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Relationships between *Rangifer* and Indigenous Well-being in the North American Arctic and Subarctic: A Review Based on the Academic Published Literature

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APPENDIX TABLES

TABLE S1. The final data extraction form used to extract study characteristics of eligible articles discussing links between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic.

Question	Answer(s)
1. What types of institutions were involved in this study, based on author affiliations? (select all that apply)	a. Academia b. Non-Indigenous Government c. Private sector d. NGO e. Wildlife co-management board f. Indigenous association/committee/board g. Indigenous government/governing body h. Community-based organization i. Other (specify)
2. What year was this article published?	a. _____ (specify)
3. What was the research design in this study? (select one)	a. Primary research study b. Secondary research study c. Commentary
4. Based on a combination of the journal and methods, what discipline/field of research did this piece come from? (select all that apply)	a. Social Sciences b. Health Sciences c. Natural Sciences
5. What was the primary language of the article? (select one)	a. English b. French c. Other (specify) _____
6. What type of data was collected? (select one)	a. Qualitative data b. Quantitative data c. Mixed qualitative and quantitative data
7. Did the study evaluate Indigenous perceptions of the human-*Rangifer* relationship? (e.g. via survey, in-depth interviews) (yes/no)	a. Yes b. Yes
8. Did the researchers describe this study as "participatory," "community-based participatory research (CBPR)," or equivalent? (yes/no)	a. Yes b. Yes
9. If the answer was "yes" to question 8, what specific party did the authors collaborate with? (select all that apply)	a. Wildlife co-management board b. Indigenous association/committee/board c. Indigenous community members d. Indigenous government/governing body e. NGO f. Other (specify) _____ g. Not applicable

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TABLE S1. The final data extraction form used to extract study characteristics of eligible articles discussing links between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic – *continued*:

Question	Answer(s)
10. In which province(s)/state/administrative division(s) were caribou-Indigenous relationship data collected? (select all that apply)	a. Alaska b. Yukon c. Northwest Territories d. Nunavut e. Newfoundland and Labrador f. Quebec g. British Columbia h. Alberta i. Saskatchewan j. Manitoba k. Ontario
11. Which overarching Indigenous groups were relevant in this study, as identified by the article? (select all that apply)	a. Inuit (including Inupiat and Eskimo of Alaska) b. Metis c. First Nations d. Alaska Native e. Not specified f. Other (specify) _____
12. Specify exact Indigenous group(s) (if known)	a. _____ (specify, e.g., Innu Nation)
13. What age range was the study population? (select all that apply)	a. Youth (age 5–17) b. Adults (age 18–64) c. Seniors (age over 64) d. Not applicable e. Not specified
14. What gender was the study population? (select all that apply)	a. Male b. Female c. Both d. Not applicable e. Not specified f. Other (specify) _____
15. What type of *Rangifer* population did the study focus on? (select all that apply)	a. Caribou (i.e. non-domesticated) b. Reindeer (i.e. domesticated or semi-domesticated)
16. What sub-species of *Rangifer* did the study focus on? (select all that apply)	a. Woodland/Boreal Caribou (*Rangifer tarandus caribou*) b. Peary caribou (*Rangifer tarandus pearyi*) c. Barren-ground caribou (*Rangifer tarandus groenlandicus*) d. Grant's (*Rangifer tarandus granti*) e. Mountain caribou (*Rangifer tarandus tarandus*) f. Not applicable g. Not specified
17. Specify exact caribou herd(s) (if known)	a. _____ (specify, e.g. Bathurst caribou herd)
18. What well-being aspect(s) of the human-*Rangifer* connection was discussed in this study? (select all that apply)	a. Food security and dietary relationships (e.g., nutrition) b. Socio-economic and subsistence relationships (e.g., hunting) c. Cultural identity and inter-generational knowledge transfer relationships (e.g., storytelling) d. Mental health, emotional, and spiritual relationships (e.g., psychological links) e. Other (specify) _____

