A LONG TIME AGO IN THE FUTURE:

CARIBOU AND THE PEOPLE OF UNGAVA

UNGAVA PENINSULA CARIBOU ABORIGINAL ROUND TABLE

2017–2117

DEDICATION

This strategy is dedicated to future generations of Indigenous Peoples living in Ungava, in honour of our ancestors. Indigenous Peoples from across Ungava have come together to draw on our shared values and experience, to celebrate our relationship with each other, with our ancestors, with our children, and with caribou.

SIGNATORY PAGE

Signatories to the Ungava Peninsula Caribou Aboriginal Round Table Management Strategy,
"A Long Time Ago in the Future: Caribou and the People of Ungava"

Executed in the City of Montreal, Province of Quebec, on this 17th of October, 2017.

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ACKNOWLEDGEMENTS

The Ungava Peninsula Caribou Aboriginal Round Table acknowledges the many people, over many years, who have lead us to this Strategy. Specifically, we wish to thank:

Executive Committee Members:

- Inuit of Nunavik (Makivik): Adamie Delisle-Alaku (Co-Chair – Québec)
- Innu Nation: Mark Nui (Co-Chair – Labrador)
- Nunatsiavut Government: Darryl Shiwak
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- Cree Nation Government: Nadia Saganash
- Nation Innue: Serge Ashini Goupil
- NunatuKavut Community Council: George Russell and Patricia Nash

The UPCART executive and technical committees wish to express their sincere gratitude to Mr. Aaron Dale for the drafting of this strategic plan. Mr. Dale has been open-minded, professional and diligent throughout this long process. Thank you to the Torngat Wildlife and Plants Co-Management Board, which provided intellectual, collaborative, and in-kind support to the UPCART process. Much remains to be achieved for the accomplishment of this strategy for caribou protection. We hope to be able to count on continued collaboration in the development of various action plans.

The UPCART would also like to acknowledge the facilitation and support of Ms Valérie Courtois and her organization, the Indigenous Leadership Initiative, which has also offered financial support.

All photos contained in this strategy were provided by members of the UPCART.

MESSAGE FROM THE CHAIRS

Co-Chair Adamie Delisle Alaku

The gathering of Aboriginal people to protect the caribou, that has sustained us for thousands of years, is essential for the herd's survival.

Now more than ever we must rally and join forces to safeguard our caribou to ensure our future generations can continue their traditional practices.

As co-chairperson of Ungava Peninsula Caribou Aboriginal Round Table, it is my privilege to participate in developing an Indigenous management strategy to achieve this objective.

Co-Chair Mark Nui

Engagement by Indigenous peoples through the UPCART process in an Indigenous-led strategic stewardship plan for caribou management recognizes the very meaningful connection that UPCART's members have to the endangered herds on the Ungava peninsula.

I am pleased as Co-Chair to be part of a collaborative process that is focused on the stewardship and conservation of caribou. The physical and cultural health of our communities is intimately linked to the survival of the caribou that we depend on.

As UPCART members, we share in the collective hope that with time and sustained effort our work will eventually lead to caribou recovery throughout the Ungava peninsula. We have learned much from each other, may our path forward continue to be guided by our Elders and our common commitment to the protection and renewal of one of our most precious shared resources.

Acknowledgement of former Co-Chair Sara Leo

Former President of the Nunatsiavut Government, Sarah Leo, was instrumental in setting up the initial meeting in January 2013 in Kuujuaaq, Quebec for the Indigenous leaders of the Quebec/Labrador Peninsula to discuss the declining health of the Ungava peninsula caribou herds.

At a second meeting in Uashat mak Mani-Utenam, Quebec in April 2013, Ms. Leo was elected Co-Chair and the Ungava Peninsula Caribou Aboriginal Round Table was formalized. Former Innu Nation Grand Chief Prote Poker was also instrumental in this process. Sarah continued in this role until her term as President of the Nunatsiavut Government ended in May 2016.

We would like to thank Sarah Leo for her commitment and support in putting this Strategy together and her commitment to preserving caribou and our relationship with it for present and future generations.

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It was important to our ancestors, now it is important to us, and it will be important for our future generation[s]. ~ David Etok

That's where our stories are – in the caribou…that is our language; that is our culture. ~ Anastasia Qupee

Everyone depending on animals knows that all parts of the animals were used, even the bones and head of caribou were very important parts. My wish is that people start to recognize and understand again the importance of using all parts of the animal and that there be less wastage. We have to bring back that respect that was so important and central in the caribou hunt. ~John Petagumskum

PART I: VISION AND MISSION

Vision

People for Caribou; Caribou for People: a healthy relationship between the people and caribou of Ungava, then, now, and forever.

Mission

Working together in solidarity to preserve caribou and our relationship with them, in respect of all Indigenous cultures, for the well-being of present and future generations.

Values

The Round Table will work to develop and maintain a management system that:

- Encourages Sustainable Utilization, with Zero Wastage, and Equitable Sharing amongst Peoples;
- Protects and Optimizes Food-Security for the Indigenous Peoples of Ungava;
- Assumes Responsibility, and is grounded in Respect for Caribou, for Indigenous Rights, for Indigenous Laws and Protocols, and for Each Other;
- Is Holistic, and Inclusive, and works With Communities to connect caribou to Cultural Well-Being, Social Well-Being, Physical Well-Being, Mental Well-Being, and Spiritual Well-Being;
- Connects Elders and Youth, and provides opportunities to Teach and Learn;
- Encourages Solidarity amongst the Indigenous Peoples of the Ungava Peninsula, and celebrates the Sovereignty and Independence of each member;
- Builds Trust through Collaboration by applying the Best Available Knowledge with Openness and Transparency;
- Recognizes Uncertainty but takes Action that is Measured and Timely;
- Shares Information and provides for the Meaningful Inclusion of Indigenous People and Indigenous Science and Knowledge in all decisions relating to how knowledge is produced, shared, integrated, interpreted, and applied.
- All People have a duty to live these values and share them.

Goal

To adapt to population highs and lows to the extent possible, while accepting natural variability and working within its confines, and making the right decisions at the right times to optimize social, spiritual, economic and cultural benefits for all Peoples, while respecting priority of access for Indigenous Peoples.

