



Research

“It’s like a connection between all of us”: Inuit social connections and caribou declines in Labrador, Canada

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ABSTRACT. Many caribou populations are declining across the Circumpolar North, presenting challenges for many Indigenous Peoples who have deep and enduring relationships with this animal. In Labrador, Canada, caribou herds have recently experienced population declines, including the George River herd, which has dropped by 99% from its peak, leading to the enactment of a total hunting ban in 2013 issued by the Government of Newfoundland and Labrador. The decline and subsequent hunting ban have affected various aspects of Inuit well-being. Using Inuit-led multi-media methods, this project heard voices of Inuit across the Nunatsiavut and NunatuKavut regions in Labrador, Canada, which (1) described the importance of caribou for Inuit social connections, (2) explored the ways in which the changes in caribou populations and management strategies are influencing these social connections, and (3) discussed the meaning and value of these social connections for Inuit well-being and the sustainability of Inuit-caribou relationships into the future. Data from video interviews (Nunatsiavut region: n = 54; NunatuKavut region: n = 30) were collected and analyzed using video and photography-based methods. Results characterized how caribou are important social connectors: human-caribou relationships are core to Inuit socialization, inter-connection, and shared experience and memory regarding families, communities, and food and knowledge sharing across Labrador’s landscape. Thus, declines in caribou populations and associated social interaction have had serious implications for Inuit identity, livelihoods, emotional well-being, cultural continuity, and knowledge transfer. In order to support the broader social-ecological system and the well-being of those who are connected to caribou, increased understanding and integration of these social connections into caribou-related decision making and research is recommended.

Key Words: *caribou; Inuit; Nunatsiavut; NunatuKavut; social connections; social-ecological system; well-being*

INTRODUCTION

Across the Circumpolar North, Indigenous Peoples have shared deep and long-standing relationships with wildlife species that have developed over generations and are rooted in daily and seasonal interactions (Collings et al. 1998, Kenny and Chan 2017, Nuttall et al. 2005, Wenzel 2015). Although previous literature has focused on exploring various dimensions of these complex relationships, including nutritional (Damman et al. 2008), cultural (Chiropolos 1994), and economic considerations (Collings 1997), fewer studies have looked at how Indigenous linkages to wildlife relate to and influence the social connections within Indigenous communities and how a human-animal relationship can influence human-to-human relationships, interactions, and arrangements (Cassidy 2012). In the context of climate and environmental change, there is a major research gap in the ways we understand how disruptions to country foods and culturally significant food sources connect with and impact the social fabric within communities (Nuttall et al. 2005), and what these social changes mean for the sustainability of a shared social-ecological system (Pretty and Smith 2004, Milgin et al. 2020, Angelstam et al. 2021). There are also gaps in understanding how changes in the population of a species can influence community well-being, which can encompass a diversity of, for example, social, nutritional, cultural, and livelihood factors (Egeland et al. 2009, Earle 2013).

Given that Indigenous Peoples inhabit roughly one quarter of global lands and waters, their knowledge, practices, and

leadership in monitoring, understanding, and addressing ecological and species-related changes are increasingly being recognized as fundamental to the sustainability of the ecosystems they live within (IPBES 2019). Much attention has focused on the need for Western researchers to co-produce knowledge in partnership with Indigenous Peoples and in ways that support, preserve, and promote the integrity of Indigenous knowledge systems (Mistry and Berardi 2016, Ogar et al. 2020). Though much cross-cultural work has been done (e.g., Rathwell et al. 2015, Ford et al. 2020, Sterling et al. 2020), integrating a plurality of knowledge sources from different disciplines and worldviews to address environmental challenges in ways that support Indigenous communities, including their social connections to and interactions with fish, wildlife, plants, and ecosystems, remains a critical challenge (Latulippe and Klenk 2020, Wheeler et al. 2020). As such, there is a need to increase understandings of, and capacities to, co-produce knowledge in ways that are not only supportive of Indigenous knowledge holders, but also reflect the socially embedded, human-animal interactions that are foundational to their knowledge systems (Wheeler and Root-Bernstein 2020). In this paper we advance understandings of, and processes for, co-producing knowledge about Indigenous social connections in relation to wildlife, through the use of community-based documentary film techniques.

For many Indigenous Peoples living across the Circumpolar North, one human-animal interaction that has had a particularly important, diverse, and complex cultural and livelihood role is

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the relationship with caribou (Kofinas 2005, Beach and Stammler 2006, Bali and Kofinas 2014, Russell et al. 2015). For example, caribou have been characterized as being a critical source of food (Lambden et al. 2007, Chiu et al. 2016, Gagné et al. 2012, Kenny et al. 2018), and important for self-perception and identity (Sejersen 2004, Borish et al. 2021a), emotional well-being (Zoe 2012, Rixen and Blangy 2016, Cunsolo et al. 2020), culture (Keith 2004, Royer and Herrmann 2011, Castro et al. 2016), and economic support and stability (Dragon 2002, Meis Mason et al. 2012). In recent years, however, many caribou populations have been declining across the Circumpolar North (Gunn et al. 2009, Vors and Boyce 2009). Although the causes of the current declines are complex (Gunn et al. 2010), some of the proposed reasons for the decline include, but are not limited to, natural population cycles (Vors and Boyce 2009); changes in food abundance and availability (Champagne et al. 2012); changes in predation (Latham et al. 2013, Chiu et al. 2016); changes in weather and climate (Le Corre et al. 2017, Mallory and Boyce 2017); human development and resource extraction (Parlee et al. 2018, Plante et al. 2018); and parasites (Ducrocq et al. 2013, Simard et al. 2016).

Although a range of studies have explored Indigenous-caribou relationships across the North American Arctic and Subarctic (Parlee and Caine 2018, Snook et al. 2020, Borish et al. 2021a), less research has explicitly focused on understanding the ways in which social relationships within Indigenous communities are connected to, and influenced by, caribou. More specifically, little research examines how Indigenous-caribou relationships facilitate the social exchanges within and between Indigenous communities, or how these social exchanges linked to the endurance of the Indigenous connections to caribou. Further, in the context of the caribou population declines occurring across the Circumpolar North (Vors and Boyce 2009), little is known about the social implications of these declines, and what the cumulative effects may be on the broader social-ecological systems that both people and the caribou herds live within.

Particularly rapid declines of caribou herds have been observed across Labrador, Canada (Duquette and Montevecchi 1996, Couturier et al. 2004, 2010 Bergerud et al. 2008, Eamer et al. 2014, Government of Newfoundland and Labrador 2016, 2018). Although all caribou herds in Labrador have experienced a decline, the George River Herd has declined by 99% since 2001, from over 800,000 animals at its peak in the early 1990s (Payette et al. 2004, Gunn et al. 2010, Russell et al. 2015), to lowest recorded estimates of 5500 in 2018 (Government of Newfoundland and Labrador 2018), to current estimates of 8100 animals (Government of Newfoundland and Labrador 2020). To support a potential rebound of the herd, the Government of Newfoundland and Labrador issued a total hunting ban on all George River caribou in 2013 (Castro et al. 2016, Government of Newfoundland and Labrador 2016), meaning that, as of 2021, Inuit and others have been unable to legally hunt caribou for over seven years. In addition to this hunting ban, restrictions have been placed on other herds that continue to this day, including a hunting moratorium on the Mealy Mountain Caribou herd that has been in place since the 1960s (Bergerud 1967, Snook et al. 2020).