TABLE S2. Indigenous groups by region as described in eligible articles discussing links between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic.[1]

Article	Indigenous group	Region
Royer and Herrmann, 2013	Cree First Nation of Eastern James Bay	Quebec
Zoe, 2012	Tłı̨chǫ Nation	Northwest Territories
Reedy, 2016	Aleut/Unangan and Alutiiq	Alaska
Ballew, 2006	Yup'ik, Iñupiaq, other Alaskan Natives	Alaska
Muir and Booth, 2012	West Moberly First Nations	British Columbia
Sonnenfeld, 1959	Barrow Eskimo	Alaska
Lantis, 1950	Alaskan Eskimo	Alaska
Kenny and Chan, 2017	Inuvialuit Inuit, Kitikmeot Inuit, Kivalliq Inuit, Qikiqtaaluk Inuit, Nunatsiavut Inuit	Yukon, Northwest Territories, Nunavut, Newfoundland and Labrador
Meis Mason et al., 2007	Inuit	Nunavut
Chiu et al., 2016	Inuvialuit Inuit	Northwest Territories, Nunavut,
Beaumier et al., 2015	Inuit	Nunavut
Alton Mackey and Orr, 1987	Labrador Inuit	Newfoundland and Labrador
Sheehy et al., 2013	Inuit	Nunavut
Schuster et al., 2011	Vuntut Gwichin First Nation	Yukon
Olson, 1969	Alaskan Eskimo	Alaska
Olson, 1970	Bering Strait Eskimo	Alaska
Taylor, 1979	Inuit	Newfoundland and Labrador
Nakashima and Roue, 1995	Inuit	Quebec
Vézinet, 1979	Inuit	Quebec
Randa, 1996	Iglulingmiut	Nunavut
Keith, 2004	Harvaqtuurmiut	Nunavut
Collings, 1997	Copper Inuit	Northwest Territories
Csonka, 1992	Inuit Caribous, Chipewyan	Nunavut
Trudel, 1979	Inuit	Quebec
Laugrand and Oosten, 2015	Inuit	Nunavut
Wray and Parlee, 2013	Teetł'it Gwich'in	Northwest Territories
Thorpe, 1998	Inuit	Nunavut
Polfus et al., 2017	Sahtú Dene	Northwest Territories
Castro et al., 2016	Innu Nation	Newfoundland and Labrador
Bali and Kofinas, 2014	Inuit, Nunamiut Eskimo, Chipewyan (Dogrib), Naskapi, Vuntut Gwitch'in, Tłı̨chǫ (Dogrib, Dene)	Alaska, Yukon, Northwest Territories, Nunavut, Quebec
Polfus et al., 2016	Sahtú Dene and Métis	Northwest Territories
Meis Mason et al., 2012	Not specified	Not specified
Meredith, 1983	Naskapi of Quebec, Labrador Inuit, Quebec Inuit	Quebec, Newfoundland and Labrador
Driscoll-Engelstad, 2005	Copper Inuit	Northwest Territories
Finstad et al., 2006	Inupiat	Alaska
Martin, 2015	Iñupiaq	Alaska
Berkes et al., 1994	Omushkego Cree, Mocreebec First Nation, Métis, Oji-Cree	Ontario
Rixen and Blangy, 2016	Inuit	Nunavut
Royer and Herrmann, 2011	Cree First Nation of Eeyou Istchee	Quebec
Parlee et al., 2018	Inuvialuit, Gwich'in, Łutsël K'e Dene First Nation	Northwest Territories, Yukon
Gagne et al., 2012	Nunavut Inuit	Quebec
Lambden et al., 2007	Dene Nation, Métis Nation Northwest Territories, Council of Yukon First Nations, Inuit	Northwest Territories, Yukon
Wein and Freeman, 1995	Naskapi Champagne-Aishihik First Nation, Teslin Tlingit First Nation, Vuntut Gwich'in	Yukon
Dillingham, 1999	Alaskan Eskimo and other Alaskan Natives	Alaska
Laneuville, 2014	Nunamiut	Nunavut
Walsh, 2015	Tłı̨chǫ Dene	Northwest Territories
Anderson, 1959	Alaska Eskimo	Alaska
Schneider, 2005	Alaskan Eskimo	Alaska
Smith, 1978	Caribou Eater Chipewyan	Manitoba
Willis, 2006	Alaskan Eskimo	Alaska
Mager, 2012	Inupiat	Alaska
Naylor et al., 1980	Alaskan Eskimo	Alaska
Kenny et al., 2018	Inuit	Northwest Territories, Nunavut, Newfoundland and Labrador
Dragon, 2002	Inuit, Dene First Nation, Métis	Northwest Territories, Nunavut
Judas, 2012	Tłı̨chǫ Nation	Northwest Territories
Sangris, 2012	Yellowknives Dene	Northwest Territories
Bayha, 2012	Sahtu Dene (Sahtú got'ı̨nę)	Northwest Territories
Beaulieu, 2012	Délı̨nę, Łutselk'e, Yellowknife	Northwest Territories