PART II: PEOPLE AND PLACE

2.1 Introduction

We recognize that a long-term plan will not be able to anticipate every situation that may arise, if we let ourselves be guided by specifics. We must therefore be prepared to come to terms with an approximation of the truth. With history as a guide, we think it possible to identify broad patterns, create categories capable of accommodating specific situations, and associate simple management actions with each. That is the overarching goal of this piece – to look back on all that has come before, to identify recurring patterns and relationships between caribou and people on the Ungava Peninsula, and to use this shared experience to plan for our shared future.

The Indigenous Peoples of Ungava self-organized into the Ungava Peninsula Caribou Aboriginal Round Table ("UPCART" or "the Round Table") in early 2013. For the first time in human history the Peoples of Ungava have the capacity to coordinate decision-making on a scale that can affect the distribution and abundance of caribou. This Strategy is intended as a living document to guide those decisions, now and into the future. It reflects a true and meaningful collaboration forged by the current crises, but grounded in the past. It represents a shared vision for caribou and the people of Ungava.

Ungava Peninsula Aboriginal Round Table, Mushuau nipi, August 2016.

2.2 Context

8000 B.C.E. – 1900 A.D.

Ten thousand years ago the Laurentide ice sheet that formed in Central Ungava 60,000 years earlier was beginning to recede[1]. Caribou, which had weathered the glaciation either on the tundra strip south of the ice sheet or in pockets of the Appalachians, followed the receding ice north into Ungava – and people followed caribou.

Caribou exist in Ungava, people exist in Ungava, and people harvest caribou in Ungava – this has been a fundamental and unbroken truth for 8000 years.

People moved into Ungava beginning about 8000 years ago, with a Maritime Archaic Tradition moving in from the south-east, met approximately 4000 years later by a Palaeo Eskimo culture expanding southwards from the north[2]. Caribou were – and are – an important part of social, economic, and cultural systems for all peoples across the region.

1900 A.D. – 1960 A.D.

Currently caribou populations in Ungava are very low, and there is widespread concern and hardship. We have been here many times before. Indigenous Science and Knowledge is clear on this point – there have always been periods of relative abundance, followed by periods of relative scarcity. The first half of the twentieth century was a period of scarcity[3]. Then, as now, people blamed each other[4], Indigenous overhunting[5], forest fires[6], the introduction of the rifle[7], climate warming[8], development[9], insect harassment[10], accidental drownings[11], predation[12] and disease[13]. Then, as now, there were widespread calls for more intensive conservation and management, and social/economic programming[14].

In the mid-1950s the total caribou population for the George River Herd was estimated at 5000-15,000 animals[15,16]. Laws of diminishing returns, previously considered by some to be a safeguard against over-

[1] Banfield, 1961; Lauriol & Gray, 1987; Røed et al., 1991
[2] Bergerud et al., 2008, summarizing Jordan, 1975; Cox, 1977; Fitzhugh 1980; Fitzhugh & Lamb, 1985; McGhee & Tuck, 1975; Short, 1978; Spiess 1993
[3] Banfield, 1958
[4] Banfield, 1958; Elton, 1942
[5] Banfield & Tener, 1958; Bergerud, 1967; Wright, 1944
[6] Rousseau, 1951; Wright, 1944
[7] Wright, 1944
[8] Elton, 1942; Flaherty & Flaherty, 1924; Wright, 1944
[9] Banfield, 1958
[10] Banfield, 1957
[11] Ibid.
[12] Bergerud, 1967
[13] Gosling, 1910
[14] Anderson, 1999; Banfield, 1957; Rousseau, 1950, 1951, 1952; Wright, 1944
[15] Banfield et al., 1955; Bergerud, 1958
[16] Re-analysis by Rasiulis (2015) puts the 1954 estimate at 70,000.

harvesting, were not believed to be having any effect on actual harvest[17,18]. The human population was increasing rapidly, the transition to repeating rifles was complete, and hunting strategies maximized harvest, despite scarcity. The harvest, meanwhile, was estimated at 1000 animals each year[19].

1960 A.D. – 2015 A.D.

This was the seemingly unlikely[20] setting for a dramatic increase in caribou abundance in Ungava. The annual growth rate of the George River Herd through the period 1955-84 was estimated at 14%, resulting in a population of 700,000 by 1988[21]. The harvest expanded as well, with new entrants, and an expanding sport hunt and commercial hunt.

The George River Herd peaked in the early 1990s and began a steep decline that continues to the present. Signs of decline began much earlier, with observations of changes in the taste and texture of bone marrow, reports of skinny and sick caribou, and concerns about over-grazing on the summer range[22]. Recommendations for co-management followed, all effectively recognizing that the legislative and policy context would not be capable of managing through decline. Co-management was recommended by the Nunatsiavut Government (then the Labrador Inuit Association) in 1981, the Hunting, Fishing and Trapping Coordinating Committee in 1985, 1997, 2004, 2008, 2011, and 2012, the Porcupine Caribou Co-Management Board in 1991, the Voisey's Bay Environmental Review Panel in 1999, the Lower Churchill Environmental Review Panel in 2010, and the Torngat Wildlife and Plants Co-Management Board in 2010, 2011, and 2012. The caribou population, meanwhile, fell from an estimated 770,000 in 1993, to 385,000 in 2001, to 74,000 in 2010, to 22,000 in 2012, to 14,000 in 2014, to 9000 at present.

The story of the Leaf River Herd is similar to that of the George. The herd has long been of central importance to the livelihood strategies of the Indigenous Peoples of Ungava, but was first identified by the Western Scientific community in 1975[23]. The first attempts to survey the Leaf River Herd resulted in estimates of 101,000 in 1983[24] and 121,000 in 1986[25]. The population increased rapidly to an estimated 276,000 in 1991[26], and peaked a decade later at approximately 628,000 (estimated minimum)[27]. Since then, the Leaf River Herd has been in a declining phase, having been estimated at 430,000 animals in 2011[28,29], and 199,000 in 2016[30].