Considering the deep relationships Inuit and other Indigenous Peoples in Labrador have shared with caribou for generations

(Ungava Peninsula Caribou Aboriginal Round Table 2017), the decline of caribou, in combination with the restriction on hunting, has resulted in a range of implications for people and communities across Labrador, including effects on Inuit identity and culture (Borish et al. 2021a), emotional well-being (Cunsolo et al. 2020), food security (Kenny et al. 2018), and the criminalization of an important socio-cultural practice (Snook et al. 2020). However, no research to date has explored how the recent caribou-related changes have affected Inuit social connections, and what these social alterations mean for Inuit well-being and Inuit-caribou relationships long term. Inuit from across the Nunatsiavut and NunatuKavut regions in Labrador have thus expressed the critical need to address this research gap, and to do so in ways that contribute to Inuit leadership in the co-production of knowledge. As such, drawing from the voices, knowledge, and lived experiences of Inuit from the Nunatsiavut and NunatuKavut regions, this research (1) described the importance of caribou for Inuit social connections; (2) explored the ways in which the changes in caribou populations and management strategies are influencing these social connections, and (3) discussed the meaning and value of these social connections for Inuit well-being and the sustainability of Inuit-caribou relationships into the future. By exploring these objectives through community-based documentary film, co-producing knowledge with Inuit across Labrador was recognized as an embedded part of this research.

METHODS

Inuit Regions in Labrador

The Nunatsiavut region (“Our Beautiful Land”)

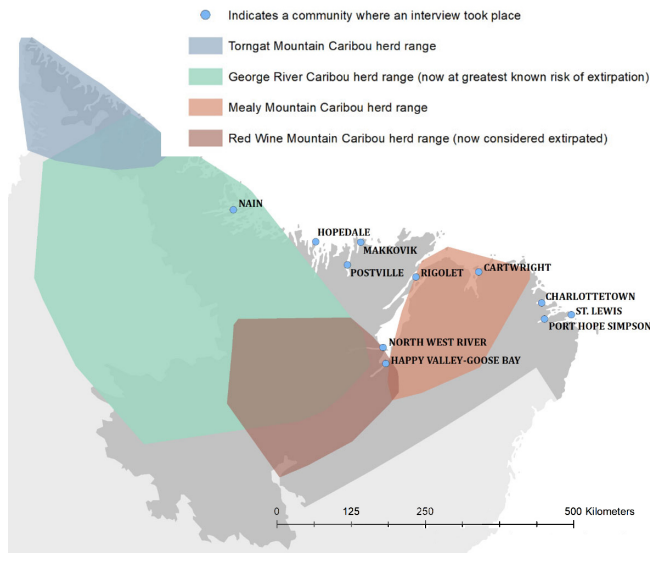
In 2005, the Labrador Inuit Land Claims Agreement established the Nunatsiavut Land Claims Settlement region in Northern Labrador, which is self-governed by the Nunatsiavut Government. There are approximately 7000 Nunatsiavut beneficiaries (2500 people living within the Nunatsiavut region specifically). All Nunatsiavut communities were involved in this research, Rigolet, Makkovik, Postville, Hopedale, and Nain, as well as Inuit living in North West River and Happy Valley-Goose Bay. The Torngat Mountain Caribou Herd, the George River Caribou Herd, and the Mealy Mountains Caribou Herd can all be found within the Nunatsiavut region (Fig. 1).

The NunatuKavut region (“Our Ancient Land”)

The NunatuKavut region spans south and central Labrador and is the homeland of the approximately 6000 Inuit who are politically represented by the NunatuKavut Community Council (NCC). NunatuKavut Inuit do not yet have a settled land claim agreement, despite a comprehensive land claims journey spanning multiple decades. In 2015, the government of Canada introduced a new process to negotiate with Indigenous groups, the Recognition of Indigenous Rights and Self-Determination (RIRSD) process, moving away from the comprehensive land claims process (Hudson 2021). In 2018, NCC was accepted by Canada into this new process and, in September 2019, the NunatuKavut Community Council and Canada formalized a memorandum of understanding that will guide negotiations for self-government agreements with Canada. NunatuKavut Inuit from the communities of Cartwright, Port Hope Simpson, Charlottetown, and St. Lewis, as well as NunatuKavut Inuit living in North West River and Happy Valley-Goose Bay, were involved

in this research. The George River Caribou Herd, the Mealy Mountain Caribou Herd, and the Red Wine Caribou Herd live or have lived in the NunatuKavut region (Fig. 1).

Fig. 1. Map displaying the range coverage for the Red Wine Mountain herd and the Mealy Mountain herd in 2012, the George River herd in 2015, and the Torngat Mountain herd in 2017. Participant communities are also shown. Mapping data was generated from telemetry data and collected observed animals by regional partners.



Inuit-caribou relationships in the Nunatsiavut and NunatuKavut regions

Similar to the deep connections that other Indigenous Peoples living across the North American Arctic and Subarctic have with caribou (Borish et al. 2022), this animal has been documented as critical for many aspects of Inuit life in Labrador, including Inuit history (Bergerud et al. 2008), food security (Kenny et al. 2018), cultural identity and intergenerational knowledge transfer (Borish et al. 2021a), connections to the land (Natcher et al. 2012, Snook et al. 2020), and psychological well-being (Cunsolo et al. 2020). The entire caribou experience involved many people in Inuit communities throughout history: more traditionally, the men were more involved in tracking, hunting, butchering, and skinning the caribou; women of various ages were involved in skinning, preparing and cooking the meat, and creating clothing from various parts of the caribou; and members of both genders were engaged in sharing the meat and passing on the knowledge to younger generations, among other activities (Ungava Peninsula Caribou Aboriginal Round Table 2017).

More recently, there has been less of an emphasis on the separation of traditional gender roles related to different aspects of the caribou experience, with stronger involvement of a diversity of people participating in the hunting, preparation, and sharing of knowledge and meat (Ungava Peninsula Caribou Aboriginal Round Table 2017). Currently, within the context of the decline of caribou and the restriction on hunting, no one can participate in any of the cultural activities and practices related to caribou,

with a range of influences for a diversity of Inuit and communities across the Nunatsiavut and NunatuKavut regions.

In response to the declining caribou populations and the hunting ban, Indigenous Peoples in Labrador, including Inuit, have been working on alternative strategies for caribou management and conservation based on Indigenous sciences, Elder wisdom, principles of relationships, respect, and reciprocity for caribou. They are actively leading caribou-specific research, monitoring, preservation, and stewardship strategies that integrate caribou health with the health and well-being of people and communities (Ungava Peninsula Caribou Aboriginal Round Table 2017).

Our knowledge co-production approach

This research draws data from *HERD: Inuit Voices on Caribou* (the HERD project, <https://www.inuitvoicesherd.com/>), a multi-year, audio-visual study that is working with Inuit from the Nunatsiavut and NunatuKavut regions of Labrador, Canada, to co-produce community-based research and video outputs about the broad connections between caribou and Inuit well-being. This project is continuing to produce a range of multi-media deliverables, in addition to publications and reports, including a co-created, community-based documentary film, which showcases Inuit voices and experiences with caribou.

