research worked to honour the Inuit Tapiriit Kanatami National Research Strategy and this dissertation demonstrated that the shared space of co-management is a place where this important research can be conducted, and Inuit-led strategies and outcomes can be advanced. Further, this research provides tangible insights and opportunities for co-management institutions to incorporate health and well-being factors into decision-making. The dissertation has articulated the work of co-management as boundary work and a shared space where diverse individuals and institutions may work together. Moving forward, there is an essential opportunity to incorporate understandings of Inuit health and well-being into co-management decision-making, as well as to include health professionals into the shared co-management space for new exploration, research, and discovery of pathways for enhanced Inuit health and well-being.

8.3.1 Indigenous co-management-led research

Through negotiated land claims, Inuit have established avenues through which they can influence wildlife management decisions in their homelands (White, 2020). Through the

interviews with co-management boards members and staff across Inuit Nunangat (Chapter Three), it is clear that there is a dedicated group of co-management practitioners working to improve co-management outcomes for Inuit by incorporating Inuit science, knowledge, and perspectives into co-management decision-making, and carrying a sense of responsibility to enhance wildlife management outcomes.

In recent years, these co-management boards are increasingly prioritizing research that they lead, and focused on responding to Inuit needs and priorities by producing the knowledge needed for decision-making. This co-management-led research has enabled more space for Inuit knowledge and perspectives in research and in decision-making. The maturing and continually learning co-management network—as described in Chapter Five (Snook et al., 2018)—has significant opportunities to engage more deeply in research by building more capacity to project manage research, secure additional research funding from external agencies, choose methodological approaches, implement methods, engage community members in an ethical way, analyse data, publish, share knowledge, and move research results into action for the benefit of Inuit well-being.

By articulating an Indigenous co-management-led research approach in this dissertation, there is an opportunity for other co-management practitioners to adopt co-management-led research approaches for their own work and to reflect the priorities of Inuit in different regions. Successful mobilization of Inuit co-management-led research has the potential to not only create research that is needed, usable, and accessible, but it can also lead to significant increases in research funding and Inuit leadership in research. The shared space of co-management may also become an additional area where the principles of the *National Inuit Strategy on Research* are advanced (Inuit Tapiriit Kanatami, 2018), and reciprocity may be fostered between the co-management institutions and Inuit.

For example, the Torngat Secretariat increasingly prioritizes leading our own research, and partnering with teams doing research that matters in Nunatsiavut. The Torngat Wildlife and Plants Co-management Board was successful in securing funding from the Canadian Mountain

Network for the period covering April 1, 2019 to March 31, 2022 to establish a Monitoring Mentors Program that will connect youth with experienced adults to begin an on-the-ground monitoring program in the Mealy Mountain National Park Reserve (MMNPR), and support Inuit knowledge sharing, youth skill development, and land-based learning and connection. After assisting financially with the collection of traditional knowledge (Chapter Four), Environment and Climate Change Canada have provided new funding in 2019, 2020, and 2021 to purchase supplies and equipment to support land-based monitoring and programming in the MMNPR. Additionally, research has been initiated by the Torngat Joint Fisheries Board, in partnership with the Torngat Fish Producers Co-op, the Nunatsiavut Government, and Dalhousie University, with funding from the Ocean Frontier Institute (2019-2022) for the *Ogak amma Ungatânut* 100 (Cod and beyond 100) project. This research includes an analysis of Nunatsiavut fisheries over the past 50 years, and will work towards a vision for the next 100 years in the Nunatsiavut fishery.

8.3.2 Well-being in co-management policy analysis

These dissertation results demonstrate how fish and wildlife co-management can impact or influence Indigenous Peoples' well-being, and highlight an opportunity for co-management research to more explicitly engage with Indigenous Peoples' understandings of well-being (Chapters Two, Four, and Six). By providing a new lens through which co-management research can be approached, the results highlight opportunities for health practitioners and co-management boards to collaborate, promote, support, and strengthen Indigenous Peoples' health and well-being via co-management.

The implication of the connections between co-management and well-being is a new opportunity for intersectoral research and collaborative initiatives across multiple disciplines to enhance Indigenous well-being, and sustainable relationships with animal populations. The results of this research suggest that explicit collaboration between Indigenous health professionals and knowledge holders and co-management practitioners taking innovative actions could result in more efficient or sustainable approaches than if with the co-management or the health sector acted alone (World Health Organization, 1997).

The concept of Health in All Policies (HiAP)⁷ has found success internationally and within Canada (e.g. Quebec), but there are growing calls for more HiAP approaches in Canada (Kershaw, 2018). The province of Newfoundland and Labrador established a Health Accord team in 2020 and the interim report is embracing and recommending HiAP (Health Accord NL, 2021). This research is particularly well-timed and could potentially provide new understandings for incorporating HiAP in the fish and wildlife management sector, particularly from an Inuit and Indigenous perspective.

8.4 Strengths and limitations

As an Indigenous co-management practitioner, I had the unique opportunity to approach this research through professional, academic, and lived experience lenses. From this perspective the research makes a new contribution through developing an understanding of Indigenous co-management led research. My positionality provided excellent opportunities to engage with colleagues, work with Inuit and co-management practitioners throughout several regions of Inuit Nunangat, and debate ideas that became the nexus of scholarship and co-management practice. This natural convergence of ideas and enhanced policy analysis was able to lead to new Indigenous co-management-led research initiatives and is a tangible form of reciprocity between this PhD process and the Torngat Wildlife Plants and Fisheries Secretariat.

The prioritization of Inuit voices in this research was a strength in this dissertation. The *National Inuit Strategy on Research* (NISR) provided guidance and motivation for this work and, through the co-management led research approach incorporated into this dissertation, not only responded to the NISR calls, but moved beyond some of the principles. Indeed, research designed and led by an Inuit co-management practitioner and boards, with data held in

⁷ Health in All Policies (HiAP) is an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity.

perpetuity by the co-management boards, and the results from this research was immediately usable by these boards, is a strong pathway for reconciliation through research processes.

While there are many unique strengths to this research, the chapters focused on singular case studies: for example, Chapter Four examined one Inuit community and one caribou herd.

While the results provide insights for other regions, the priorities of one Inuit community cannot be assumed for another Inuit community or region, or for First Nation and Métis experiences and/or global Indigenous experiences. Further, in the example of Inuit and the Mealy Mountain Caribou Herd, there were few knowledge holders left who had actively hunted, and had in-depth knowledge of and relationships with, the Mealy Mountain Caribou Herd. While the remaining knowledge holders were all interviewed for this research, the limited number of people remaining highlights the urgency of this work, and demonstrates the importance of conducting this work when the hunting ban was first imposed decades ago to ensure this important and essential knowledge is documented and preserved.