[17] Banfield & Tener, 1958
[18] Bergerud et al. (2008) believe that harvest did decline with abundance, and provide evidence that correlates the dramatic decline in harvest associated with the influenza epidemic, with a temporary increase in the midst of what was otherwise a prolonged decline.
[19] Bergerud et al., 2008
[20] The setting was perhaps less unlikely in hindsight than it seemed at the time (Anderson, 1999).
[21] Messier et al., 1988
[22] Brice-Bennett et al., 1995
[23] Le Hénaff, 1976
[24] Couturier et al., 2004; Le Hénaff, 1983
[25] Couturier et al., 2004; Crête et al., 1987
[26] Couturier, 1994; Couturier et al., 2004
[27] Couturier et al., 2004; Jean & Lamontagne, 2004
[28] Taillon et al., 2016
[29] Ibid.
[30] Government of Quebec, unpublished

Excerpts from the George River Caribou Workshop (1995)…

"…when a crisis comes, 'the government is going to want to have a broad-based, experienced group to recommend ways out of the crisis.' In a crisis, if government managers do it alone, then the people will not accept the tough consequences of crisis management' ~ Ross Thompson

"…if a crisis occurs it is important that a board [has] been in existence for a long period of time preceding the crisis, so that users will accept the board's methods of dealing with the crisis. Otherwise, the users might actually blame a new board for the crisis." ~David Klein

"…the George River herd is in apparently good condition at present, it is now time to put a joint management board in place. It will be too late after the population declines to inaugurate such a board." ~Toby Anderson

In Quebec, the Hunting, Fishing and Trapping Coordinating Committee (HFTCC) was created by the provisions of Sub-Section 24.4 of the James Bay and Northern Quebec Agreement (JBNQA) and the Northeastern Quebec Agreement. The HFTCC is composed of Cree, Inuit, and Naskapi representatives, as well as representatives of the Quebec and Canadian governments. The HFTCC was established to review, manage, and in certain cases, supervise and regulate the hunting regime established by the provisions of Section 24 of the JBNQA and the North Eastern Quebec Agreement. The supervision of the outfitting regime established by the provisions of paragraph 24.9 of the JBNQA is an important element of the HFTCC's mandate. Following the dramatic decline of the George River Herd through the 1990s and 2000s, the HFTCC has recommended on several occasions since December 2010, a complete closure of the sport hunt in Quebec. The HFTCC, with partners across the region, has also co-organized and participated in two workshops on migratory caribou. Despite these recommendations and concern shared generally amongst all workshop participants, the sport hunt on the George River Herd closed only in 2012 in Quebec and in 2013 in Newfoundland and Labrador, and the sport hunt on the Leaf River Herd continues, with some restrictions since 2012. This hunt is closing in 2018.

To reflect and summarize, our experience of caribou management in Ungava since around 1960 has been one of specific failings and disappointments, framed against a background of general successes. First the failings. The George River Herd has been in steep decline for at least twenty, and possibly thirty, years. The period of decline allowed opportunities for iterative management intervention. Without exception, these opportunities were missed, despite well-reasoned and practical recommendations throughout this period. The result was decades of extremely liberal access for all user groups irrespective of caribou population trends, followed by a moratorium (in Labrador) for all users when the population reached extremely low levels. Management actions that could have, and should have, been spread throughout the period of decline, were instead condensed into just three years, between 2010 and 2013.

These actions allowed no priority of access for Indigenous rights-holders, nor recognition of the social, economic, and cultural significance of caribou to Indigenous Peoples. There was no identification of need

levels, no limited Total Allowable Harvest, and no sharing agreements or principles. In fact, there has been no plan at all since the Management Plan expired in 2010. The situation for the Leaf River Herd is similar, but still provides opportunities for responsible management and priority of access. The Leaf River Herd has been in decline for at least ten years. Despite the decline, there has been no formal recognition of priority of access, and the sport hunt will only be suspended in 2018, despite reasoned recommendations.

These failings should be understood in the context of general successes. Wildlife management has long been at the forefront of framing Indigenous-Crown relationships in Canada. The Indigenous Peoples of Ungava, in a resolution drafted in September of 2012 in Montreal, committed to the establishment of a Round Table to act as an advisory body for the conservation and management of the caribou of Ungava. In many ways, this level of multi-jurisdictional co-ordination would not have been possible without an enabling policy and legislative context. Indigenous rights to access wildlife, and to be meaningfully included in wildlife management, have been increasingly recognized, including through comprehensive Land Claims Agreements. It is our hope that the relationships that are now emerging will reinforce these general successes by addressing specific failings.

2.3 Study Area and Scope

The study area encompasses the entire range of migratory Ungava caribou and the Indigenous Peoples who rely on them (Figure 1). The area is bounded by the sea to the north-west, north, east, and south-east. In the south and south-west the border reflects the boundaries of comprehensive land claims agreements that are either settled through the James Bay and Northern Quebec Agreement, or proposed under *le traité de l'approche commune* (the Common Approach). The specific delineation of boundaries is less important than the general conclusion: Ungava caribou, and the people who have relied upon them for physical, social, cultural, and spiritual well-being for thousands of years, span essentially the entirety of the Ungava peninsula which incorporates more than 1.5 million square kilometers, and is home to more than 60,000 Indigenous people. It is home also to between 15,000 and 1,500,000 caribou, as the case may be.

Figure 1: Study area for migratory Ungava Caribou and the people who rely on them.

2.4 Indigenous Science and Knowledge

Indigenous Science and Knowledge is not limited to experiential knowledge of the environment, but is also understood to include knowledge of past and present use of the environment, an ethical code shaping the relationship between humans and the environment, and a unifying worldview[31]. Indigenous Science and Knowledge is also not a static body of knowledge isolated forever in the past, but is constantly being combined with, and contrasted with, new observations and non-traditional knowledge to form contemporary understandings[32]. Indigenous Science and Knowledge is *contemporary*, and it is *comprehensive*.

Observing on the land

Although neither Indigenous Science and Knowledge nor Western Scientific Knowledge can be fully understood through a listing of characteristic attributes, Indigenous Science and Knowledge is often moral, relative to long time scales, holistic, inclusive, qualitative, relative, and inductive, whereas Western Scientific Knowledge is value-free, relative to short time scales, compartmentalized, exclusive, quantitative, absolute, and deductive[33]. This listing exaggerates the degree to which Indigenous Science and Knowledge and Western Scientific Knowledge represent discrete ways of knowing, and it is our hope that we can begin to move toward a management system in which *ecological* knowledge is co-produced[34]. We recognize also that knowledge (co-)production is a first step, and we envision a management system in which Indigenous Science and Knowledge is equally weighted in determining how knowledge is shared, how different sources of knowledge are integrated, how knowledge is interpreted and assigned meaning, and how knowledge is applied to decision-making. In the meantime, we have drawn a strategy that is wholly grounded in Indigenous Science and Knowledge – a strategy that is:

Moral

Resource management decisions, at their core, are an expression of societal values. It is our intent to make our values transparent and to encourage open dialogue about the values of others.