This work is premised on a long-standing partnership with Inuit from two distinct regions in Labrador, Canada: the Nunatsiavut Land Claim Settlement Area, represented by the Nunatsiavut Government (NG) and the NunatuKavut region, represented by the NunatuKavut Community Council (NCC). After the hunting ban was enacted in 2013, it was clear that the wide-ranging impacts on Inuit needed to be documented and understood. In 2016, a transdisciplinary Caribou Research Steering Committee was specifically established for this research to direct all phases of this project, including research question identification and development, grant funding applications, study design, participant recruitment within communities, data collection and co-analysis, results dissemination, and the overall management of research activities. This 13-member Steering Committee comprised community members (n = 2), representatives from the Nunatsiavut Government (n = 3), the NunatuKavut Community Council (n = 3), the Torngat Wildlife, Plants and Fisheries Secretariat (n = 3), and academic researchers from the Labrador Campus of Memorial University (n = 1), the University of Guelph (n = 1), and the University of Alberta (n = 1). Members also represented different disciplinary backgrounds (e.g., wildlife management, health, social development), sectors (e.g., Inuit governments, academia, co-management board), and knowledge-systems (e.g., Inuit and Western knowledge systems).

This work was also informed by the decolonizing conceptual frameworks outlined by Tuhiwai Smith (1999, 2012), which emphasize Indigenous-identified priorities and study designs that prioritize Indigenous representation, storytelling, and celebration. Relatedly, this work follows the principles and overarching research guidelines outlined by the National Inuit Strategy on Research (Inuit Tapiriit Kanatami 2018), the Nunatsiavut Government, and the NunatuKavut Community Council, including advancing Inuit research governance; supporting the ethical conduct of research; situating funding with community-specific priorities; enhancing Inuit access, control, and ownership over data; building Inuit research capacity; and supporting

research by, with, and for Inuit (Inuit Tapiriit Kanatami 2018, Bull and Hudson 2019)

A growing dimension of co-producing knowledge with Indigenous Peoples has explored and utilized alternative research methods and strategies for collecting, analyzing, and disseminating Indigenous perspectives and experiences in ways that respect, preserve, and reinforce their values, customs, and rich oral histories (Bonny and Berkes 2008, Tuhiwai Smith 2012, Berkes 2017). In this context, the Caribou Research Steering Committee determined that, in order to preserve the integrity of Inuit oral storytelling traditions, video-based media, in the form of documentary film, would be used as the core methodological strategy to enable a more nuanced understanding of Inuit-caribou relationships, while aligning with Inuit values, needs, and goals. Video was prioritized over other visual methods because of it was viewed as the most effective strategy for documenting and communicating the holistic dimensions of Inuit well-being, knowledge, and experiences (Borish et al. 2021b). Through this cohesive visual strategy, Inuit voices and Inuit knowledge were centered (Borish et al. 2021b), along with the principles of decolonizing research, which emphasizes equity, social justice, partnership, inclusion, transparency, and accountability in the co-creation process (Tuck and Yang 2012, Tuhiwai Smith 2012, Wildcat et al. 2014).

Data collection

Data for this article were collected through in-depth, conversational, filmed interviews with Inuit throughout Labrador (n = 84 interviews: 54 from the Nunatsiavut region; 30 from the NunatuKavut region) between January and April 2019. With an aim to ensure a diversity of ages and gender balance, the Steering Committee invited participants based on a variety of connections and experiences (or lack of experiences) with caribou, including Elders, youth, hunters, carvers, cooks, Inuit conservation officers, and trappers.

The questions included in the interview guide were identified through multiple Steering Committee meetings to ensure the focus of the work aligned with Inuit-specified research priorities. Based on the direction of Inuit Steering Committee members, questions looked at a combination of Inuit social, cultural, emotional, livelihood, and food security relationships with both caribou and Inuit relationships through caribou. Questions were asked of the past, present, and future, and were pre-tested for content and context. Participants were co-interviewed by a team of at least one Inuk and one non-Indigenous researcher from the Steering Committee.

Interviews were conducted in the language selected by participants, which was primarily English, though Inuttit interviews occurred as well and were translated with support from a regional translator. Interviews were filmed and lasted 25 minutes on average, totaling over 2100 minutes of visually documented conversations across Nunatsiavut and NunatuKavut.

Data analysis

Constant-comparative methods were used to iteratively form distinctions during data collection and throughout the analytical process (Vander Putten and Nolen 2010). An inductive qualitative analysis was also used to support the exploration and

development of key elements and reoccurring themes (Green and Thorogood 2004, Braun and Clarke 2006). All the multi-media data captured were subjected to a video-based qualitative analysis, a new analytical approach specifically created through this study to maximize video data, which combined principals of an inductive qualitative analysis with documentary film editing (Borish et al. 2021b). Unlike other data investigation strategies that occur within qualitative analysis software (Bassett 2011), this process occurred within two video editing software (i.e., Lumberjack Builder and Final Cut Pro X) and leveraged their coding and analytical capabilities to generate thematic codes (Borish et al. 2021b). Codes, tied to video interviews, were watched and discussed amongst the Caribou Research Steering Committee to determine how to organize concepts and progress with the analysis. Once a list of thematic codes was finalized, relationships between themes and sub-themes were analyzed in Final Cut Pro X using a detailed search filter, which allowed for efficient and in-depth exploration of video-based qualitative data. This process also supported a more holistic understanding of the data through considerations of the linkages between narrative structure, body language, emotional inflection, and language expression by participants (Borish et al. 2021b).

Data management and consent

Following the National Inuit Strategy on Research principal of enhanced Inuit ownership over data (Inuit Tapiriit Kanatami 2018), all data collected through the HERD project, including qualitative data, video-footage, video-transcriptions, and photographs, are fully owned and controlled by the Inuit regions from which the data were gathered, and is used by the research team via ongoing informed consent processes. All participants over the age of 18 provided informed oral and written consent for both the interview process and visual documentation (i.e., video footage and photographs), while participants under the age of 18 provided assent and permission from a parent or guardian. Ethics approvals for this project were obtained from the University of Guelph, Memorial University, and the University of Alberta, and research approval was granted from the Nunatsiavut Government Research Advisory Committee and the NunatuKavut Community Council Research Advisory Group.

RESULTS

Participants in this study described four main ways in which caribou played a role in Inuit social connections: (1) caribou as a social connector: the practical and logistical reasons why Inuit socialize during caribou-related activities; (2) caribou and familial connections: the familial links that are facilitated through caribou-related activities; (3) caribou and inter-community connections: the inter-community interactions that are supported through caribou-related activities; and (4) caribou and Inuit sharing: Inuit traditions of sharing in relation to caribou. Additionally, we present how participants described the influences of the caribou declines on Inuit social connections, including how the declines are affecting Inuit social interaction, Inuit sharing traditions, and Inuit shared experiences and respect for caribou. All descriptions of caribou as important for Inuit social connections were rooted in the long-standing and continuous relationship that Inuit share with caribou across Nunatsiavut and NunatuKavut.

“So many people can go caribou hunting”: caribou as a social connector

Inuit across the Nunatsiavut and NunatuKavut regions shared how caribou, and the activities and practices associated with this animal, facilitated opportunities for people to interact with each other and engage in a shared, land-based experience (Fig. 2). An adult male standing outside his shed explained, “you get together with a few of your buddies, usually the same people every year: so it’s a trip you look forward to, a part of what made up your year.” A female youth in her 20s shared, “so many people can go caribou hunting ... it doesn’t have to be just like one person on skidoo looking for a partridge, you know, there’d be 5 or 10 guys going off, 10 skidoos.” She further explained how while on these shared hunts “you’re enjoying the land that our ancestors have lived off of for so many hundreds and hundreds of years, and learning around place names.”

Fig. 2. Quote from Mina Campbell, North West River.



We don't do [social hunts] with other animals. Caribou hunting is a big hunt, and it's a big animal to hunt. We wouldn't go together for a partridge hunt... I could only see caribou hunting and seal hunting being a social event like that. Where we all gather up in one place, have a boil-up [outdoor campfire] and cup of tea and lunch outside.