Chapter Six of the dissertation was emergent, and was not originally an explicitly planned or designed study on Inuit and fisheries rights and access. While working with Inuit and co-management practitioners on the research that supported Chapter Three, it became clear from the interviews and the stories and experiences shared that the fisheries were of particular importance. Many people used fisheries examples, discussed fisheries access and inequities, and highlighted the essential nature of fisheries in Inuit Nunangat. In response, I re-analyzed the data from a fisheries lens to honour Inuit voices, follow the data, and reflect clear priorities. Given the original intent of the interviews was to understand Inuit co-management more generally, rather than from a specific fisheries focus, there are likely areas of inquiry not covered, including small-scale fisheries, enhancing commercial fisheries success, fisheries and health, and fisheries rights and access. Future research should move further into these areas.

Another limitation of this research is the lack of female-identifying participants, which reflects the lack of women in co-management roles (Natcher, 2013; Staples & Natcher, 2015). The Torngat Joint Fisheries Board did not have its first women appointed until 2020 and the

Torngat Wildlife and Plants Co-management Board has yet to have a women appointed. Unfortunately, these realities within the network of co-management boards contributed to an under representation of women in this study as well. The data missing as a result of this limitation would be valuable, provide additional context, and likely uncover many other opportunities for co-management contributions toward Inuit well-being.

Finally, while I am born and raised in Labrador, a member of the NunatuKavut Community Council, and a long-standing co-management executive director working with Nunatsiavut, I am still an outsider to this research, as I am not from the Inuit regions explored in this dissertation. While my personal and professional experiences provide insight into this work, and enhance connections and relationships in ways that someone coming from outside the North may not have, I still do not have the lived experiences of living, working, and being from other parts of Inuit Nunangat.

8.5 Future research

There are many opportunities for future research building from this dissertation work and adopting an Indigenous co-management-led approach. Each Indigenous community, or land claim region with its own co-management board will have unique challenges, and priorities for research. This would include many Inuit, First Nations, and Métis communities in Canada, and thousands of Indigenous Peoples worldwide.

With respect to this study and the co-management structures in Inuit Nunangat, future research could be conducted to include other levels within the co-management systems. For example, more interviews with wildlife harvesters themselves and specific to priority wildlife and fish species, interviews with direct governmental wildlife managers, or with volunteers who make up the network of local hunting and trapping committees.

Given the findings of this research, it would be advantageous to conduct future interviews with Inuit health professionals to understand their perspectives on these results. This new research would provide insights about the opportunities and challenges for the health sector to

collaborate in an Indigenous wildlife co-management context and would be the next step toward building links between the co-management and health sectors.

8.6 Concluding thoughts

This dissertation is a call for fairness, restitution, reconciliation, and empowering Inuit to manage wildlife in their own homelands unhindered. It is clear from the stories shared in this research that Inuit want to be heard and respected, and they want their knowledge, ideas, and competencies to be front and centre in the co-management processes, for greater health and well-being outcomes. As one participant shared, “Canada set up these boards and should heed advice that comes from these boards”.

This dissertation also illustrates the exciting opportunity for co-management institutions and health professionals to place a higher priority on Inuit-wildlife relationships, and Inuit well-being. Co-management practitioners can take the initiative and start new well-being conversations with Inuit, health professionals, government representatives, and researchers.

For existing co-management institutions throughout Inuit Nunangat these results offer an opportunity for reflection and enhanced land claim agreement implementation. The processes associated with land claim implementation will last much longer than the period of time it took to negotiate land claim agreements. And with this long-term view in mind, Inuit health and well-being needs to be prioritized. There is no reason parties to land claim agreements cannot go above and beyond these obligations in the spirit of creating healthier and more equitable environments in the North.

The co-management boards discussed in this thesis will not be the last of their kind in Canada. In Labrador, two other Indigenous organizations are currently in negotiations with the Government of Canada: the Innu Nation have been negotiating a land claim agreement since 1978; and in 2019, the NunatuKavut Community Council signed a Memorandum of Understanding with the Government of Canada toward a new Recognition of Indigenous Rights and Self-Determination process. This research may provide valuable data and

understandings when setting up new co-management structures to ensure an emphasis on health and well-being as a core pillar of fisheries and wildlife co-management.

Indigenous Peoples in the circumpolar North deserve a just future and enhancing co-management in the spirit of healthier populations is a worthy goal. It will take intersectoral action to improve Indigenous health and well-being and one sector at a time must take on this challenge. With this dissertation, I call on the fish and wildlife management sector to factor Indigenous well-being into their important work.

8.7 References

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9 Appendices

Appendix 9.1: The 4C Framework nodes that were used for the deductive coding process.

Connections (C) - Constituents	Capabilities	Conditions	Cross-Cutting
Culture & Identity (D) - Domains	Freedom & Voice (D)	Economy (D)	Equity & Justice (D)
Cultural Values & Practices (A) - Attributes	Political Participation (A)	Employment & Income (A)	Resilience (D)
Heritage (A)	Self-Determination (A)	Local & Informal Economies (A)	Security (D)
Identity (A)	Sovereignty (A)	Material Wealth & Security (A)	Sustainability (D)
Intangible Connections to Nature (D)	Future Vision (A)	Environment (D)	
Beauty & Inspiration (A)	Governance & Management (D)	Environmental Quality (A)	
Sense of Place (A)	General Governance (A)	Infrastructure (A)	
Spirituality (A)	Public Services (A)	Pollution & Waste (A)	
Social Relationships (D)	Resource Management (A)	Resource Abundance & Distribution (A)	
Civil Society (A)	Knowledge & Technology (D)	Health (D)	
Family & Community (A)	Education and Information (A)	Emotional & Mental Health (A)	
Social Diversity & Integrity (A)	Research & Technology (A)	Food (A)	
Tangible Connections to Nature (D)	Livelihood & Activities (D)	Physical Health (A)	
Access to Nature (A)	Job Quality (A)	Safety (D)	
Resource Access & Tenure (A)	Recreation & Tourism (A)	Disaster Preparedness (A)	
Stewardship (A)	Subsistence (A)	Peace & Security (A)	
	Time for Fulfilling Activities (A)	Physical Safety (A)	

Appendix 9.2: Example data from all the attributes are included to provide an overall scope of the data. The data is in italics beneath each attribute definition. The data was retrieved from NVivo™.