[31] Usher, 2000
[32] Brody, 1975; Stevenson, 1996; Wenzel, 1991
[33] Agrawal, 1995; Nadasdy, 1999; Paci et al., 2002; Stevenson, 1995; Stevenson, 1996; Wenzel, 1999
[34] Armitage et al, 2011; Dale & Armitage, 2011

Relative to Long Time Scales

We consider this to be a strength of Indigenous Science and Knowledge. The relationship between people and caribou on Ungava is 8000 years old, and all of it informs our understanding of the present, and our expectations for the future.

Inclusive/Holistic

The approach we outline is intended to be inclusive of all knowledge types and of all values. Likewise, our approach is holistic, and we recognize that caribou management is not just about caribou management, but connects to many areas of life that directly impact social, cultural, physical, and spiritual well-being.

Qualitative/Relative

In this Strategy we describe broad qualitative categories to represent the relative status of the caribou population at any given point in time, and we associate management actions with each category. Although many of the inputs are quantitative, the end result will tell us, relatively, if the population is high or low, and whether it is increasing or decreasing, and all of it is told through rich narrative description.

Inductive

Above all, our approach is inductive. Inductive reasoning is a bottom-up approach to understanding that moves from specific observation, to pattern recognition, to increasingly general theory. This is the true purpose of this Strategy: to look back at 8000 years of observation, to identify recurring patterns, and to use these patterns to create generalized theory that will help us to plan for the future.

PART III: MEMBER STATEMENTS

3.1 Nunatsiavut Government

Labrador Inuit and the caribou that inhabit the barren lands of the Ungava Peninsula have co-existed for thousands of years – a co-existence that pre-dates Inuit contact with other humans. The cultural, social and physical survival of Labrador Inuit depended on their ability to hunt and gather caribou. An intricate knowledge of caribou and the land is held in the oral and written history of Labrador Inuit. Land animals are collectively termed *nunamiutak*: they include the walkers (*pisutik*), such as caribou, bear, wolf and fox.

Historically, during the course of the year Labrador Inuit were accustomed to move from place to place to take advantage of the natural resources that were seasonally available to them. Despite major changes in settlement patterns and subsistence over the years we continue to live off the land and maintain contact with our historic land use range from the floe edge to the interior. Today, outside of our permanent communities we continue to occupy these ranges seasonally.

In the early years, August was the main time to travel inland to hunt caribou for meat and hides, which were best at this season for winter clothing and bedding. Labrador Inuit hunters often met hunters from other areas when they travelled inland as we were all in search of the caribou that was important to our way of life. After Labrador Inuit acquired firearms, they began to hunt in the interior in late winter and early spring as well. The winter-spring hunt gradually became more important than the traditional summer-autumn hunt. Despite this shift in seasonal emphasis, the caribou herds continued as an integral and necessary feature of Labrador Inuit life.

Caribou populations on the Ungava Peninsula were sometimes plentiful and sometimes scarce over time and Labrador Inuit believe that this is part of their natural cycle as they have witnessed these fluctuations over generations. Responses to these generational changes in population require a long-term strategy and co-operation. Labrador Inuit are prepared to place the well-being of the caribou on the Ungava Peninsula first and foremost. Caribou have helped to sustain us over generations and we recognize that caribou need our support in this time of decline.

The emphasis on Inuit culture and identity remains. The emphasis is not nostalgia or a sentimental wish to recreate conditions of life that have passed, nor to end all development of every kind. Instead, it recognizes that the use of the land has been key to Inuit life and if crucial links with the land are broken, the Labrador Inuit way of life is threatened.

Successful caribou harvest in Nunatsiavut in the 1970s

3.2 Innu Nation

The link between Innu and caribou, and all animals, is ancient, and unbroken. All aspects of Innu social, spiritual, and cultural life are connected to caribou. Our relationship with caribou, and our expression of it through hunting and sharing, has in turn shaped our relationship with ourselves, with our ancestors, and with our families. Our relationship with caribou has also shaped, and in many ways continues to shape, our relationship with non-Innu. The relationship is being built on the land when Innu hunting parties encounter non-Innu hunters, including sport and commercial hunters, whose actions have often been inconsistent with Innu cultural and spiritual teachings. The relationship is built in the courts, when Innu defend against infractions that arise from a distinct and foreign cultural tradition. The relationship is built in the media, which has done much to fuel misunderstandings of Innu motivations and actions, but little to shine light on the rich social, cultural, and spiritual connections between Innu and caribou. And the relationship is built in boardrooms, as the Innu Nation, the Government of Canada, and the Government of Newfoundland and Labrador negotiate a comprehensive land claims agreement to formally, and finally, define the rights of Innu, and of non-Innu, in Nitassinan.

Innu have a very different understanding of "conservation" than the meaning conveyed through wildlife legislation and accompanying regulations, which have emerged from non-Innu philosophical, cultural, social, and economic traditions in the latter half of the 20th century. Certainly, we understand the purpose of 'conservation', which is to manage human behaviour so as to ensure that caribou populations are healthy and continue to provide for human needs. Innu institutions governing relationships with caribou, and with each other, have in many ways grown up around this central purpose, and have given birth to a culture, technology, language, economy, philosophy, epistemology, spirituality, and society which were, and are, uniquely Innu. The pursuit of this purpose has been critical to our survival for millennia. However, the means we have developed to achieve this purpose differ from those stemming from a Western tradition. For Innu, 'conservation' has meant taking only what we need, sharing any surplus, using all parts of the caribou, showing respect for the animal before, during, and after a hunt, and diversifying harvesting strategies and target species to distribute pressure. We do not deny that the Western wildlife management paradigm, including scientific methodologies aimed at quantifying population trends and harvest impacts under various scenarios, adds value. What is more, we recognize that harvesting in the first half of the 21st century is different than it has been in the past, both in intensity and character. We do, however, assert the primacy of Innu wildlife management paradigms, and the society and culture that has grown up alongside them over the course of thousands of years.