- Mina Campbell, North West River

Other participants also drew connections between their own caribou-related social experiences and the land, including one adult male who said “it was smiling faces all around. Food, shared experience, on the land, marvelous.” and an adult female who expressed how “it’s being amongst animals. It’s having a boil up [outdoor campfire]. It’s being, you know, in the country.”

“Gets the whole family involved”: caribou and familial connections

For Inuit across Labrador, caribou and activities related to caribou were seen as important for supporting familial bonds and experiences (Figs. 3, 4). One adult male explained how “it was a real family visit, gathering, celebration of how we always had lived,” while a senior male noted “it’s not only about being able to eat the caribou. It’s being able to go out on the land and harvest with your father, or your grandfather.” Another adult male explained how he was “used to them, having them a part of my life, growing up with them, seeing them, and just being there on the land and sharing the land with me and my family.” Others discussed how caribou hunting “gets the whole family involved,” was a family “social hobby,” and about “family members getting together.”

Fig. 3. Quote from Harry Haye, Nain.

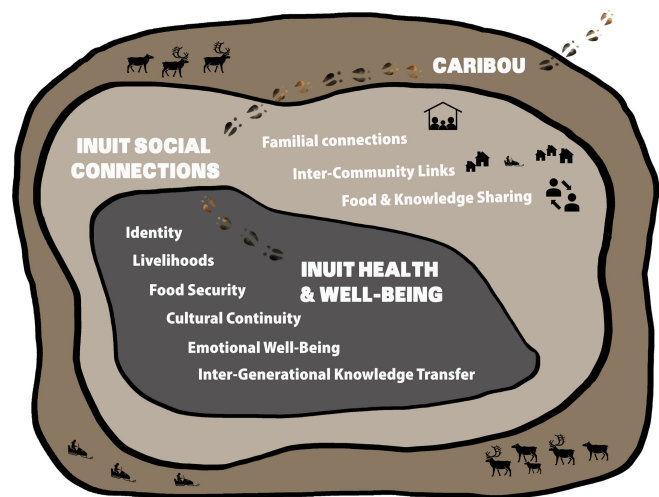
When my sons were growing up hunting with me, the best stories and the best days would be like when they got out and got their caribou with me. Like being a parent and all and you live in the North and you go out hunting with your family you try learn off your dad much as you can. I think stories like that is just, [it] beats any other story for me, I think. That way they can keep their generation going if I passes away.

- Harry Haye, Nain



Fig. 4. Inuit social connections in relation to caribou, and the influences of these social connections on other dimensions of Inuit life.

Inuit social connections through caribou



Family experiences shared relating to caribou were not only during the caribou hunt, but also before and after the hunt. “It’d be a couple of days before [family members] would actually be ready to go [caribou hunting],” one female youth commented, “and it really becomes a family affair because it all starts from the whole getting ready process to actually going off and finding the caribou.” After the hunt, this same participant shared how there is “so much knowledge that could be passed down by going hunting or skinning caribou, preparing it for supper just sitting around with your family having that meal of wild food.” Expanding on the post-hunting process, an adult female shared “the preparation of it, the boiling of the bones, and the process of sitting down, and all the friends or family that was eating it, and the joy that, it was like, oh my, this is some good.”

For some Inuit, caribou were viewed as an important component of how family members sustained memories and relationships with each other. As one female youth in her late 20s remarked, “imagine all the wonderful memories you can make with the people in your family you respect and love, and whenever they pass on that’s all we’re gonna have left of them.” She went on to say:

It’s not just food and it’s not just fur for clothing and all of that, but it’s just a sense of home and all these memories of my dad or my great uncles going off and hunting and the excitement of them coming back with a komatik [sled] full of caribou and being excited, making nikku [dried caribou] with my grandma, and all these people have passed on. It’s like a connection between all of us. It’s like a constant thing in our culture.

“A way of meeting people”: Caribou and inter-community connections

Inuit across the Nunatsiavut and NunatuKavut regions described how the act of going on a caribou hunt not only facilitated familial and intra-community experiences, but also inter-community relationships (Figs. 4, 5). Some participants discussed how, on a caribou hunt, there were opportunities to travel and have a shared experience with members of other communities. As one adult male from the South Coast outlined, “you didn’t necessarily just hunt ... you probably had people coming from other communities, like 10 or 12 men going together from different communities and have a shared hunt and harvest and bring it home to the communities.” Sitting in his shed and reflecting on the social experiences of traveling around Labrador, a senior male commented:

Fig. 5. Quote from Anthony Elson, Cartwright.



I got to know a lot of people. We stopped for sure in every community pretty much from here to Nain and got to know some people in these communities. Some still in contact with some today, right? On a caribou hunt, I mean, it was a way of meeting people and you met a lot of people on the trail and stuff like that and made some good friends.

- Anthony Elson, Cartwright

You travel to Nain or you travel to Nunavik. You travel to Labrador West, you know, inside of Goose Bay, Border Beacon, inside of Natuashish. You go to Natuashish, you go to Davis Inlet, Makkovik, Postville, Hopedale. People came here to harvest caribou. It was that social aspect of it. It was a part of who we were.

Even without previously established relationships, participants discussed how caribou hunting was a good way to meet and

interact with people from other communities. One adult male explained, “if I wasn’t caribou hunting, I would have never got to go to Rigolet. I wouldn’t have met none of the people from up around there... So yeah, if we wouldn’t have went up around there, there’s a lot of people we wouldn’t have met, for sure.” Similarly, a senior male noted, “no matter [where ever] we caribou hunters went, you’d always manage to meet people or hunters, I guess, caribou hunters from all over Labrador.”

Many people discussed how friendships with Inuit in other communities had developed as a result of going caribou hunting. Inuit described how caribou hunting supported and often underpinned “meeting all your friends from other places,” “got to see your friends,” and “seemed like one big happy family gathering in a lot of areas.” An adult male explained how, for Inuit hunters, “that was part of their thing. They just looked forward to that ... not just ... killing the caribou but having mixing in with their old friends along the coast and all getting together and stuff.” Standing outside his shed, one adult male explained “you would go and buddy up with your buddies from other communities, and go hunt the caribou. Get down to Makkovik ... that was a real treat, that was.” Talking about seeing friends on a caribou hunt, another adult male explained how, for Inuit hunters, “that was part of their thing. They just looked forward to that.” One senior male reflected on his experiences of having friends visit him from other communities, saying “meeting all your friends from other places, aye? You meet them when you’ll be down, they’d be probably coming back.... They used to come stay here at the hills, a whole bunch of them.”

Some participants remarked on the collaboration and exchange of knowledge that would occur between Inuit from different communities during a caribou hunt. One adult male remarked how “you’d run into lots of people you wouldn’t see otherwise and share information and stories and get together.” Thinking back to a caribou hunting experience in a different part of Labrador, one adult male explained:

A couple of times that we did go hunting, we actually met the hunters on land. And the first couple of times that I went up [to Northern Labrador], I didn’t know where I was going, like, other than the map and a GPS. When it was the first time we went up, we got talking to a group of guys from, I think was Rigolet or either Postville, and, actually, they even took us for a day and showed us where to go and what to do and an actual place to go hunting.

Likewise, an adult female talked about the inter-community cooperation that would accompany a caribou hunting experience:

It was like a get together of people. And, there were lots of times when we met up with people, stayed with different people, or people stayed with us. So, it was about sharing things that we had, and having a good get together and helping each other while we were hunting.