Human Wellbeing Categories	Attribute Definitions
CONNECTIONS	
Tangible Connections to Nature	
Resource Access & Tenure	Direct avenues & outcomes of access to natural resources
	<i>I think the initial issue was 11 licences and he [Romeo LeBlanc] gave two to Southern Labrador to the Union Shrimp Company and he gave one to the LIA but he did say on issuing of the licence, right on the licence, he said, "This is to be held in trust for a co-operative to be formed". So Torngat Co-Op came about as a result of the shrimp licence.</i>
Access to Nature	Direct avenues & outcomes of access to nature and natural places
	<i>Being out on the land, living on the land, you know, changing from season to season and, you know, that's from my earliest memories up till today it's something that I did and something that I still love to do.</i>
Stewardship	Active conservation & sustainability practices
	<i>In the long run but, so far, you know and, NG, I think, has done just as good or, better job when it comes to conservative or, sustainable management of the resource, based on what they knew about Science, than, DFO would have.</i>
Intangible Connections to Nature	
Beauty & Inspiration	Aesthetic value and creativity inspired by nature
	<i>I just loved the life, just loved the life.</i>
Sense of Place	Meaning & identity connected to a place
	<i>People were happy, they were out working and they were involved in something they wanted to do and they loved it, you know, and it was their life.</i>
Spirituality	Sense of spirituality or connectedness with environment
	<i>And it's a good feeling, it's a good feeling out on the land, it's very rewarding. You know, I've always said people weren't born to be inside, like Labrador people were born to be outdoors, right, and that's the happiest time you are, out being active, you know.</i>
Social Relationships	
Family & Community	Personal relationships & community support
	<i>As a young child, nine years old, I started fishing with my brothers, and that continued until the – I guess I was about 13 when it just wasn't viable anymore.</i>
Civil Society	Non-governmental society

	<i>There was also committees formed in Hopedale, Makkovik, Postville and – yeah, I guess that was about it – and Rigolet. And any dealings that DFO had with the fishermen, most of them went through those committees. For example when the char quota was established in Nain Bay and surrounding area, that’s who that was drawn in conjunction with, the fishermen’s committees.</i>
Social Diversity & Integrity	Social fabric & inter-community relations
	<i>Majority [fish plant workers] are a number of young people, the bigger lot of people that we have in the [fish] plant are school kids.</i>
Culture & Identity	
Identity	Sense of self or community
	<i>Well because of the people, I mean because they were uprooted and forcibly uprooted, they were shoved around, they had no choice, they had no voice, they had no identity.</i>
Cultural Values & Practices	Culture, language, & the arts
	<i>A co-op fit right in with the native lifestyle because in a co-op you share, it’s a sharing society and that’s all the native lifestyle really is or was in the past anyway, it was a sharing society; so everybody said, “Yeah we’ll go for the co-op”, and they voted so democratically and chose the co-op.</i>
Heritage	Generational connections to place & culture
	<i>I kept fishing. I went with my uncle for a few years and when I was 17 I took over. I got my own boat and I took over the premises where my father fished and I had fished there until 1968.</i>
CAPABILITIES	
Livelihood & Activities	
Subsistence	Harvesting food & materials for self, family, or community
	<i>Never ever thought I’d see the day when you couldn’t get one to eat, but it did come, back in those days you couldn’t take a fish to eat.</i>
Job Quality	Job quality
	<i>I wasn’t fussy on enforcement and I don’t think they were fussy on my approaches to enforcement because they weren’t straight-line heavy-handed.</i>
Recreation & Tourism	Recreation and tourism assets, opportunities, & attendance
	<i>There’s responsibilities in Recreational Fisheries. There’s responsibilities in Habitat but, you know, some of this stuff was being taken care of anyway and, we didn’t, it was going to operate whether we did anything or, not. We might have been able to improve some of the processes but, we just decided that we didn’t have the capacity to do it all.</i>
Time for Fulfilling Activities	Amount of leisure time
	<i>He fished in the salmon – fished in the summer. Like he – when he had his time off, that’s what he did. He didn’t go on holidays anyway. He took his time, and</i>

	<i>went and, you know, did the – he had the, you know, the salmon births, and he cut salmon, and salted them in those days.</i>
Knowledge & Technology	
Education & Information	Possession & transmission of knowledge, information & skills
	<i>A lot of them go away, they go off school and then you lose them you know? People you just got trained. So I'm always training new people.</i>
Research & Technology	Production of new knowledge & tools
	<i>Well the crab fishery in Labrador in general, in the mid-80s DFO did quite a bit of survey work off the coast of Labrador and where were indications that there was crab stocks there that could support a limited commercial fishery.</i>
Freedom & Voice	
Self-Determination	Independence, agency, freedom from social or governmental constraints
	<i>No licence, you didn't have a licence, you went fishing and you sold your fish and you got paid and they gave you some kind of assurance. But there was no such thing as a licence, the licence only came after.</i>
Political Participation	Having a voice in decision-making
	<i>They made quite a few trips to Ottawa. But they sort of came after the Labrador Resources Advisory Council, you know. I think it was in the late '70s when the LIA sort of started to get on their way.</i>
Sovereignty	Self-governance & indigenous sovereignty
	<i>So, we're entering into the final stage of negotiation. So, my job is to go around the communities, no different than the Feds in the province were doing on their side, and explain to people -- this is what Chapter 13 does, this is what it says, this is what we can do. What else would you like us to do?</i>
Governance & Management	
Resource Management	Governmental management of natural resources
	<i>I would say it was probably the mid 80's before they had fishery officers, when they finally decided you have to have a licence in order to fish. Then they had fishery officers put in place.</i>
Public Services	Governmental social services
	<i>No there was a thing called the fisheries loan board and that's how, I went to the fisheries loan board to get my boat and that's what the other fishermen did as well.</i>
General Governance	Principles and practices of effective governance
	<i>So, at that point, somebody's got to decide, who's going to subsidize it, until you get it to the point where it works. You know, DFO paid the companies that brought fish and, shrimp subsidies for years, before it got to the point where they decided and, I think, there was a big fuss when they decided to stop. The</i>

	<i>argument was that, if you stop subsidy that the Shrimp Fishery would stop, but, it didn't.</i>
CONDITIONS	
Health	
Food	Food & water access, quality, & security
	<i>They grew up on it, it's something that was there and you had to eat something. In the summer you get it fresh but in the winter time they had salty, salty salmon, salty char, salty trout and even some things with salt meat, like the caribou meat and stuff.</i>
Physical Health	Health conditions, access to health care & healthy choices
	<i>It was something that everybody enjoyed. You were right on the land and you were doing, you were working, working hard but you out in the fresh air and doing something that you really enjoy doing, it was wonderful.</i>
Emotional & Mental Health	Mental health, emotional wellbeing, & perceived quality of life
	<i>They were taken off the land and it destroyed them and they never got over it.</i>
Safety	
Disaster Preparedness	Preparedness for large-scale environmental disasters. Preparedness for oil spills, tsunamis, climate change, severe weather; density in hazard zones; communications infrastructure; number of events; life and value lost.
	<i>When I was young, I used to go with dad and my brother. My brother actually drowned 32 years ago in Big River; seal hunting.</i>
Physical Safety	Safety at work and at home
	<i>Yeah. And, I think, the other part of it too, is just that our weather is so bad anyway, you got to pick the least of the, least bad of the bad days. Get out there.</i>
Peace & Security	Presence, absence and prevention of violence and war
	<i>You've got to keep in mind too that you got children with you and that, you know, their safety is utmost and the most important thing.</i>
Economy	
Local & Informal Economies	Exchange of goods and services locally and/or outside of money economy
	<i>In Makkovik there was a fairly large turbot fishery, because over the side sail vessels in the late '70s and early '80s they were tied up at Makkovik and also Punch Bowl, and they took fish onboard. There were Portuguese, Spaniards and so on. And there was also a couple of Soviet vessels there taking turbot.</i>
Material Wealth & Security	Material assets & consumption
	<i>We wanted our own people to become vessel owners. We recognized that the economics was not there in the resources available on the north coast for them to become vessel owners.</i>
Employment & Income	Employment and income levels
	<i>A lot of people get money from the plant, from working in the plant. And if that goes there's going to be a big impact on the community, really big.</i>