[1] Terms in this table are reported as they were in the original article, even though certain articles used terminology that has historically been used to suppress or misidentify Indigenous individuals and communities (Tuhiwai Smith, 1999). The use of these terms does not reflect the authors' beliefs, understandings, or relationships with Indigenous peoples; rather, they indicate historical terminology and, in some cases, differences in regional preferences for self-identification.

TABLE S3. Caribou subspecies by region as described in eligible articles discussing links between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic.

Article	Rangifer subspecies	Region
Royer and Herrmann, 2013	Woodland/Boreal caribou (*Rangifer tarandus caribou*)	Quebec
Zoe, 2012	Not specified	Northwest Territories
Reedy, 2016	Grant's caribou (*Rangifer tarandus granti*), Mountain caribou (*Rangifer tarandus tarandus*)	Alaska
Ballew, 2006	Not specified	Alaska
Muir and Booth, 2012	Not specified	British Columbia
Sonnenfeld, 1959	Not specified	Alaska
Lantis, 1950	Not specified	Alaska
Kenny and Chan, 2017	Not specified	Yukon, Northwest Territories, Nunavut, Newfoundland and Labrador
Meis Mason et al., 2007	Not specified	Nunavut
Chiu et al., 2016	Peary caribou (*Rangifer tarandus pearyi*), Woodland caribou (*Rangifer tarandus caribou*), Barren-ground caribou (*Rangifer tarandus groenlandicus*), Grant's caribou (*Rangifer tarandus granti*)	Northwest Territories, Nunavut
Beaumier et al., 2015	Barren-ground caribou (*Rangifer tarandus groenlandicus*)	Nunavut
Alton Mackey and Orr, 1987	Not specified	Newfoundland and Labrador
Sheehy et al., 2013	Not specified	Nunavut
Schuster et al., 2011	Grant's caribou (*Rangifer tarandus granti*)	Yukon
Olson, 1969	Not specified	Alaska
Olson, 1970	Not specified	Alaska
Taylor, 1979	Not specified	Newfoundland and Labrador
Nakashima and Roue, 1995	Not specified	Quebec
Vézinet, 1979	Not specified	Quebec
Randa, 1996	Not specified	Nunavut
Keith, 2004	Not specified	Nunavut
Collings, 1997	Not specified	Northwest Territories
Csonka, 1992	Not specified	Nunavut
Trudel, 1979	Not specified	Quebec
Laugrand and Oosten, 2015	Not specified	Nunavut
Wray and Parlee, 2013	Grant's caribou (*Rangifer tarandus granti*)	Northwest Territories
Thorpe, 1998	Barren-ground caribou (*Rangifer tarandus groenlandicus*)	Nunavut
Polfus et al., 2017	Woodland caribou (*Rangifer tarandus caribou*), Barren-ground caribou (*Rangifer tarandus groenlandicus*), Mountain caribou (*Rangifer tarandus tarandus*)	Northwest Territories
Castro et al., 2016	Woodland/Boreal caribou (*Rangifer tarandus caribou*)	Newfoundland and Labrador