> *"The antiquity of the relationship between human beings and caribou extends back to the Ice Ages. It is not improbable that we became human because of caribou: that core human traits such as cooperation, language, and social identity were first forged, or certainly reinforced, around Pleistocene campfires in both the Old World and New as families of hunters sought both to capture and kill caribou and to appease the spirits of the animals and their Animal Masters. A deep abiding knowledge and respect for caribou is an Innu legacy and a lesson to be remembered and relearned as we contemplate the future of caribou in Nitassinan and across the circumpolar world." – Steven Loring, as quoted in Bergerud (2008; p. 124)*

3.3 Nation Innue

The Innu Nation[35] occupies a large portion of the southern part of the Quebec Labrador Peninsula. The Innu Nation gave this territory the name of *Nitassinan*. The Innu have survived since time immemorial in connection with Nitassinan and its animals, including Atik[u].

The Innu Nation has lived for thousands of years on this territory and made use of its resources. The use and occupation of Nitassinan define our living space and our traditional and current environment.

Our occupation of the territory is dictated by rules and practices inherited from previous generations. It is upon this cultural heritage that our relationship with Atik[u] is based. Atik[u] belongs to the Master of the caribou (*Papakasiu*). The caribou is declining in Mushuau-nipi (George River) but is in better condition in Cree and Inuit territory (Nunavik and Eeyou Istchee). We must respect the ties that the other First Nations and the Inuit have with Atik[u]. We, Innus, are responsible for a lasting coexistence with him.

We hope that the present situation of the decline of the George River herd will not occur in the future to our Cree and Inuit brothers and sisters. If, on the other hand, it should ever happen – that the herd of the Leaf River is in decline and that of the George River is recovering – then the Innu Nation would be there to help and collaborate with the other First Nations and Inuit. It is in this spirit and this reality that the Declaration must be read.

For more than 500 years, and now more than ever, this relationship with Nitassinan and its resources has been greatly altered by cohabitation with the *Kaikusseht*. It is therefore essential to establish a new relationship based on trust in order to do everything possible to protect our relationship and our responsibility towards Atik[u].

So that everyone can remember these rules and practices, we propose the following founding principles[36]:

- Let us respect and collectively share Atik[u] for subsistence purposes and food sovereignty;
- Let us respect the links that other First Nations and Inuit have with Atik[u];
- Let us continue our relationship and our millennial relationship with Atik[u];
- Let us continue, practice and transmit our Innu knowledge;
- We make our tools and clothing in connection with Atik[u];
- Let us preserve our spirituality in connection with Atik[u].

Finally, we, Innus, cannot, on any account, market or sell Atik[u] (whether meat, bone, skin, fat or other parts ...) and the Innu Nation disapproves of all attempts to market it.

We have an obligation and a duty to do so.
This is our collective responsibility as a Nation.
We must have confidence in ourselves to pursue
the affirmation and implementation of this Statement.

[35] The Innue Nation is composed of eleven communities, including nine in Quebec and two in Labrador.
[36] The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) remains a reference document related to this Statement.

3.4 NunatuKavut Community Council

The southern Inuit of Labrador have maintained transhumance lifestyles from antiquity, migrating to access resources, including caribou. Caribou was the mainstay and every part of the caribou was utilized. In the fall, Thule Inuit conducted communal caribou drives and in winter they travelled by dog sled to hunt caribou. Recent archaeological excavations in southern Labrador, dating back to the mid 17th century, indicated residents relied on caribou and seal. Gilbert in 1764 identified Esquimeaux Island (Chateau Bay) and described an Inuit caribou-hunting people as "Ca-tuc-to", a derivative of the Inuktitut word for caribou.

The appearance of the snow machine in the 1960s allowed the southern Inuit of NunatuKavut to travel longer distances to access caribou, up to 1,600 kms to western Labrador and north to Nain. Eight to 14 hunters would organize for the hunt, including an Elder and a young person. Southern Inuit repeated traditions, following trails travelled by ancestors, and transferring water to the caribou's mouth to show respect for the animal and for the food. Taking part in the hunt and sharing the harvest was not just about food, it was an essential part of their identity, linked directly to their culture and well-being.

Over the last 25 years, hunting practices in Labrador have changed dramatically. The Trans Labrador Highway made the George River Caribou herd more accessible to settlers and people outside the region. Caribou were harassed all winter, hunting became an "industry" for some settlers who sold great quantities of caribou meat illegally, and the Province of Newfoundland and Labrador failed to enforce the rules. There were impacts from low level flying, habitat destruction, and excessive wastage of caribou meat by non-Indigenous people. And then, "the caribou just walked, didn't run anymore". This is when many southern Inuit stopped hunting caribou, concerned for their survival.

The southern Inuit of NunatuKavut have always been committed to conserving boreal caribou and the George River Caribou herd. In the fall of 2003, the now NunatuKavut Community Council (NCC) developed its first Caribou Harvesting Plan and Interim Conservation and Safety Guidelines. NCC has implemented a number of caribou stewardship projects focusing on gathering Inuit knowledge, increasing public awareness, and recovery of populations.

Today, as in the past, caribou is a healthy source of food, but also important spiritually, economically, and socially. Caribou hunting gets people out on the land and connected to their ancestors….it is identity and survival to many.

There is great concern about the caribou decline. An Elder recently commented that responsibility for managing caribou needs to be put in the hands of the people, not just government. "We need to start the conversation to save the herd. The government's agenda is to get rid of the herd so development can occur, not the biologists, but others in government. Doing nothing is worse than finding a way. Let us look after the animals. Education and responsibility is the answer not control".

3.5 Naskapi Nation of Kawawachikamach

The Naskapis of Kawawachikamach have always relied on the caribou for their survival. They have lived on the Québec-Labrador Peninsula for 5500 years in accordance with the caribou cycle. When the first white people arrived, the Naskapis were isolated from traders longer than the Innu and the Crees because of their remote location. The Naskapis were relocated several times between 1850 and 1900 in accordance with the commercial needs and interests of the Hudson's Bay Company. These moves weakened the connection with their traditional territory, which was related entirely to the caribou.