Industry & Commerce	Commercial & industrial production, trade & revenue
	<i>I don't know what the numbers are, of fisherman from the north coast and they maybe get 25% or 40% but the bigger bulk of the money still goes south. We have not addressed that issue</i>
Environment	
Infrastructure	The human built environment
	<i>The Labrador Fisheries Development Program – I'm not sure that was the name of it – whereby \$13 million was allocated to support the fishing industry on all the Labrador coasts.</i>
Pollution & Waste	Anthropogenic pollution & biotoxins
	<i>He said once the fish was cleared away almost to your knees in spawn on deck. So they were killing and tearing up the spawning beds that's what killed the fishery, tore up the breeding grounds.</i>
Environmental Quality	Quality or condition of natural environment & natural resources
	<i>I remember we went through the Hamilton Bank area in the night and it was just like a city up there, ships everywhere fishing cod; so they came on and they wiped out – they didn't wipe it out, they damaged the stock.</i>
Resource Abundance & Distribution	Quantity and coverage of natural resources and ecosystem types
	<i>Well it was pretty good until 1967 and the next year there was almost nothing in the water.</i>
CROSS-CUTTING	
Equity & Justice	<i>Well when that moratorium was called in 1992, the North Coast was not included.</i>
Security	<i>Yeah that was in '89, in October of '89; so the fish was gone pretty well since then. There's some sign now of fish coming back now but not on a large scale yet.</i>
Resilience	<i>We had cross-subsidized all our operations based on shrimp revenue, off our shrimp revenue.</i>
Sustainability	<i>Everything that comes to the Co-op, goes to the fishery on the North Coast of Labrador. Everything.</i>

Appendix 9.3: Futures on ice

This piece of creative writing was published in *Rising Tides: The Anthology*. I share this appendix to support my positionality statement, but to also reflect my own identity and how that can influence my academic scholarship to come in the future. This writing opportunity came about from a special invitation from editor Dr. Sandilands who organized a special creative writing retreat on Galiano Island, British Columbia in 2018. This project was funded by the Pierre Elliot Trudeau Foundation (PETF) and attended by members of the PETF community.

Citation:

Snook, J. (2019). Futures on ice. In C. Sandilands (Ed) *Rising Tides: The Anthology*. (pp. 118-122) Caitlin Press.

When I was four, I fell through a crack in the harbour ice.

I was walking across the ice in Mary's Harbour in Southern Labrador under the watchful eye of two Nans, one on each side of the crossing, when I suddenly disappeared into the water below. At four years old, I didn't know why there was water on top of the ice, or what it meant, and I probably was drawn towards it to play. Luckily, my coat was tangled enough above my head and caught on the ice, preventing me from completely sliding under.

All I remember is the shivering, the fear, the hot bath, and the frantic activity as everyone tried to save my life.

I was using the same route across the ice that I always took to visit my Nan Snook. A straight path led from one grandparent's home to another, but there were blind spots and obstructed views. I am not sure who noticed that I suddenly fell through, but I know my Uncle Ross jumped on his snowmobile and raced to my rescue.

I was lucky that day. Not everyone is this lucky where I live.

Another time, my family was going to William's Harbour, a small community in NunatuKavut territory, on an island, about 30 km on snowmobile from Mary's Harbour. You would have to be

from this place to know the conditions well. We did not, and inadvertently crossed bad sea ice. Several people from the community were on the hill watching the entire event unfold, praying for our safety. We all managed to cross safely and were quickly told about our poor decision. It's not entirely uncommon for people to take risks when crossing ice, but without local knowledge, the risks become uncalculated and more is left to chance.

We were lucky again that day.

Over my life so far, I have heard many other ice stories. Not all of them so fortunate, and they highlight how precarious living with and relying on ice truly is. Many stories involving the sea ice are tragic, and people living in the North learn to respect ice and to be cautious on and around it. There are always conversations amongst community members before ice-use decisions get made. Today information is often shared on social media:

January 26 at 9:04 AM

Michael: Anyone down to Kenemich since last storm? What route did you take and what is going like?

Bridgett: Brian was going down yesterday!

Henry: Crowd went Burnt Point to Rabbit Island to Muldoons yesterday. Left at 3, got there 6. Bad drifting and soft snow and banky. Better to go Mud Lake road. Track was beat better. Some slush but no one got stuck in it

Brian: We came to Weasel Creek yesterday 2pm it was drifty and bumpy. Very slow going. I went to the Valley and back to Weasel 7pm and it was good going from Partridge Island to Shoal Point. Shoal Point to Seal Point was still drifty and bumpy.

Throughout my younger life there was no social media, but I would use the sea ice to visit friends in Forteau Bay, or to explore the lands around my home by crossing ice. We would also use the ice to visit family further North along the coast. On warm spring days, the sea ice was

one of my favourite places to get a suntan, and large groups of Labradorians always used the ice for fishing, hunting, and travelling.

Every fall, I anticipated the freeze-up of the ponds and bogs so that we could skate. One pond that we used regularly always froze clearly, and as we skated we could see everything at the bottom. The water underneath was perfectly still, and it felt like the treasures of the pond were revealed. There was magic in those skating memories, along with a sense of freedom and well-being to play outside in our environment on our own schedules.

The Labrador coast is traditional Inuit territory, with Inuit and their ancestors living in the region for thousands of years. To this day, Inuit continue to rely on the ice extensively for travel, and to hunt wild foods such as Arctic char, seal, polar bears, moose, and caribou. Just as with people, the seals and polar bears are equally dependent upon the sea ice for reproduction, travel, and their own food sources and survival.

Inuit leaders have been communicating the risks of climate change for decades and, in particular, have been indicating large changes to ice throughout Inuit Nunangat: later freeze-up in the fall and earlier break-up in the spring; and when the ice does come, it's not as thick or as stable as before, and doesn't cover as much area. There have been recent winters in Labrador where the ice conditions were poor. People can't hunt or travel as safely, and people experience fear and sadness about the way things are changing.

I have started to look more closely at climate change projections to see if I will get to continue a relationship with ice in my lifetime. I know from these projections that my connection will get progressively less each year as the ice patterns change, and that my children and grandchildren will not have the same opportunity to build a relationship with ice that I experienced.

Sheila Watt-Cloutier, a prominent Inuk activist, thinker, and global environmental advocate, articulates how Inuit rely on the sea ice for all aspects of life and culture, and Inuit have a "right to be cold". Climate change is taking away that right.

Since the late 1950s, Labrador has been warming, with a snow season approximately 40 days shorter in the last 60 years, and projections suggest that the ice cover season will be further reduced by 3-4 weeks by 2070.

In 2014, my partner Ashlee Cunsolo worked with Inuit in Nunatsiavut, Labrador, to create a documentary, *Attutauniujuk Nunami/Lament for the Land*, to share the stories of how climate change is impacting Inuit lives, livelihoods, and well-being. At the end of the film, Inuk Elder and leader, Tony Andersen, reflects on the changes to come. He says, "Inuit are people of the sea ice. If there is no more sea ice, how can we be people of the sea ice?"