Bali and Kofinas, 2014	Woodland caribou (*Rangifer tarandus caribou*)	Alaska, Yukon, Northwest Territories, Nunavut, Quebec
Polfus et al., 2016	Woodland caribou (*Rangifer tarandus caribou*), Barren-ground caribou (*Rangifer tarandus groenlandicus*), Mountain caribou (*Rangifer tarandus tarandus*)	Northwest Territories
Meis Mason et al., 2012	Not specified	Not specified
Meredith, 1983	Woodland caribou (*Rangifer tarandus caribou*)	Quebec, Newfoundland and Labrador
Driscoll-Engelstad, 2005	Not specified	Northwest Territories
Finstad et al., 2006	Not specified	Alaska
Martin, 2015	Not specified	Alaska
Berkes et al. 1994	Not specified	Ontario
Rixen and Blangy, 2016	Barren-ground caribou (*Rangifer tarandus groenlandicus*)	Nunavut
Royer and Herrmann, 2011	Woodland caribou (*Rangifer tarandus caribou*)	Quebec
Parlee et al., 2018	Barren-ground caribou (*Rangifer tarandus groenlandicus*), Grant's caribou (*Rangifer tarandus granti*)	Northwest Territories, Yukon
Gagne et al., 2012	Not specified	Quebec
Lambden et al., 2007	Not specified	Northwest Territories, Yukon
Wein and Freeman, 1995	Grant's caribou (*Rangifer tarandus granti*)	Yukon
Dillingham, 1999	Not specified	Alaska
Laneuville, 2014	Not specified	Nunavut
Walsh, 2015	Not specified	Northwest Territories
Anderson, 1959	Not specified	Alaska
Schneider, 2005	Not specified	Alaska
Smith, 1978	Barren-ground Caribou (*Rangifer tarandus groenlandicus*)	Manitoba
Willis, 2006	Not specified	Alaska
Mager, 2012	Mountain caribou (*Rangifer tarandus tarandus*)	Alaska
Naylor et al., 1980	Not specified	Alaska
Kenny et al., 2018	Peary caribou (*Rangifer tarandus pearyi*), Woodland caribou (*Rangifer tarandus caribou*), Barren-ground caribou (*Rangifer tarandus groenlandicus*), Grant's caribou (*Rangifer tarandus granti*)	Northwest Territories, Nunavut, Newfoundland and Labrador
Dragon, 2002	Peary caribou (*Rangifer tarandus pearyi*), Woodland caribou (*Rangifer tarandus caribou*), Barren-ground caribou (*Rangifer tarandus groenlandicus*)	Northwest Territories, Nunavut
Judas, 2012	Not specified	Northwest Territories

TABLE S3. Caribou subspecies by region as described in eligible articles discussing links between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic – *continued*:

Article	Rangifer subspecies	Region
Sangris, 2012	Not specified	Northwest Territories
Bayha, 2012	Not specified	Northwest Territories
Beaulieu, 2012	Barren-ground caribou (*Rangifer tarandus groenlandicus*)	Northwest Territories

TABLE S4. List of themes and subthemes, with examples, about the relationship between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic, identified through a qualitative thematic analysis.