The caribou's decline, combined with the pressures of the fur trade, famine and diseases transmitted by whites, threatened the Nation's survival from 1900 to 1940. Other relocations followed: to Fort Chimo, Fort McKenzie and finally the Schefferville area. Their living conditions have always been difficult. During this period, caribou hunting continued to improve their situation and give them comfort. The signing of the *Northeastern Quebec Agreement* in 1978 enabled the Nation to find a more suitable location.

The Naskapis have survived several millennia thanks to the caribou. It is more than an important food source because all parts of its body are used to make tools, clothing, tents, etc. All facets of their life were influenced by the caribou. Even after they moved to Kawawachikamach, they continued to depend on the caribou for meat and other raw materials. This is still true today, partially because of both the exorbitant food prices in northern Québec and their cultural connections.

A Naskapi father (the late Simon Einish) and son cleaning a caribou.

Their ceremonies, rites and feasts are associated with the caribou, which is used not only as a raw material but also in a spiritual manner. Sharing and teaching are always central to such events. With caribou playing a central role in the economy and religious ideology of Naskapi society, most of their toponyms refer to caribou presence or behaviour.

The caribou is not only a guarantee of survival but also a unifying force. For example, as a result of the Naskapis' problematic situation, meetings and discussions began in 2012 between the Sámi people of Finland and the community of Kawawachikamach. The purpose is to find solutions so as to maintain the caribou herds. Moreover, the Naskapis' interest in caribou motivates them to take part actively in various scientific conferences and to advance the cause of the caribou during consultations involving companies and governments that want to develop projects in the region.

Even though the Nation's relationship with the caribou has changed in the past decade, it continues to be an important facet of the Naskapi identity. This vital connection deserves to be protected.

© Scot Rich of Natuashish.

3.6 Cree of Eeyou Istchee

Since ancient times, the Cree people of Eeyou Istchee have maintained a close relationship with the land, the animals and the caribou. Our people's survival once greatly depended on the caribou and, still today, caribou is strongly connected with our culture, our identity and our physical and spiritual well-being. Respect for the animal is a fundamental principal in Cree culture. The loss of respect for the animals means losing a part of our identity. Sharing, not harvesting more then what is needed, and using all parts of the animal are core values in Cree society. For a hunter, respect is a crucial element, as it is believed that a lack respect will affect a hunter's success and could be detrimental to his survival on the land. It is believed that it is the animals that govern the hunt:

> *"A hunter always speaks as if the animals are in control of the hunt. The success of the hunt depends on the animals; the hunter is successful if the animal decides to make himself available. The hunter must show respect to the animal." –Cree Trappers Speak*

A good hunter shows respect throughout his hunting life, and as he gains experience, his relationship with the animals deepens. Respect for the animal is expressed through all the phases of a hunt – from the moment a hunt is being prepared to the moment the meat is shared with others. The way a hunter is decorated, the attitude of humility he adopts, the way the animal is approached, harvested and transported, the offerings made to the animal, the way the meat is butchered and shared, the way the meat is consumed and, finally, the way the remains are disposed of, are all ways that a good hunter will communicate its respect to the animal.

One Elder once said, *"…the caribou are known to disappear and reappear. These are natural cycles. Showing respect will encourage the caribou to come back again. But with the way caribou has been treated in the last decades, I am worried that the caribou will disappear and never come back again."* This sentiment is echoed by many who have witnessed the disgraceful outcomes of the winter sport hunt. In Eeyou Istchee, the winter caribou sport hunt first opened in 1989. At the time, the George River caribou were increasing in numbers and wintering in the Cree territory. As a result, the Quebec government pressed for the opening of a caribou sport hunt arguing that management measures were needed to address concerns regarding the carrying capacity of the range. It was argued that the herd size needed to be reduced before it became "unmanageable". The Cree objected to the opening of a sport hunt, arguing that it was premature given that many of their concerns and recommendations regarding security, control, wastage and more, had not been addressed. Despite Cree objections, the sport hunt opened and problems of security and wastage were felt immediately.

> *On December 3rd, I was in my tent with my family and my grand-children. The children were playing outside around the camp when all of a sudden we hear gunshot close by. My family has been very afraid. Shortly after, we decided for our own safety to return to Chisasibi. We have also been very surprised to learn that [there are] no regulations [to] prohibit hunting from off the road. My family and I saw more hunters aim groups of caribou while there was a strong probability of killing or injuring more than one caribou at the same time. I have found in the forest caribou dead by gunshots. I also*

saw frozen caribou carcasses planted upright in the snow. This is unacceptable behavior that seems to reflect a lack of respect for wildlife shown generally by many of sport hunters. Leaving the entrails of animals eviscerated on the road is deplorable and should be stopped. In addition, some hunters do not eviscerate the caribou right away and leave them to swell up, which diminishes the quality of the meat. Should teach them the correct way to eviscerate the animals to avoid the waste. – James Chiskamish, letter dated February 1990

For the next 25 years, the Crees would refrain from going on their hunting grounds during the influx of winter sport hunters out of fear for their own safety. This impacted their traditional hunting and trapping activities and, consequently, their income security. Every year when they returned to their hunting grounds after the winter sport hunt, and when the snow started to melt, the disgrace would be exposed all over the land; whole carcasses, legs, heads and entrails left abandoned along roads, beside camps, near water sources, etc. The observation of such waste is heartbreaking for everyone, but especially for our Elders who have experienced difficult times of scarcity.

It is not to say here that all sport hunters are alike or guilty of such practices, because there are good sport hunters that care for the land and the animals, but rather it is to express how such careless practices are incompatible with Cree ways and values. Despite many years of complaints from the Crees, Government action to address these concerns has been minimal.

Our people need to take responsibility to safeguard good practices and values of respect toward the animal. As society changes and practices evolve, there are fundamental rules that need to be maintained to protect the intimate relationship with the land, the animals and the caribou. Respect is a fundamental component if conservation and management efforts towards the recovery of the Ungava caribou populations is to be successful.

Arctic Photo: Cree woman, Elizabeth Brien, scrapes the fur off a stretched caribou skin. Quebec.

3.7 Inuit of Nunavik

From the shores of Hudson Bay to the coast of Labrador, Nunavik Inuit of Nunavik have subsisted for millennia on the Ungava Peninsula and the seas that border it. As is the case for Indigenous groups in other regions, their persistence has long depended on a profound understanding of the natural environment and a deep respect for the animals they harvest.