I feel an increasing urge to make the most of ice while I can. I never feel the urge to leave my homelands and live in an ice-free climate. This year, I have used the ice more than ever. Ashlee and I have a small, unserviced cabin on the other side of Lake Melville, just north of Happy Valley-Goose Bay, Labrador. We can only access it once the ice freezes, so we wait with anticipation for the conditions to be good enough to cross safely.

This winter, we crossed Lake Melville several times a week. The ice crossing is always the most intense part of the journey, but often the most beautiful. Thoughts continually run through our minds about the safety and the thickness, the conditions and quality of the ice we are crossing, knowing what can happen if we have misread the conditions. But the ice also brings a sense of awe. And the ice brings us to places that we love, and every year we hope for good ice – ice the way it has always been.

Some weekends, when we arrived home, we were exhausted from the cold. It can take a lot of energy to stay warm when it is -40 or less combined with a wind chill. Our enthusiasm often brought us across the ice on days when most people would stay home, but there is further gratefulness that comes with a remote escape, wood fires, and the moonlight highlighting the black spruce.

There is a lot to be said for the freedom of ice. I think about this all the time.

Appendix 9.4: Make Your Own Tracks: Reflecting and Reclamation during COVID-19

This piece of creative writing was published in *Make Your Own Tracks: Reflecting on Reclamation during COVID-19*. I share this appendix to support my positionality statement, but to also reflect my own work of reclamation and how that may influence my future academic scholarship. This writing opportunity came about from a special invitation from editor Dr. Richmond.

Citation:

Snook, J. (2020). *Make Your Own Tracks: Reflecting and Reclamation during COVID-19*. In C.A.M. Richmond (Ed.), *COVID-19 and Indigenous Health and Wellness: Our strength is in our stories*. Royal Society of Canada.

There are plenty of ironies when you plan a 140-kilometre snowmobile trip in the spring, and the day you plan to leave becomes the coldest day of the winter, plummeting below -40 Celsius with strong winds. Despite the cold and winds, we had confidence that an experienced Inuk guide would make sure we got from North West River to the coastal community of Rigolet safely. There was also humour knowing that we were transporting buckets of Mary Brown's chicken for a research open house that night, and the local radio station had already broadcast that the chicken was on the way in a komatik. Halfway into the trip, the chicken was frozen solid.

This trip of research colleagues to the coast was all about seeing friends, sharing research results, experiencing the winter trails, and hearing stories about the land. We were mostly going to chat about caribou and all they mean to people in Rigolet. From caribou stories come many more stories about culture, experiences on the land, early memories of family and kinship, and changes that have occurred. While the populations of caribou are now low, the social suffering is high associated with injustices that manifest themselves into the present with each new caribou season that could have been.

I understand the ways in which being on the land is connected to so many important things. I was born in a small coastal fishing village on the Labrador coast to an Inuit father and a settler mother. I went through a colonial educational system that did not share Inuit knowledge or teach Indigenous history in the curriculum, and certainly did not offer place-based education about the Inuit culture and lineage along Labrador's coastline. I grew up struggling with my history and my identity, and with my connection to the land. I did not grow up on the land like many Canadians would assume an Inuk should. My family moved away from my home community when I was young, as my father educated himself to become a laboratory and x-ray technician and got a job in a regional hospital. There are times when I am angry because I didn't have opportunities to learn and appreciate how important land skills were at a young age. That caused me to shut down and be discouraged about learning traditional and life giving activities over the course of my life.

This brings me back to Rigolet, where I was sitting by the fire doing a conversational interview with an Inuk Elder and hunter who generously spent a couple of hours with me providing his passionate thoughts about caribou, but also about passing on knowledge and maintaining his own land skills: "Well, let me give you one bit of advice when it comes to being out on the land." I lean in and listen: "Don't be chasing me around all the time, make your own tracks. Get that confidence. Don't be scared if you go off the road a little way, make the wrong turn, or go around the wrong point. Just as long as you don't go in the water. That's how you learn, doing stuff on your own, you know, whether it's putting up a tent or cutting down a stick of wood, or take a stick of wood home and the God damn thing don't burn you know you got the wrong kind of wood, so you know you shouldn't do that twice."

Days later, the trip back to Happy Valley-Goose Bay was not as cold, and I had more confidence making the trip. This trail and ice on Lake Melville were getting more familiar to me, the more time I spend developing skills and reclaiming knowledge from my ancestors. The different bays, points, and landscapes are starting to look more familiar, their nuances and attributes more apparent.

Within a few days of my return, the concern about COVID-19 was getting stronger, and people were getting more worried. Travel to the Labrador coast was quickly restricted to protect the communities, and people all over Labrador started to work from home. Life began to change quickly in Labrador, bringing with it a lot of humility, a sense of fragility, and genuine fear as Labrador had been indelibly marked by the Spanish Flu 100 years earlier.

Throughout the early days of the pandemic, I kept thinking about what I learned in Rigolet and my desire to reconnect to and learn from the land. If I had to work in isolation and practice social distancing, I decided it might as well be in a small cabin near a woodstove with my laptop. Each day, I'd snowmobile to our cabin, light the fire, and do my work. As each day passed and this new pattern provided a sense of wellness and gratitude, I started to explore more and more around Lake Melville after work. I was going where so many others were going on the land during this pandemic, but I was also making my own tracks, and that felt liberating.

I also began to look for different types of firewood, preferably dry black spruce or birch that could be burned that year. But then, with some advice from Elders, I started to look for juniper (or larch or tamarack, as called in other places), as I was told juniper burned "real hot" and that sounded appealing for the really cold January and February months.

As the spring days passed, I noticed my connection to the land, and my overall wellness, was increasing. The pandemic forced me to turn inward and toward the land, in ways that I had not previously done. It brought opportunities for me, as well as my family and friends, and many others throughout Labrador, the space for reflection, and for reclamation of time on the land, and the knowledge that emerges from that connection. We are now on the cusp of a second wave in Labrador, as well as nearing the winter months. I will take that opportunity to continue with my own reclamation and learn what I can from these opportunities to be on the land, sharing, learning, connecting, and healing.

Appendix 9.5: Nunatsiavut Government Ethics Approval Letter



NUNATSIAVUT
kavamanga Government

Nunaliginikmik amma Nunamiutanik
Ujaganik Imaniklu
Lands and Natural Resources

Jamie Snook
PO Box 2050, Stn B
Happy Valley-Goose Bay, NL, A0P 1C0
709-896-6041
jsnook@uoguelph.ca

Re: "Inuit co management and governance as a pathway to health and wellbeing"

Dear Jamie and Sherilee,

Please accept this letter as confirmation of the Nunatsiavut Government Research Advisory Committee's (NGRAC) conditional approval for the above research project as outlined in your application, subject to the following suggestions:

1. Please provide additional details regarding expected timelines for returning results to communities.
2. Traditional Knowledge is a very important issue for the NG and beneficiaries to the Agreement. Therefore, we would like copies of all of the processed data and reports. The Nunatsiavut Government also requests a presentation of results to relevant Departments and individuals working on related issues.
3. Please provide copies of any reports, journal articles, papers, posters or other publications related to this project to Carla Pamak, the Nunatsiavut Inuit Research Advisor, upon completion of your work. A plain language summary detailing the work, translated into Labrador Inuttitut should also be provided.
4. NG would appreciate copies of any photographs that you acquire during your research in the Nunatsiavut area as Nunatsiavut Government is developing a digital database of regional photos. Recognition will always be given to the photographer.