Another senior male expanded on this concept of communities working together:

All my friends from the south and Rigolet and all these places, they all came to the house here and we all got together and went up into the country together. Sometimes there’d be about 10, 15 skidoos, go all the

ways up into the country and everybody would help each other to get their caribou and all that. And, we went there, we never over-killed. We just kill what we needed and that was it, you know? And it was good, I mean, we was all helping one another and we was like that every time, every year, it was same thing. People come up to the house here and we all get ready and drive up into the country.

**“We’d go with somebody ... and get caribou for everybody”:
 caribou and Inuit sharing**

Sharing was a common concept discussed by many Inuit participants across the Nunatsiavut and NunatuKavut regions (Figs. 4, 6). Describing sharing traditions in Labrador more broadly, one female youth explained, “I think that for the most part, Labrador is made up of small, coastal communities, North and South coast ... there’s always sharing, not just amongst people in your community. But there’s sharing amongst communities.”

Fig. 6. Quote from Heather Angnatok, Nain.

I can remember, when I was a little girl, the excitement of when the hunters would go caribou hunting and hopefully, they would come back with caribou. And not only for my family or our family, but the whole community. So, if there was anyone who was hungry, we shared the caribou meat all the time.

- Heather Angnatok, Nain



Photo taken by David Borish

Relating specifically to caribou, Inuit participants explained, “we’d go with somebody ... and get caribou for everybody,” “share it out with friends and family and stuff,” and “give it to other family members, parents, Elders.” One female adult emphasized that “if you got a caribou, your job is [to] share it with the family, even if it, like a tiny piece, like you’d share.” Reflecting on a previous sharing experience, an adult male said, “my youngest son, he killed two [caribou] ... which meant a lot to him, and he was so proud. We were proud. [It] provided meat for our family for that winter and a couple other families.” One senior male explained why he thought caribou was an especially important resource for Inuit sharing traditions:

[Caribou] played a bigger role [than hunting other animals], I think, in that people had that much meat that they shared more with other people who didn’t have it ... I think caribou allowed us to do that because you had so much meat all at one time.

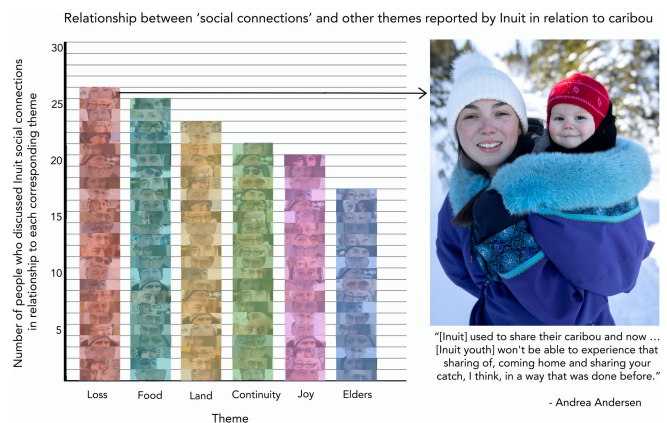
For many, the sharing of caribou was important for sharing food with others who could not hunt the animal themselves. For instance, one adult male explained, “I got brothers and sisters who can’t go out on the land too, I got to hunt for them.” Similarly, one senior male described how “we’d get caribou not only for

myself, but for the rest of my family sometimes. If somebody didn’t have a skill or the father was too old to hunt, we had to kill caribou for him.”

**“Robs your families and your community”:
 influences of the caribou declines on Inuit social connections**

Many participants described linkages between caribou and social connections while discussing other concepts. For instance, caribou and Inuit social connections were discussed in connection to concepts of loss, food security, land, cultural continuity, joy, and the roles, knowledge, experiences, and wisdom related to caribou hunting and food preparation held by Inuit Elders (Fig. 7). Of all the participants who spoke about “social connections” (n = 71), more discussed the concept of “loss” than any other theme (Fig. 7). In the context of the change in caribou populations, and approximately 5–6 years since the hunting ban had been in place at the time of conducting these interviews, loss in relationship to social connections was talked about in three main ways: loss of social interactions, loss of food sharing and knowledge sharing systems, and the influences of these losses to Inuit-shared experiences and respect for caribou.

Fig. 7. A photograph that portrays the top six themes discussed by participants when talking about the overarching theme of “social connections.” Linkages between themes (e.g., between “loss” and “social connections”) were made solely within individual answers to questions, and not across entire interviews. For example, out of all participants who discussed social connections (n = 71), a total of 26 people discussed both themes of “loss” and “social connections” in the same answer to a question, while 20 people discussed both themes of “joy” and “social connections” in the same answer to a question. Within this graph, there is no relationship between “loss,” “food,” “land,” “continuity,” “joy,” and the skills, knowledge, and experiences associated with caribou-related activities that Inuit elders hold. Portrait photos of individual participants are embedded into the graph, representing which participants discussed certain themes.



“[Inuit] used to share their caribou and now ... [Inuit youth] won’t be able to experience that sharing of, coming home and sharing your catch, I think, in a way that was done before.”

- Andrea Andersen

Caribou decline influences on social interaction

Inuit across Labrador talked about the influences that the caribou population declines and hunting ban have had on intra-community and inter-community connections and exchange (Fig. 8). One adult male described how “one of the biggest impacts of

the loss of caribou to the South Coast is you're not going from community to community so much as you used to one time ... right now you haven't got that because we haven't got a hunt." Another adult male shared there is "no question about that. You're not as well connected to a lot of people that you were always connected to."

Fig. 8. Quote from Lloyd Parady, Happy Valley-Goose Bay.



We haven't been doing [shared hunts] for many years now... [the hunting ban] robs your families and your community of all that... there's a significant loss. Some sort of grieving thing I would think, but you do miss it, you miss all that.

- Lloyd Parady, Happy Valley-Goose Bay

Photo taken by David Borrah

Some people shared how they deeply miss the experiences and interactions that they shared with other people during a caribou hunt. "What I miss most?" asked one adult male, "I miss most, like I've said earlier, was getting ready to go caribou hunting, and going buddying up with your buddies and go caribou hunting for a week. Having a bit of fun. Get your caribou, take your time and come home." Another adult male expressed,

I miss the meat ... and I miss the hunting part, the trip, with you know, the camaraderie or whatever, with your buddies and everything, and meeting the people and stuff like that. It was a, a big thing other than killing a caribou. There was a lot more to it than that, right?

Caribou decline influences on Inuit sharing

Inuit along the Labrador coast remarked on how sharing between and among family, friends, and communities has been influenced by the changes in caribou populations and management (Fig. 9). "[Food sharing is] being slowed down a lot, too, since the caribou ban, the sharing part, like feeding the whole community," explained one adult male. "I guess they're not sharing as much because there's not as much to share," another adult male explained. Someone else elaborated by explaining how "something as simple as sharing it out with others, you can't do it the same like we did when there was an abundance [of caribou]."

Many people expressed concern for how sharing practices and values would be transferred down to youth in their communities if there was not caribou to share, because "the younger generation [is] missing out on sharing with everybody in the community" and "[Inuit] used to share their caribou and now ... [Inuit youth] won't be able to experience that sharing of, coming home and sharing your catch, I think, in a way that was done before." One female hunter discussed sharing in relation to knowledge of land:

Sharing still happens with smaller game but not like it was with caribou. ... [It's] not just the hunt of being around here, even being able to go into the country and stuff like that and knowing the land. Like that knowledge is gonna go with it.

Fig. 9. Quote from Joey Angnatok, Nain.



We can't share with our young people anymore. And even the preparation of the animal, and even something as simple as sharing it out with others you can't do it the same, like we did when there was an abundance [of caribou].