It is customary for Nunavik Inuit to take only what is needed, and to make full use of any animal that has been harvested; any form of wastage is heavily frowned upon. This is an example of the fundamental principles (*maligait*) at the heart of the traditional wildlife management system that has allowed both the region's Inuit and its wildlife to persist in their harsh Arctic environment.

Despite the fact that Nunavik Inuit have strong ties to the sea and rely on marine mammals for subsistence, the caribou herds of the Ungava Peninsula have always played a critical role in their livelihoods. Beyond the evident dietary contribution of caribou meat, the animals were essential (and remain important) for clothing, tools and artwork.

The dependence of Nunavik Inuit on caribou has, throughout the centuries, resulted in a substantial historical knowledge of the species. This Inuit Traditional Knowledge is passed down orally from generation to generation and is continuously verified and updated based on new observations, but its foundations remain unchanged. Many aspects of this knowledge were recorded, based on substantive interviews conducted in the 1970s and early 1980s, in Makivik Corporation's Land Use and Ecological Data Base study.

Since it is known to Inuit that caribou populations are cyclic and that periods of extreme abundance are followed by periods of relative rarity, and given their importance to Nunavik Inuit and taking into consideration the needs of future generations, the conservation of caribou is a top priority. This must be achieved not only by implementing harvest management systems that reflect traditional values, but also by ensuring that the ecosystems upon which these animals depend are protected.

Caribou near a community in Nunavik

PART IV: THE MAKINGS OF A STRATEGY

The Round Table began this process by looking at other long-term plans for wildlife, fish, and forests[37]. The most successful plans have consistently done four things:

1. *Identified recurring patterns and relationships* by looking to the past;
2. *Created simple categories* based on the patterns and relationships identified;
3. *Defined environmental status indicators* to assign the population to a specific category at any particular point in time;
4. *Associated simple actions* with each category.

Step 1: Identify Patterns and Relationships

Deconstructing past periods of increase and decline, some recurring patterns and relationships become apparent. It is important to note before proceeding that we are not interested in cause and effect, we are interested in patterns and relationships. The analysis is based on identifying correlations between abundance and vital rates, range size, and predator abundance[38]. In the case of the George River Herd, we have measured all of these parameters through a full population cycle from an extreme low in the 1950s, to peak in the late 1980s, and now an extreme low in the 2010s. The approach is limited in the case of the Leaf River Herd as many of the parameters have only been measured when abundance was relatively high (>200,000). If, for example, we know that in the past the range size increased as the population increased, then in future when we know the range size is increasing, we can infer that the population is increasing also. We find these five things to have changed through time, in relation to each other: 1) population size; 2) range; 3) body condition; 4) recruitment; and, 5) predator abundance.

Population Size

In the distant and recent past, caribou numbers on the Ungava peninsula have fluctuated dramatically between extreme lows and extreme highs (Figure 2). This is characteristic of caribou herds across the circumpolar north[39]. Highs and lows occur with some regularity, with population highs occurring every 80 to 100 years[40].

[37] Bathurst Caribou Management Planning Committee, 2004; Beverly and Qamanirjuaq Caribou Management Board, 2005; Department of Fisheries and Oceans, 2007; Department of Forestry and Agrifoods, 2003; Government of Nunavut, 2010; Government of the Northwest Territories, 2011; Porcupine Caribou Management Board, 2010; Western Arctic Caribou Herd Working Group, 2003

[38] Bergerud, 1996; Valkenburg et al. 1994; Whitten, 1996

[39] Carruthers & Jakimchuck, 1983; Ferguson et al., 1998; Gates, 1985; Gunn, 2001; Haber & Walters, 1980; Heard & Calef, 1986; Hemming, 1975; Meldgaard, 1986

[40] Possibly there was less time between highs in the past, as harvest pressure declined (somewhat) with abundance. The length of time between highs can possibly be reduced now through responsible harvest management.