Please note that if you are going to make any changes to your proposal, any such changes must be considered and supported by the NGRAC before they are implemented.

Sincerely,

Paul McCarney
Research Manager
Nunatsiavut Government
(709) 922-2942 ext. 249
paul.mccarney@nunatsiavut.com

Appendix 9.6: Nunavut Research Institute Registry

Nunavummi Qaujisaqtulirijikkut / Nunavut Research Institute

Box 1720, Iqaluit, NU X0A 0H0 phone:(867) 979-7279 fax: (867) 979-7109 e-mail:
mosha.cote@arcticcollege.ca

RESEARCH REGISTRY

Registry# 01 007 19Registry

ISSUED TO: Jamie Snook
217 Hamilton River Road, PO Box 2050, Station B
Happy Valley-Goose Bay, NL
A0P 1E0 Canada

TEAM MEMBERS: S. Harper, C. Furgal, J. Ford, A. Cunsolo

AFFILIATION: University of Guelph

TITLE: Inuit Co-Management and Governance as a Pathway to Health and Well-Being
and wellbeing.

OBJECTIVES OF RESEARCH:

To examine how fish and wildlife co-management governance systems impact Inuit lives, and wellbeing in Nunatsiavut.

Research objectives:


1. Analyze and characterize the published literature on Indigenous land claim fish and wildlife comanagement systems, through a social determinants of health framework from Indigenous perspectives, in order to determine how co-management systems may impact Inuit lives and wellbeing.
2. Identify and characterize Inuit perspectives, understandings, and lived experiences with respect to their interactions with fish and wildlife management in Nunatsiavut.
3. Examine the experiences of co-management board members and practitioners throughout Inuit Nunangat to understand their perspectives on how co-management impacts Inuit lives, and wellbeing.

DATA COLLECTION IN NU:

DATES: January 20, 2019-December 31, 2019

LOCATION: Goose Bay

Registered for notification purposes only.
Issued at Iqaluit, NU on January 08, 2019.



Mary Ellen Thomas
Science Advisor



Appendix 9.7: University of Guelph Ethics Certificate



RESEARCH ETHICS BOARDS

*Certification of Ethical Acceptability of Research
Involving Human Participants*

APPROVAL PERIOD:	November 27, 2018
EXPIRY DATE:	November 26, 2019
REB:	NPES
REB NUMBER:	18-10-039
TYPE OF REVIEW:	Delegated
PRINCIPAL INVESTIGATOR:	Harper, Sherilee (harpers@uoguelph.ca)
DEPARTMENT:	Population Medicine
SPONSOR(S):	Graduate Scholarships
TITLE OF PROJECT:	Inuit co-management and governance as a pathway to health and wellbeing.

The members of the University of Guelph Research Ethics Board have examined the protocol which describes the participation of the human participants in the above-named research project and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement, 2nd Edition.

The REB requires that researchers:

- Adhere to the protocol as last reviewed and **approved** by the REB.
- Receive approval from the REB for any **modifications** before they can be implemented.
- Report any **change in the source of funding**.
- Report **unexpected events or incidental findings** to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants, and the continuation of the protocol.
- Are responsible for **ascertaining and complying with all applicable legal and regulatory requirements** with respect to consent and the protection of privacy of participants in the jurisdiction of the research project.

The Principal Investigator must:

- Ensure that the ethical guidelines and approvals of facilities or institutions involved in the research are obtained and filed with the REB prior to the initiation of any research protocols.
- Submit an **Annual Renewal** to the REB upon completion of the project. If the research is a multi-year project, a status report must be submitted annually prior to the expiry date. Failure to submit an annual status report will lead to your study being suspended and potentially terminated.

The approval for this protocol terminates on the **EXPIRY DATE**, or the term of your appointment or employment at the University of Guelph whichever comes first.

Signature:

Date: November 27, 2018

Stephen P. Lewis
Chair, Research Ethics Board-General

Appendix 9.8: Consent Form



**Inuit co-management and governance as a pathway to health and wellbeing project
Consent Form**

By signing this form, I give my consent to be interviewed for this research project. I have been fully informed of the objectives of the project. I understand that my identity will remain anonymous during an individual interview, but my identity will not be anonymous during a group interview since there are other people involved. I understand that confidentiality cannot be guaranteed while data area in transit over the internet. I understand that whatever I say can be used word-for-word in written reports that may be made available to the public, though my identity will not be made available to the public. I certify that I am 18 years of age or older at the time of this interview. I understand that participation is entirely voluntary, and there is no penalty for not participating or withdrawing from the study. I understand that I can withdraw my consent to take part in this study by contacting jsnook@uoguelph.ca any time before, during, or after the initial research and until the research is published. If you have questions regarding your rights and welfare as a research participant in this study (REB#18-10-039), please contact: Director, Research Ethics; University of Guelph; reb@uoguelph.ca; (519) 824-4120 (ext. 56606). I understand that all information will be co-owned by the Nunatsiavut Government, and the Torngat Secretariat, in partnership with the research team. All information gathered will be for research and education purposes only.

Name: (please print): _____ Signature: _____

Witness: (please print): _____ Signature: _____

Date: _____ Contact Information: _____

This project has been reviewed and approved by the University of Guelph Research Ethics Board.

Appendix 9.9: Interviewee Information Letter



Information about the Inuit co-management and governance as a pathway to health and wellbeing project

Atelihai! We are researchers from the University of Guelph, the Tornqat Wildlife Plants and Fisheries Secretariat, and the Nunatsiavut Government. We have provided the information below so that you can decide whether or not you want to participate in our project.

What is this project about?

The goal of this research project is to examine how fish and wildlife management systems impact Inuit lives and wellbeing. We will identify and characterize Inuit perspectives, understandings, and lived experiences with respect to their interactions with fish and wildlife management in Nunatsiavut. We will also examine the experiences of co-management board members and practitioners throughout Inuit Nunangat to understand their perspectives on how co-management impacts Inuit lives, and wellbeing.

Who is conducting this research?

Jamie Snook (PhD Candidate, University of Guelph / Executive Director, Tornqat Wildlife Plants and Fisheries Secretariat)
 Dr. Sherilee Harper (Associate Professor, University of Guelph)
 Dr. Ashlee Cunsolo (Director, Labrador Institute of Memorial University)

What will I be asked to do?

You will be asked to answer some questions during a group or individual interview and share your views and/or experience with fish and wildlife management.