- Joey Angnatok, Nain

Photo taken by David Borrah

While skinning an Arctic fox, an adult male described, "I can see a lot of the young people ... and I've heard this all across Nunatsiavut, that a lot of [young] people don't share as much as they used to." Sitting on a skidoo, one teenage male youth did not think that sharing was being carried out differently than before, reflecting on how "that's still the same, people still share everything we get. But it's just not caribou anymore." Likewise, another male youth in his teens described what youth might be able to do if they were allowed to hunt caribou again:

If there was a lot of caribou around then [Inuit youth] could give to Elders in the community and provide many people, to their families and their friends, and then that way the food could go around and there'd be a lot more food for people, a lot more opportunities, right, for hunting? And then the tradition could continue on.

Standing on a skidoo trail after finishing a day of trapping, one adult male reflected on transferring skills and values to his son who was in his early teens. He explained, "I had a hard time with [my son] first starting out because he didn't wanna share. But it's gotta be taught, it's something that's gotta be taught too ... if somebody goes and kills [caribou] they share it, they don't just keep it for themselves and hide it away." He later shared "you don't need to go around [with] caribou, stuck out everywhere, selling it. You just need to be able to be respectful of the animals."

Caribou declines, Inuit shared experiences, and respect for caribou

Participants raised concern that there were interconnections between the broader social alterations and how people came to know about, understand, and value caribou and the land they share (Fig. 10). "If [caribou] do come back, [Inuit youth would] have to be on top of things and take care of it and not waste, unless the traditional way that our sharing and not wasting is

carried on ... we try and talk about it all the time, but it's different, if you don't do it it's different," expressed one adult male. One female discussed the connections between Inuit hunting and conservation, saying "There's a lot of evidence of use and harvest of caribou not just for harvesting but as a form of conservation because we never just killed what was there, we killed what we only needed ... I think that part of the history in showing how they were the mainstay, a staple for us, I think that is very important."

Fig. 10. Quote from Derrick Pottle, Rigolet.



The joy and the satisfaction of a hunt, the preparation, the actual hunt, the bringing it back to the communities, the participation from different communities, going into other communities and socializing and sharing and helping each other, and that's not there anymore... So it not only played a significant role for filling bellies, but there was that social, respectful aspect of that, being able to go out and utilize everything and bring everything back and do it the right way.

- Derrick Pottle, Rigolet

Others discussed a need for taking youth out on these shared experiences to pass on this knowledge, including one male who said "you have to take those people and you have to take them out onto the land ... and have that experience. But if you don't do it, they'll never know where to start. And that's what's happening within our culture." Likewise, another adult male envisioned how a shared experience could be used to continue to support knowledge of this animal into the future:

If we took a whole bunch of young people out and went and harvested like one animal per trip, throughout the winter, every time it was needed within the community, imagine how many people would still have that knowledge or learn that knowledge, and you'd get a meal every now and then.

When discussing what kind of messages would be communicated to younger generations on these shared experiences, one adult male explained how "we're not trophy people ... don't lose sight of that," and "I think that if you take care of animals, you take care of different things, it'll take care of you." One female participant discussed how "I would tell them that it starts with the land, we have to respect the lands so the caribou can feed and survive on it." This reflects other descriptions of the necessity of passing on cultural knowledge for the continued relationship between Inuit and their lands, including one adult male who said the following:

Be wise in how you hunt and what you hunt. Always teach your children the way of the land, the way of the animals to be in conjunction with Mother Nature ... no one really has all the answers of where the caribou has gone or why

they died, but for me, that's one of the biggest things to be in conjunction with Mother Nature with the animals to send a message to the future generations of our children to always respect animals no matter what consequence.

DISCUSSION

Participants in this research expressed the linkages between caribou and familial connections. Caribou-related activities were viewed as events that facilitated family gatherings, interaction, and shared experiences; contributed to intra-family participation and teamwork for a single activity; and supported ties between different generations within a family, while also maintaining connections with those who have passed away. These findings expand on previous work conducted in other parts of North America that recognize the interconnections between caribou and Indigenous familial bonds, relationships, and co-operation (Beaumier et al. 2015, Walsh 2015, Reedy 2016, Rixen and Blangy 2016, Maracle et al. 2018). For example, caribou-related livelihoods played an important role for the well-being of Inuit in Qamini'tuaq, Nunavut, through their role in family cohesion (Rixen and Blangy 2016), while the herding of reindeer on the Seward Peninsula, Alaska, was seen as an important activity for uniting extended families together (Dillingham 1999). Findings in our research expand on this work by documenting how engagement with caribou-related activities can spark positive and celebratory moments among family members, which further characterizes how family unification through caribou can transpire.

Similar to other research, our findings explain how the process of hunting goes beyond the actual harvesting of an animal; rather, hunting is associated with a complex set of activities, values, and social relationships encompassing both humans and animals before, during, and after the actual kill (Chiropolos 1994, Bodenhorn 2000, Walsh 2015). This social complexity of the hunt was described by Inuit in Labrador, including how the caribou harvest facilitated family involvement at multiple stages, including pre-hunt preparation to cooking to consuming caribou together at the dinner table. The joy of eating caribou together was discussed by many participants, which was often framed as an important interaction and shared experience among family members and others. These findings relate to the concept of commensality, how people eat together, which can create, preserve, revitalize, and strengthen bonding experiences within a family (Fischler 2011, Rivera and Giacomani 2019). As one participant noted, caribou was not only a connection for those at the dinner table, but also seen as a way for families to connect to ancestors who have passed on. Although previous research has discussed how country foods can support exchanges and ties between people, animals, ancestors, and the land (Walsh 2015), our findings also demonstrate the sense of ease and comfort that people can feel with family experiences and memories that are embedded in their interactions with an animal. Considering families can have a pivotal role in the happiness, health, well-being, healing, and development of individuals, and especially children and youth (McNeill 2010, Kral et al. 2011), further exploration of the ties between caribou-related activities and family relationships is suggested.

Sharing was another core concept discussed by participants, expressed through the allocation and distribution of caribou as

a food source among families, friends, community members, and communities. These findings align with previous literature that outlines how Indigenous communities share caribou (Thorpe 1998, Wray and Parlee 2013, Beaumier et al. 2015, Martin 2015, Parlee et al. 2018). The concept of sharing also aligns with the expansive body of literature describing the importance of resource redistribution practices and traditions for Arctic and Subarctic Peoples more broadly (e.g., Wenzel 1995, Collings et al. 1998, Bodenhorn 2000, Chabot 2003, Ford 2009, Gombay 2009, Harder and Wenzel 2012).

Sharing in Circumpolar societies is also well-documented, in part because of the functional role it plays in contributing to community-wide health and well-being (Collings et al. 1998, Harder and Wenzel 2012, Walsh 2015). Sharing and other social relationships can help address subsistence disparities, as the practice allows resources to be spread to those more vulnerable in society (Harder and Wenzel 2012). Across the Arctic and Subarctic, sharing caribou specifically has been documented within families (Rixen and Blangy 2016), within communities (Beaumier et al. 2015), and across different communities and regions to support collective well-being (Parlee et al. 2018). For example, in Nunavut, caribou is hunted and then redistributed to others who may not be able to hunt on their own, such as Elders and those who cannot afford to go hunting (Beaumier et al. 2015). Similarly, Maracle et al. (2018:153) describe how sharing was largely to “maximize the overall well-being of the Gwich’in peoples, while uniting families and communities on economic, social, and political grounds” in the Northwest Territories, Canada. Although the experiences of participants from the Nunatsiavut and NunatuKavut regions is reflective of the larger body of knowledge, they also deepen and enrich understandings around why caribou is so valued for sharing. Specifically, discussion around the amount of meat harvested through this animal, compared to other species, highlights the importance of caribou for the redistribution of a food source. Further, these expressions point to the reciprocal commitment by Inuit in Labrador to actively engage in established social connections that support the collective health and well-being within their communities.