Theme	Subthemes	Examples
Culture	*Cultural identity*: appeared in the literature in discussions around ways of living and being, self-perception, ethnic identity, language, cultural representation and symbolism, cultural integrity and pride, and cultural traditions, customs, practices and ceremonies.	• "Ekwǫ̀ [caribou in Tłı̨chǫ] is what defines our language, culture and way of life" (Zoe, 2012:69). • "Caribou is important in the production of food and to reenact the Innu world and Innu identity" in Labrador (Castro et al., 2016:105). • "Caribou hide drums are critically important to the Dene way of life" in the Northwest Territories (Polfus et al., 2017:5). • "Historically, [in the Northwest Territories, Sahtú Dene and Métis] people traveled across the land to hunt caribou for essential food, clothing, and tools and these practices are part of the expression of their identity (Polfus et al., 2016:10). • "At Barrow [Alaska] and elsewhere…reindeer were incorporated into society in ways that reinforced Inupiat traditional values and identities" (Mager, 2012:163).
	Cultural continuity: described in the literature in discussions around intergenerational knowledge transfer, continued existence, cultural preservation, storytelling, mythology, legends, and cultural learning.	• "Reindeer hunting and butchering is taught as a traditional practice to be preserved" in the Aleutian Islands of Alaska (Reedy, 2016:16). • Inuit "elders [in Nunavut] train youth in school and in camps how to survive on the land, navigate, hunt, skin caribou, cut and use all animal parts" (Meis Mason et al., 2007:790. • "Various myths and legends use caribou as a means to convey values, norms, history, and knowledge about the people, land, and spirituality…These are used to teach each generation the cultural practices, customs, and traditional ecological knowledge" for the West Moberly First Nations in British Columbia (Muir and Booth, 2012:462). • Teetł'it Gwich'in in the Northwest Territories transfer knowledge about caribou "while harvesting; while talking about harvesting; while preparing, storing, and distributing meat; and of course, while eating caribou" (Wray and Parlee, 2013:71).
	Connections to the land: conceptualized through place-naming, sense of place, place-based knowledge, settlement and organization on the land, orientation of landscapes, practical uses of the land, and attachments and commitments to the land.	• "Many place names in Harvaqtuurmiut territory refer to caribou and the caribou crossing hunt" in Nunavut (Keith, 2004:47). • "Even where we [Tłı̨chǫ Nation] live [Northwest Territories], and where the communities are situated is because of ekwǫ̀ [caribou]" (Zoe, 2012:69). • "The species [caribou] was clearly one that actively maintained the connections between the [West Moberly] First Nation and their land" in British Columbia (Muir and Booth, 2012:468).
Food Security	*Consumption of caribou*: described in the literature as being highly significant for the food security of Indigenous peoples due to the amount and frequency of caribou eaten.	• "There are strong preferences for caribou—it is used by more households than any type of store-bought meat or other country" food for Inuvialuit and Inuit in Northwest Territories and Nunavut (Chiu et al., 2016:791). • "Caribou … harvest provides the largest volume of a single species to the community food supply" for Inuit in Makkovik, Labrador (Alton Mackey and Orr, 1987:65). • Iñupiaq of Anaktuvuk Pass "relied on caribou as their primary food source" (Martin, 2015:2). • Caribou "is the single most frequently consumed traditional food in the Vuntut Gwitchin First Nation community of Old Crow" in the Yukon (Schuster et al., 2011:882).
	Nutritional adequacy of caribou: appeared in the literature through explanations of the dietary benefits, nutritional quality, and low-risk of consuming inorganic products when eating caribou.	• "Caribou tissues were found to contribute high levels of important nutrients to the diet" of Vuntut Gwitchin First Nation in the Yukon (Schuster et al., 2011:1). • "Caribou is a nutrient dense food. Eating all its parts (meat, milk, organs, blood, bone marrow, stomach and fat) provides the majority of nutrients that would be obtained from a variety of foods in a southern diet" (Meis Mason et al., 2012:197). • "Caribou was shown to be a high contributor of energy (calories), protein, and nutrients such as iron" for Inuvialuit and Inuit in Northwest Territories and Nunavut (Chiu et al., 2016:765). • Caribou "was found to be the principal source of several micronutrients, including iron, zinc, copper, riboflavin, vitamin B12, vitamin B6, phosphorous, and potassium" for Inuit across Nunavut, Inuvialuit, and Nunatsiavut (Kenny et al., 2018:600).