You do not have to answer any questions that you do not feel comfortable answering. Do not discuss anything you do not want to be made public.

How long will it take?

Individual and group interviews are expected to take approximately 60-90 minutes.

Will I be paid?

You will receive a \$50 gift card for an individual interview, and a \$50 gift card for participating in a group interview. Additionally, there will be an opportunity to win in a draw, (three prizes of \$100 each).

What are the benefits of this project?

There will be increased fish and wildlife governance knowledge from participation in the study; increased collaboration between research, policy, and community stakeholders; and increased collaboration between Indigenous groups for improved fish and wildlife management in the future.

Will my interview be public?

For individual interviews, your identity will remain anonymous to the public. If you participate in a group interview, the research team will still keep your identity private, but the other group members will know who you are. The exact words that you say (verbatim quotes) in the interviews may be made public as well; however, it will not be possible to link a quote to an individual participant. The research team may have a duty to report information about child abuse, self-harm, and other illegal issues.

What if I change my mind about participating?

You can withdraw your consent to take part in this study anytime before, during, or after the interview, and up until the research is published. There is no penalty if you decide to withdraw. You do not waive any legal rights by agreeing to take part in this study.

Will I be re-contacted after my interview?

You will be re-contacted and asked to review the research findings at a later stage in the project to ensure that the results are accurate.

Who is funding this project?

University of Guelph
Environment and Climate Change Canada
Social Sciences and Humanities Research Council
Tornat Wildlife Plants and Fisheries Secretariat
Pierre Elliott Trudeau Foundation

Who has reviewed and approved the research protocol?

This project has been reviewed by the University of Guelph and Memorial University Research Ethics Boards for compliance with federal guidelines for research involving human participants.

University of Guelph: #18-10-039

Memorial University: #_____

Nunatsiavut Government: #_____

Who can I contact?

If you have any questions or concerns about this project, please feel free to contact:

Jamie Snook, Project Manager

Tel: 709-896-6041

Email: jsnook@uoguelph.ca

Sherilee Harper, Associate Professor

Email: harpers@uoguelph.ca

Michele Wood, Researcher Evaluator

Tel: 709.896.9750 ext. 236

Email: michele.wood@nunatsiavut.com

If you have questions regarding your rights and welfare as a participant in this study please contact:

Sandra Auld

Director, Research Ethics

University of Guelph

reb@uoguelph.ca

(519) 824-4120 (ext. 56606)

Appendix 9.10: Interview Guide



Inuit co-management and governance as a pathway to health and wellbeing project Interview Guide

This is intended to be a conversational style interview. As such, this is a list of important questions that interviewer would like to cover. The questions following each theme may not specifically be asked of participants, though the research will attempt to answer most of these questions.

Main Questions

These are the overall project guiding questions that will be used as the foundation for research and interviews.

- 1) What are your relationships with fish and wildlife?
- 2) How do fish and wildlife governance affect your life and or wellbeing?

What are your relationships with fish and wildlife?

- a. What are some of your favorite hunting or fishing memories?
- b. How has your fish and wildlife relationships changed over time?
- c. How important fish and wildlife are to your food security?
- d. How do fish and wildlife connect with your mental, emotional, and spiritual health?
- e. How do fish and wildlife shape your cultural identity?
- f. Tell us how fish and wildlife may connect to your livelihood.

How do fish and wildlife governance affect your life and or wellbeing?

- a. What governs how you hunt and fish?
- b. Are there traditional laws that still govern your hunting and fishing?
- c. How do you feel about how fish and wildlife are governed?
- d. Does fish and wildlife governance affect your health or wellbeing?

Prompts:

Food systems and security

Land and ecosystems

Livelihoods

Community Capacities

Culture

Indigenous Knowledge Systems

Racism

Gender

Colonialism

Law & Policy

Remote

Self-Determination

Appendix 9.11: Nunatsiavut Government Ethics Approval Letter – Chapter Four



NUNATSIAVUT
kavamanga Government

Nunaligninikmik amma Nunamiutani
Ujaganik Imaniklu
Lands and Natural Resources

Jamie Snook
PO Box 2050, Stn B
Happy Valley-Goose Bay, NL, A0P 1C0
709-896-6041
jamie.snook@torngatsecretariat.ca

Re: “Mealy Mountain Caribou Traditional Knowledge Project”

Dear Jamie,

Please accept this letter as confirmation of the Nunatsiavut Government Research Advisory Committee’s (NGRAC) approval for the above research project as outlined in your application, subject to the following suggestions:

1. Please ensure that final products, including reports and results presentations, are provided to the NG and all communities involved prior to any publications or presentations at conferences.
2. Traditional Knowledge is a very important issue for the NG and beneficiaries to the Agreement. Therefore, we would like copies of all of the processed data and reports.
3. Please provide copies of any reports, journal articles, papers, posters or other publications related to this project to Carla Pamak, the Nunatsiavut Inuit Research Advisor, upon completion of your work. A plain language summary detailing the work, translated into Labrador Inuttitut should also be provided.
4. NG would appreciate copies of any photographs that you acquire during your research in the Nunatsiavut area as Nunatsiavut Government is developing a digital database of regional photos. Recognition will always be given to the photographer.
5. If possible, please consider involving a representative from the Nunatsiavut Government Department of Lands and Natural Resources (LNR) as a partner in the project. The NGRAC suggests contacting Jim Goudie, Deputy Minister of LNR at jim.goudie@nunatsiavut.com.

Please note that if you are going to make any changes to your proposal, any such changes must be considered and supported by the NGRAC before they are implemented.

Sincerely,

A handwritten signature in black ink, appearing to read "P. McCarney". The signature is fluid and cursive, with a long horizontal stroke at the end.

Paul McCarney
Research Manager
Nunatsiavut Government
(709) 922-2942 ext. 249
paul.mccarney@nunatsiavut.com

Appendix 9.12: Consent Form – Chapter Four



Mealy Mountain Caribou Traditional Knowledge Project

By signing this form, I give my consent to be interviewed for this research project. I have been fully informed of the objectives of the project.

- I understand that my identity will remain confidential during an individual interview, but my identity will not be anonymous or confidential during a focus group since there are other people involved.
- I understand that whatever I say can be used word-for-word in written reports, articles, or presentations that may be made available to the public, though my identity will not be made available to the public.
- I certify that I am 18 years of age or older at the time of this interview.
- I understand that participation is entirely voluntary, and there is no penalty for not participating or withdrawing from the study.
- I understand that I can withdraw my consent to take part in this study by contacting jamie.snook@torngatsecretariat.ca any time before, during, or after the initial research and until the research is published.
- I understand that all information will be co-owned by the Rigolet Inuit Community Government, and the Torngat Wildlife, Plants and Fisheries Secretariat. All information gathered will be for research and education purposes only.

Name: (please print): _____ Signature: _____

Guardian Name: (please print): _____ Signature: _____

Witness: (please print): _____ Signature: _____

Date: _____ Contact Information: _____

This project has been reviewed and approved by the Nunatsiavut Research Advisory Committee.