Food has long been viewed as a fundamental social issue, in addition to a tangible, biological resource to be consumed (Whit 1993, Fischler 2011, Walsh 2015). Caribou, as a food source, clearly plays a role in the ways that Inuit socially organize and interact in Labrador, through processes such as eating caribou together and sharing caribou meat with others. However, based on participant descriptions in this research, Inuit social interaction through caribou goes well beyond caribou as a food source: Inuit connect to each other on various levels through the collective caribou experience. From preparation for hunting to being on the land together, from cleaning to cooking, from eating to re-distribution, participants in the Nunatsiavut and NunatuKavut regions have expressed how the caribou experience can bring people together from different generations, genders, communities, and Indigenous regions. In these ways, this research reveals the influence that a species can have on Inuit social arrangements, and how social meaning can be attached not only to a cultural food source, but also to the processes connected to that food source. This further suggests that the caribou hunt is not only about physical sustenance, but also about maintaining

cultural, social, and inter-personal dynamics and traditions. Perhaps within this context of the deeply rooted and complex social dimensions linked to caribou, it can be understood why the effects to Inuit social connections was described as “one of the biggest impacts of the loss of caribou” by one participant.

For Inuit across the Nunatsiavut and NunatuKavut regions, the changes in caribou populations, in combination with the restricted access on hunting, have had a range of consequences for social relationships, including influences on intra-community and inter-community connections and exchange; influences on sharing networks; and subsequent emotional, cultural, and inter-generational implications due to the lack of shared experiences and knowledge being passed down related to caribou. Linked to these social alterations, participants also discussed the ramifications for the connections between communities, the land, and the herds themselves. Previous literature has discussed the social implications when people cannot meaningfully engage in the social processes of hunting an animal (Chiropoulos 1994, Maracle et al. 2018, Parlee and Caine 2018). For example, given entire Inupiat communities in Alaska can be involved in the cultural ceremonies linked to a whale hunt, restrictions on hunting whales has been documented to “threaten the survival of [Inupiat] culture and the organization of their society” (Chiropoulos 1994:224). In Alaska and the Yukon, the enhanced enforcement of the state-imposed USA-Canadian border has affected Gwich’in abilities to share food, leading to social, cultural, economic, and political consequences for Gwich’in communities (Maracle et al. 2018). Further, Nuttall et al. (2005) demonstrate how changes in the climate have had repercussions for Inuit hunting in Nunavut, and subsequently Inuit socialization, exchange, and orientation, all of which are important dimensions of sustainable actions and thinking related to the land and animals. Although the nature of these changes differs from that of the caribou context in Labrador, similar influences on sharing, exchange, and interaction between people, and therefore the aspects of society related to well-being and respect for the land, have been felt by Inuit in the Nunatsiavut and NunatuKavut regions.

Acknowledging, understanding, and addressing some of these influences may be important for a number of reasons. First, considering many of these social connections are integral for community-wide food security and supporting lower income families, further understanding the condition and state of these social connections may prove insightful for food systems, health, and well-being decision making within Inuit communities in the Nunatsiavut and NunatuKavut regions. As documented, caribou-related activities not only facilitate the allocation of a nutritional resource, but also maintain important social connections between and among caribou and Inuit that are core to Inuit health and well-being. Previous research has described how the alterations to social organization and interaction due to a change in the way food is being consumed, used, or distributed can have a range of cultural and public health consequences (Ford 2009, Danesi 2018). Health-related approaches that leverage these social relationships within Inuit society as an important part of the human-animal-health nexus may therefore provide more accurate depictions of family or community-wide well-being than, for example, Westernized and individualistic approaches of seeing people as independent units (Kral et al. 2011, Harder and Wenzel 2012).

Second, social connections can support cultural continuity and connection (Hunter et al. 2006, Auger 2016). As some participants explained, the caribou hunt is a collective experience, more so than other hunts due in part to the size, mobility, and behavior of the animal, but now there is concern around how youth will engage in these social connections in the absence of the caribou. These findings build on previous work in the region that emphasizes how caribou-related change can alter the continuity of cultural practices and knowledge, and the consequences for Inuit well-being (Cunsolo et al. 2020, Snook et al. 2020, Borish et al. 2021a). The engagement of Inuit in social networks has been documented as valuable for reinforcing Inuit linkages with their lands, culture, identity, and feelings of self-reliance, all of which are intertwined with Inuit health and well-being (Inuit Tapiriit Kanatami 2014). Furthermore, sharing and other social relations can maintain a foundation for cultural and land-based knowledge transmission between generations within Circumpolar communities (Nuttall et al. 2005). Considering social relations can be embedded within Indigenous homelands, reconnecting individuals and communities to these social linkages that arise from the land can be an important aspect of the decolonizing process (Wildcat et al. 2014). Moreover, the discontinuity of culture and kinship relationships have been, and are still, among the most detrimental effects of colonialism in Canada (Kral et al. 2011). Thus, acknowledging how caribou are a fundamental part of the land for Inuit across Labrador, and how there is social meaning behind Inuit-caribou relationships, may therefore be an important aspect for Inuit cultural continuity, healing, and self-determination. Given the concern from adults and Elders in the Nunatsiavut and NunatuKavut regions that Inuit youth may be losing touch with caribou (Borish et al. 2021a), more support and understanding of these social relationships for cultural continuity and connection is warranted. Further, although previous research has explored the gender dimensions and roles associated with caribou and cultural processes linked to this animal (Parlee and Wray 2016), much information is still needed to understand how different genders, as well as ages, are connected to, and affected by, caribou-related change and the subsequent implications on social connections.

Third, these social connections may be a vital part of ensuring the sustainability of the broader social-ecological system in Labrador. Previous research has highlighted how sustainable and adaptive stewardship strategies require a strong understanding of the social systems and social capital interwoven to the natural environment (Angelstam et al. 2021), including trust building, reciprocity, connectedness among and between different social groups, exchange of resources and knowledge, and cooperation for mutual benefit (Pretty and Smith 2004, Kietäväinen and Tuulentie 2018). For example, Burt et al. (2020) describe how social capital, such as the connections between and within communities in Alaska and British Columbia, was recognized as a core part of sea otter recovery and the capacity of communities to adapt to this recovery long term. In the context of the caribou declines and uncertainty in Labrador, the social connections described by Inuit may hold great importance for the future of both caribou and Inuit well-being. From sharing caribou-related knowledge through shared experiences, to maintaining reciprocal ties to nature for the well-being of both Inuit and the land, to ensuring that youth “know where to start” if the caribou return, it is clear from Inuit voices that the values and knowledge

associated with co-existing with the herds and the land are part of an embodied practice that is inseparable from Inuit social experiences around caribou. In other words, this human-animal relationship facilitates human-to-human exchanges, of which help to maintain land-based knowledge and stewardship practices that are vital for the endurance and resilience of this social-ecological system. Indeed, as one participant shared, “if you take care of animals ... it'll take care of you.” Future conservation strategies should thus leverage Inuit social connections related to caribou to continue to reinforce individual actions and collective efforts for sustainability in the long term.