TABLE S4. List of themes and subthemes, with examples, about the relationship between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic, identified through a qualitative thematic analysis – *continued*:

Theme	Subthemes	Examples
	Access to caribou: appeared in the literature in discussions around the financial and nutritional importance of accessing caribou, policies restricting access to caribou (i.e., hunting regulations or quotas), the negative cultural and food security impacts when there is less access to harvesting and consuming caribou, and (in the case of reindeer in Alaska) access to caribou as an alternative food source in difficult times.	• "Caribou [*Rangifer*] is a keystone traditional resource that many Inuit depend on for food and clothing as money is scarce and food is very expensive" (Meis Mason et al., 2012:195). • Iñupiaq of Anaktuvuk Pass reported having "less food during the restrictions than in the prior period, and 96% reported that the caribou regulations were the reason why" (Martin, 2015:3). • "Barriers to caribou harvest may represent a concern for human health through the decline of critical micronutrients in the diet" for Inuit across Inuit Nunangat (Kenny et al., 2018:602). • "The use of caribou skin and bone for arts, crafts and tool-making, could continue to form a key material for the development of sustainable alternative industries" (Rixen and Blangy, 2016:309).
	Availability of caribou: manifested in the literature through discussions on significance of caribou in communities with limited availability of nutritionally adequate food, as well as the negative impacts on food security when the supply of caribou is limited due to changes in caribou populations and migration patterns.	• In the Yukon and the Northwest Territories "where [Inuvialuit, Gwich'in, Łutsël K'e Dene First Nation] communities face limited availability of affordable market foods, such harvest [caribou] is critical to food security" (Parlee et al., 2018:3). • Inuit "participants commonly referred to this alteration in migration pathway of caribou as an important stress on their food system, which led to caribou shortage for men and women in Arviat" (Beaumier et al., 2015:556). • "Previous declines in caribou at the beginning of the 1900s coincided with a period of starvation and an increase in epidemic diseases which had severe effects on the Cree people of eastern James Bay" in Quebec (Royer and Herrmann, 2011:581).
Livelihood	*Subsistence activities*: manifested in the literature through discussions around hunting, herding, and trade.	• "The [Caribou Eskimo] designation was chosen primarily due to the overwhelming importance of the caribou to the livelihood of the Paallirmiut, Ahiarmiut, Hauniqtuurmiut, Qairnirmiut and Harvaqtuurmiut societies" in Nunavut (Keith, 2004:41). • "The most important subsistence activity was the caribou hunt at the caribou crossing" for Harvaqtuurmiut in Nunavut (Keith, 2004:40). • "Ekwǫ̀ [caribou] meat, ekwǫ̀ clothing and firewood were traded for flour and other groceries" for the Tłı̨chǫ Nation in the Northwest Territories (Zoe, 2012:70).
	Economic development and employment: included in the literature as community assets and resources, commercial harvesting and selling, and opportunities for job creation and enhancing incomes.	• "Port Heiden [Alaska] had previously been a site of reindeer herding in the early 20th century and residents [Aleut/Unangan and Alutiiq] wanted to bring it back to expand economic development for its community" (Reedy, 2016:15). • "The [Inuit] community [in Nunavut] needed ways of making money and creating jobs as it had few businesses. Community members would like to see a local caribou processing facility and a tanning facility" (Meis Mason et al., 2012:203). • "On the Seward Peninsula [Alaska] alone, approximately 5450 Native Alaskans are significantly impacted by and depend upon the reindeer industry" (Dillingham, 1999:661).
	Socioeconomic status within society: discussed in the literature focused on reindeer in Alaska, mainly around ideas of individual rankings and labels relative to others in a community, and individual prominence, reputation, and prestige within a community.	• "The early apprentices and owners [of reindeer] were for the most part from wealthy and respected families" … "leading to the development of an incipient 'Kingegan [now Wales] Reindeer Aristocracy'" in Alaska (Olson, 1970:59). • "In Arctic Alaska the reindeer were successful at first apparently because of the novelty and of the prestige in ownership" (Sonnenfeld, 1959:93). • "Within the [Alaskan Native] village, the reindeer herder is a major employer and leader, and ensures the care of his family" (Dillingham, 1999:659).
Psychological	*Emotional and spiritual well-being*: apparent in the literature by way of deep feelings and passion for caribou, psychological meaning, indirect impacts of caribou on human happiness and pride, spirituality, and community and individual emotional concern over changes or limitations in their human-caribou relationships.	• "Aleut hunters expressed their love of hunting" caribou in Alaska (Reedy, 2016:16). • "The [caribou hide] drum brings us music, dancing, and hand games and makes you feel really good inside" for Sahtú Dene in the Northwest Territories (Polfus et al., 2017:5). • "The use of traditional caribou skills in hunting and processing of caribou for commercial sale were also a source of pride to the [Inuit] communities" in Nunavut (Meis Mason et al., 2012:205). • "In all communities, participants talked about cultural, spiritual, and nutritional dependence on caribou" (Bali and Kofinas, 2014:7). • "When ekwǫ̀ [caribou] declined, it really became an emotional issue for a lot of people" for the Tłı̨chǫ Nation in the Northwest Territories (Zoe, 2012:69).