Appendix 9.13: Interviewee Information Letter – Chapter Four



Mealy Mountain Caribou Traditional Knowledge Project

Atelihai! We are researchers working with the Torngat Wildlife, Plants, and Fisheries Secretariat. We have provided the information below so that you can decide whether or not you want to participate in our project.

What is this project about?

The goal of this research project is to document Inuit knowledge about the Mealy Mountain Caribou Herd (MMCH). Given the lack of knowledge about the MMCH, and the significance of this herd for Inuit in Labrador, this research looks to be proactive and to start a renewed MMCH knowledge production process with the community of Rigolet to support community health and sustainable herd management.

Who is conducting this research?

Jamie Snook, Executive Director, Torngat Wildlife Plants and Fisheries Secretariat
 Inez Shiwak, Community of Rigolet, Inuit Research Associate
 Charlie Flowers, Community of Rigolet, Inuit Research Associate
 David Borish, Research Associate
 Amy Kipp, Research Associate

What will I be asked to do?

You will be asked to answer some questions during an individual interview or focus group and share your views and/or experience with fish and wildlife management.

You do not have to answer any questions that you do not feel comfortable answering or discuss anything you do not want to be made public.

How long will it take?

Individual and group interviews are expected to take approximately 60-90 minutes.

Will I be paid?

You will receive a \$50 gift card for an individual interview, and a \$25 gift card for participating in a group interview.

What are the benefits of this project?

Documenting Inuit knowledge about the Mealy Mountain Caribou Herd will help identify future research priorities, and approaches. It will identify management priorities, and the project will ensure that Inuit knowledge from the community is available to contribute to future co-management discussions that will involve multiple levels of Government.

Will my interview be public?

For individual interviews, your identity will remain anonymous to the public. If you participate in a group interview, the research team will still keep your identity private, but the other group members will know who you are. The exact words that you say (verbatim quotes) in the interviews may be made public as well; however, it will not be possible to link a quote to an individual participant. The research team may have a duty to report information about child abuse, self-harm, and other illegal issues.

What if I change my mind about participating?

You can withdraw your consent to take part in this study at any time before, during, or after the interview, and up until the research is published. There is no penalty if you decide to withdraw. You do not waive any legal rights by agreeing to take part in this study.

Will I be re-contacted after my interview?

You will be re-contacted and asked to review the research findings at a later stage in the project to ensure that the results are accurate, but you do not have to participate in this stage of the research if you do not wish.

Who is funding this project?

Environment and Climate Change Canada
Torngat Wildlife Plants and Fisheries Secretariat

Who has reviewed and approved the research protocol?

This project has been reviewed by the Nunatsiavut Research Advisory Committee

Who can I contact?

If you have any questions or concerns about this project, please feel free to contact:
Jamie Snook, Project Manager
Executive Director of the Torngat Wildlife, Plants, and Fisheries Secretariat
Tel: 709-896-6041
Email: jamie.snook@torngatsecretariat.ca

Appendix 9.14: Interview Guide – Chapter Four

Indigenous Traditional Knowledge Study of the Mealy Mountain Herd

Interview Protocol

Main Questions for the Mealy Mountain Traditional Knowledge Study

The Mealy Mountain Caribou Herd has been important to Inuit in Rigolet for generations; yet, little is known from a traditional knowledge perspective about this herd. Based on the success of the Torngat Mountain Caribou Herd (TMCH), the Torngat Wildlife, Plants, and Fisheries Secretariat initiated a similar Traditional Knowledge study of the MMCH. Funding was recently secured from Environment and Climate Change Canada to conduct this important work (funds to be utilized by March 2019).

These are the overall guiding questions that will be used as the foundation for research and interviews. Questions will be asked in a conversational manner, by two Inuit researchers in Rigolet and a graduate student. These questions will not be asked verbatim or in the same order in each interview; rather, the conversation will flow with each individual, but by the end, all thematic pieces will be asked of all people.

1. What is your favourite Mealy Mountain caribou story?
2. How often do you see Mealy Mountain caribou?
 - a. If you see them, where do you see them?
 - b. If you see them, what are they doing?
 - c. If you see them, how many do you usually see at any one time?
 - d. If yes, has anything changed in how often you see them or where you see them?
3. Can you tell me about the Mealy Mountain caribou herd? Are there things that make them different than the other herds?
 - a. Behaviour
 - b. Size
 - c. Habits.
 - d. Food sources
 - e. Abundance
 - f. Taste
4. What do the Mealy Mountain caribou mean to you and your community?
5. Did you or anyone in your family ever rely on the Mealy Mountain caribou for food in the past?

- a. If no, why not?
 - b. If yes, how much did you or your family rely on them?
 - c. If yes, did you ever share the meat with others?
6. What do you know about the hunting ban on the Mealy Mountain caribou herd?
 - a. Were you or any of your leaders consulted or engaged in the decision-making of the ban?
 - b. Are you familiar with other Government actions on Mealy Mountain Caribou that have affected your connection to MMCH?
 7. Did the ban on hunting the Mealy Mountain caribou impact you or anyone in your family?
 - a. If yes, how?
 8. Are the Mealy Mountain caribou linked to health and wellness of you or your communities (physical, mental, emotional, and spiritual)?
 - a. If yes, please explain.
 9. Do you think the Mealy Mountain caribou have been important to your cultural identity as Inuit?
 - a. If yes, please explain.
 - b. If yes, what about the cultural identify of your community?
 10. Are you concerned about the health of the Mealy Mountain Herd?
 - a. If yes, why?
 - b. If no, why?
 11. What do you think are the biggest threats to the Mealy Mountain Herd? (If any).
 12. What can you tell us about how the Mealy Mountain caribou are managed now?
 13. How do you feel about the way the Mealy Mountain caribou are managed now?
 14. What do you see as the challenges to current Mealy Mountain caribou management approaches?
 15. What do you see as the opportunities to improve Mealy Mountain management approaches?
 16. Do you think current Mealy Mountain caribou management practices differ from the past?

17. What do you see as being important to your community moving forward with caribou management for the Mealy Mountain herd?
18. How has traditional knowledge about caribou been passed on previously in your community?
 - a. Are people still sharing knowledge about caribou? If so, how are they sharing?
19. How do you feel about current wildlife enforcement strategies more generally?
 - a. What do you recommend as appropriate approaches to wildlife sustainable utilization?
20. Do you think Traditional Knowledge is incorporated into wildlife management decisions?
21. Do you have ideas about recording and keeping traditional values and skills alive about caribou hunting and its importance?
22. What are the best ways that you feel to engage hunters and Elders to share practices to ensure traditional knowledge is not lost?
23. What do you feel are some of the important things that governments should consider when thinking about managing caribou?
24. What is the best way to communicate management and conservation messages?
25. Do you think more research about the Mealy Mountain caribou herd is needed?
 - a. If yes, what kinds of research do you think are important?
 - b. If yes, are you familiar with caribou collaring (satellite telemetry research) and what are your thoughts on it?
 - c. If no, why not?
26. Is there anything else you would like to add about the Mealy Mountain caribou?