Fourth, many participants in this research discussed the role caribou played in inter-community interactions, including how caribou enabled people to travel throughout Labrador and meet new people, develop friendships, and work collaboratively across communities. Similar inter-community dynamics through caribou and caribou-related activities have been described throughout the literature, including networks established across regions and provinces (Dragon 2002, Meis Mason et al. 2007, Reedy 2016), and even between countries (Maracle et al. 2018). For example, Caribou Eater Chipewyan across Manitoba were “bound to one another by complex ties of kinship and marriage, which provided a communications network extending through those bands dependent on the Kaminuriak and Beverly caribou populations” (Smith 1978:75), and Vuntut Gwich'in living on opposite sides of the state-imposed USA-Canadian border continue to socialize on caribou hunts together and share caribou meat across communities and country lines (Maracle et al. 2018). Findings from our research advance notions of these inter-community connections by highlighting the collaborative outcomes between people from different communities and regions that are facilitated through caribou-related activities. Further, given that Indigenous-led caribou conservation and stewardship efforts in Labrador and elsewhere are increasingly encouraging cross-community and regional communication, co-operation, congruency, and resilience (Ungava Peninsula Caribou Aboriginal Round Table 2017), further understanding the role of caribou as a means for inter-community interaction and relationships is recommended.

Related to conservation and stewardship, participants expressed how their own social connections built around caribou were also directly part of their relationship with, and knowledge about, this animal and the broader landscape. This was discussed through reflections of overlapping land-based and social activities, including the role that these social experiences played in maintaining and transferring knowledge about caribou and values of respect for the herds and the land. Previous research has described how values and respect for the environment are fundamental to a sustainable social-ecological system, in part because these human elements are the foundation to a conservation ethic that support a continued and reciprocal relationship between people and their shared environment (Kirmayer et al. 2009, Simaika and Samways 2010, Berkes 2017). Additionally, sustainable human behavior and interactions with the environment have been described as deeply linked to the adaptive learning processes among those who have lived with and depended on their shared environment (Armitage et al. 2011, Ford et al. 2020, Sterling et al. 2020). In Labrador, adaptive learning about caribou and the land is a socially embedded process gained over multiple generations from traveling on the land, hunting,

cooking, sharing, and engaging in other aspects of the shared caribou experience. These social connections, when jointly engaged with, can thus contribute to the sustainability of the broader social-ecological system through the reinforcement of the respectful behavior and values with caribou, and through building on the generational memory and age-old knowledge systems that Inuit have of this animal.

These social connections may also contribute to the capacity of Nunatsiavut and NunatuKavut communities to withstand and overcome environmental change (Ford 2009). As Nuttall et al. (2005) outline, many Indigenous communities in the Circumpolar North have, in part, coped with resource variability because of the intra and inter-community social connections that foster sharing, co-operation, and collective survival. Likewise, Harder and Wenzel (2012) remark on the role of Inuit social interactions in Nunavut for maximizing collective well-being when confronted with dramatic natural fluctuations in wildlife, highlighting the role of these social relationships in the resilience and overall well-being at a community level. Acknowledging how these social dynamics can be embedded within an ecosystem, or a feature of an ecosystem (e.g., caribou), may therefore be vital when exploring the consequences of environmental change and uncertainty. Additionally, finding ways to further strengthen and promote these social connections, and thus support the people and animals that are part of these linkages, may be critical for coping with environmental change and the subsequent social change.

Finally, related to these knowledge systems, much environmental research has treated Indigenous knowledge solely as “data” to be extracted for decision making, which is not only disrespectful to knowledge holders and communities, but undermines the complexities and depth of Indigenous knowledge systems (Latulippe and Kzenk 2020). Linda Tuhiwai Smith (2012) explains how, in an Indigenous context, research approaches are just as important as the final research outcomes because appropriate methods can contribute not only to the equitable co-production of knowledge, but also work to reinforce Indigenous values and control over the research process. In this study, all the data, both qualitative and visual, is owned by the Inuit partners and communities involved in this work, meaning they have access and control over how the documented stories are used to support Inuit values and aspirations into the future. By centering documentary film as the core methodological strategy in our research, we were also able to align our approach with Inuit storytelling traditions, and maintain the integrity of Inuit oral, place-based knowledge about caribou and their connection to this animal. For example, documentary film allowed the entire Caribou Research Steering Committee to not only read the data, but watch and listen to the knowledge holders who shared their information, which would not have been possible if we had not done video interviews. This process led to an exchange of ideas and perspectives among our diverse team that were rooted in the audio-visual information, which facilitated in-depth conversations and negotiations about what information to share and how to share it.

Using documentary film for this research not only was important from a procedural standpoint, but also it was viewed as fundamental to co-producing knowledge in ways that could support Inuit leadership, agency, and worldviews in the

conservation process. Considering Indigenous knowledge encompasses Indigenous responsibilities to and respect for the lands and animals they live amongst (Latulippe and Kzenk 2020), co-producing and visualizing Inuit knowledge through film was a way to amplify and center the expertise Inuit have relating to caribou and the sustained relationships between caribou and communities. Rather than only focusing on co-production as an approach to integrate Inuit knowledge into Western conservation decision making (Armitage et al. 2011), this work instead viewed knowledge co-production as a way to prioritize Inuit experiences and wisdom, which are directly linked to Indigenous sovereignty, rights, and leadership (Tuck and Yang 2012).

Our success in using documentary film to co-produce knowledge and prioritize Inuit voices (Borish et al. 2021b), combined with other work on the benefits of visual media for supporting cross cultural co-operation (Evans and Foster 2009, Schwab-Cartas and Mitchell 2014), compassion and understanding (Benest 2012, Burns et al. 2020), and effective communication of Indigenous environmental knowledge (Bonny and Berkes 2008), point to the need for greater use of this method within an Inuit context, and potentially in other Indigenous contexts, when co-creating social-ecological knowledge at the community level.

CONCLUSION

Inuit-caribou relationships in the Nunatsiavut and NunatuKavut regions are rooted in generations of deep interaction, reciprocity, respect, and dependence. Although previous literature has highlighted the importance of caribou for certain aspects of Inuit life, including food security, livelihoods, and culture, minimal research has specifically discussed the role caribou play for Inuit social connections. From the voices of Inuit across Labrador, this research highlighted how Inuit social interaction is interwoven with various dimensions of the collective and collaborative caribou experience, including family connections, intra- and inter-community connections, and sharing networks. Thus, the caribou hunt is not only about physical sustenance, but also about cultural, social, and inter-personal dynamics, practices, and well-being. Within the context of the caribou decline and total hunting ban, this research also characterized the ways in which Inuit social connections are being influenced by these ecological and management changes, and what these alterations mean for various aspects of Inuit life. In particular, participants described how there were negative implications for intra-community and inter-community social connections, and influences on food and knowledge sharing networks.

Clearly, caribou are core to Inuit social connections, and these social connections are of fundamental importance for Inuit health and well-being, cultural continuity, and the co-existence of Inuit and caribou into the future. Thus, caribou-related decision making in Labrador and elsewhere should acknowledge and integrate understandings of these social connections into policies that work to support the well-being of both caribou and those who are connected to this animal. Because caribou populations are declining across the Circumpolar North, further community and participatory-based research is needed on human-caribou relationships and resilience. Inuit communities and their social connections are critical for understanding social-ecological change and their wisdom can support better cooperation, communication, and conservation regarding caribou.

Responses to this article can be read online at:
<https://www.ecologyandsociety.org/issues/responses.php/13237>

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Data Availability:

The data that supports the findings of this study are available on request from the corresponding author, DB. None of the data are publicly available because the data contains identifiable information that, if viewed, would compromise the privacy of the research participants.

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