TABLE S4. List of themes and subthemes, with examples, about the relationship between *Rangifer* and Indigenous well-being in the North American Arctic and Subarctic, identified through a qualitative thematic analysis – *continued*:

Themes	Subthemes	Examples
Social	*Family networks*: described through familial bonds and ties, family relationships, family-level kinship, family cohesion, and sharing caribou within a family.	• "Full-time hunters ensure a regular supply of country food to their family and community, especially caribou" (Beaumier et al., 2015:553). • "Caribou livelihoods contribute to this social safety net through their role in food sharing networks, family cohesion and community gatherings" (Rixen and Blangy, 2016:307). • "Finding ways of working together within family groups and across the community as a whole was critical to ensuring that the most vulnerable members of the community (for example, single mothers and elders) did not suffer disproportionately from the scarcity of caribou in that region" (Parlee et al., 2018:7). • "Reindeer herding is an important activity in the Seward Peninsula culture, knitting together extended families in a system of collective and cooperative economic and social relationships" (Dillingham, 1999:677).
	Community networks: defined through explanations of social solidarity, community-level kinship, sharing caribou within a community, community-level welfare and well-being, social co-operation, and community cohesion.	• "Hunters and Trappers Organisation (HTO) hires hunters in December and January to hunt caribou, which is then distributed to people in need, such as elders, single parent families, and families that have no means or transportation to hunt" (Beaumier et al., 2015:555). • "Full-time hunters ensure a regular supply of country food to their family and community, especially caribou" (Beaumier et al., 2015:553). • "Participants' descriptions … revealed that caribou livelihoods, which depend heavily on social cooperation and sharing, continue to play a central role in local well-being" (Rixen and Blangy, 2016:305). • "Hunting [caribou] has provided important kinship and community ties" (Meis Mason et al., 2007:790). • "Part of surviving on the land is making sure that you prepare caribou for everybody in the community to enjoy" (Thorpe, 1998:407).
	Regional networks: manifested in the literature around sharing *Rangifer* between distinct communities, and even across larger geographic regions such as provinces, states, and countries.	• "Caribou from Adak gets spread around to other Aleutian communities and shared with family, friends, and elders" (Reedy, 2016:13). • "Harvest sharing across larger sociopolitical boundaries including the Canada–United States border is another way that communities offset decreases in caribou meat in some places and in some years as well documented with the Vuntut Gwich'in of Old Crow, Yukon" (Parlee et al., 2018:7). • "After the hunt, the food was first shared with the elders. It was then cut into smaller pieces to meet the current needs of the hunter's family and community. Then, caribou meat was shared among extended family and with family members located in other communities" (Meis Mason et al., 2007:790). • "Survival [for Caribou Eater Chipewyan in Manitoba] resulted from the spatial placement of regional and local bands and hunting groups, 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).

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