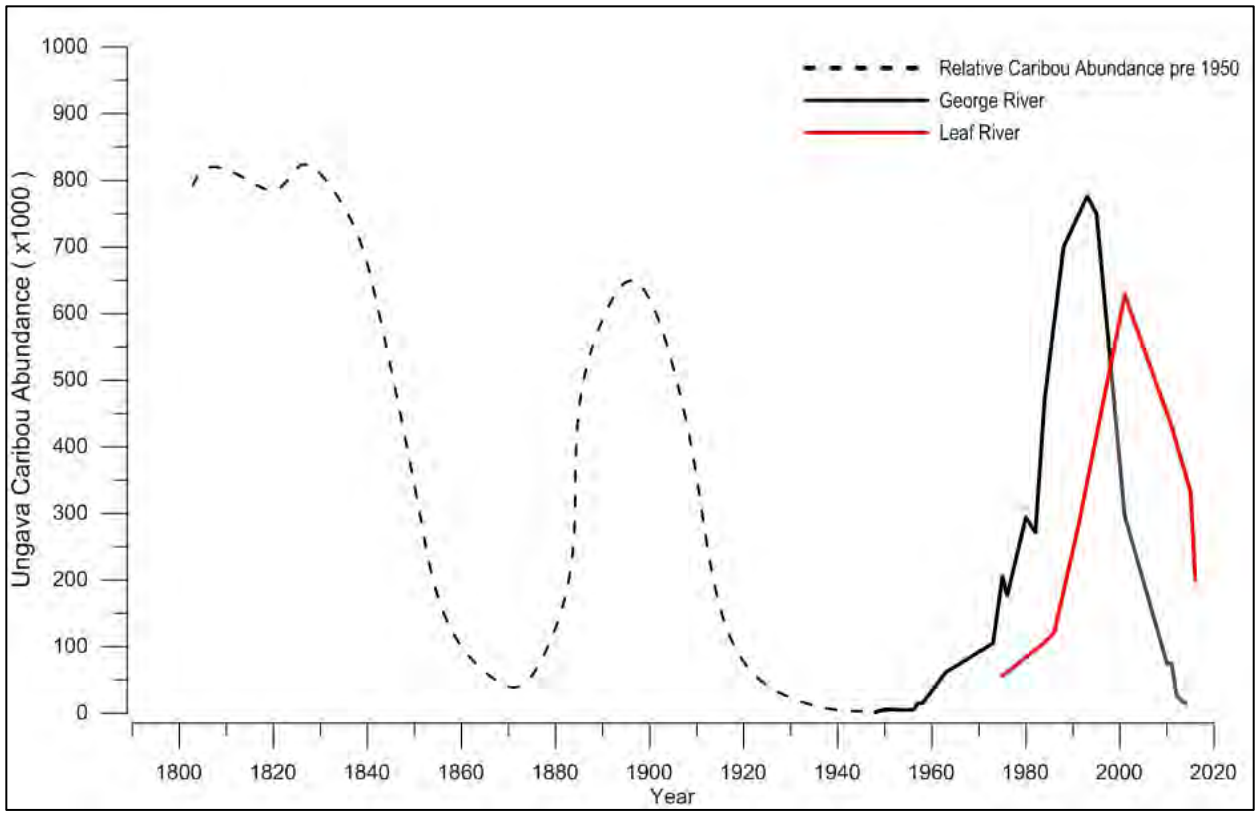


Figure 2: Relative abundance of George River caribou through time[41]

Changes in caribou abundance happen quickly. Rates of increase and decrease are sharp (10-15% annually), and either herd can be expected to double or halve in less than ten years[42]. This means a population of 400,000 can become a population of either 200,000 or 800,000 in between surveys. The George River herd halved twice between the 2001 survey and the 2010 survey, and twice more between surveys in 2010 and 2014. The Leaf River Herd doubled between surveys in 1986 and 1991. The George River herd and the Leaf River Herd can fluctuate independently of each other over short time periods, but caribou herds around the world, both migratory and sedentary, and especially neighbouring populations, are expected to be increasing and decreasing at more or less the same time[43].

Range

As herd size has increased and decreased, so has range size increased and decreased[44] (Figure 3). More caribou use more space, less caribou use less space: range size is therefore a good proxy measure, or

[41] Adapted from: Banfield & Tener 1958-1960; Bergerud 1967; Boudreau et al., 2003; Couturier & Courtois, 1996; Couturier & Dale, 2012; Couturier et al., 1990, 1996, 2004; Elton, 1942; Low, 1896; Messier et al., 1988; Morneau & Payette, 1998; Payette et al., 2004; Taillon et al., 2016; Government of Newfoundland and Labrador, 2016; Government of Quebec, 2010, 2012, 2016

[42] Couturier et al., 2004; Gunn, 2001; Gunn et al., 2011; Messier et al., 1988

[43] Bergerud, 1996; Gunn, 2001; Gunn et al., 2011; Vors & Boyce, 2009

[44] Bergerud, 2008; Messier, 1988; Taillon, 2016

indicator, of abundance[45]. During periods when the George River herd was extremely large it reached across Ungava from the Atlantic Ocean in the east to the Hudson Bay coast in the west. As the herd has decreased, the range size has decreased and retreated eastwards. In periods of extremely low abundance the George River herd has stayed in its centre of habitation in Caribou House and has failed even to cross Indian House Lake.

"Far away in Mushuau sipi, that's where caribou lives. There is caribou habitat where people can't go. If someone goes there, then it fogs to hide the caribou. There are mountains that surround caribou habitat, if people went there, they wouldn't see the caribou. Caribou has a very strong leader who knows where to hide."
– Philip Einish Sr. (Naskapi Nation of Kawawachikamach, 2016)

The same relationship between population size and space use appears to hold true for the Leaf River herd as well, but is less certain, and we do not fully understand how range size relates to abundance in periods of scarcity. The Leaf River Herd expanded southwards as abundance increased through the 1970s, 1980s, and 1990s, with the 55th parallel marking the southern boundary in the 1970s, and the 52nd in the 1990s. The expansion continued to the south and east through the 2000s[46]. If the decline continues as it should, we expect the range size to decrease, as it did with the George, and begin to contract towards the centre of habitation in the northwest[47].

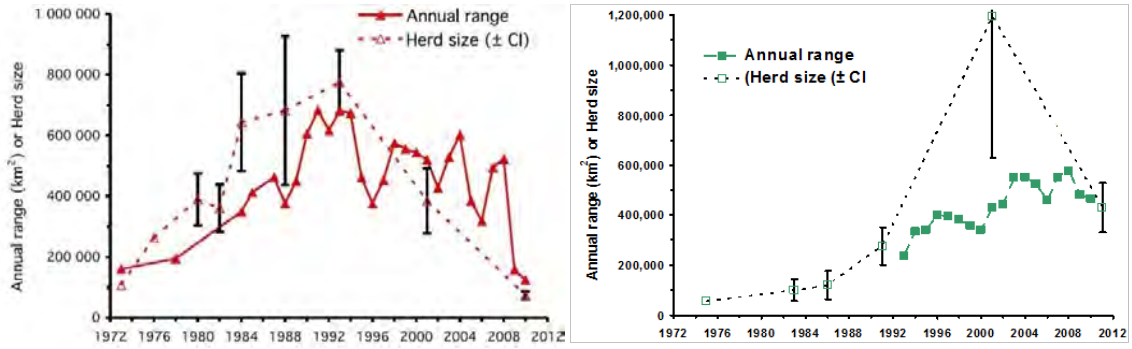


Figure 3: Annual range size relative to population size for the George (left) and the Leaf (right)[48]

The size of the calving range has changed through time as well, as abundance has changed, and as total range size has changed. In the case of the George there is a relationship between calving ground size and abundance[49]. When the George River Herd was large, the total range was large, and the calving range was large. When the George River Herd was small, the total range was small, and the calving range was small.

[45] Bergerud, 2008; Hemming, 1975
[46] Taillon, 2016
[47] Skoog, 1968
[48] Couturier & Dale, 2012
[49] Bergerud et al., 2008; Taillon et al., 2012

In the case of the Leaf the relationship is less obvious, and again we have data primarily for years when abundance has been relatively high, but little or no data for periods when abundance was low.

> *"There were a lot of caribou trails and you can even see on the land where the trails were but a lot of the trails now are grown over with bushes and willow" ~ Willie Etok (in Wilson et al., 2014)*

The range itself has changed from deglaciation 10,000 years ago to what we see today[50]. The range also changes on a finer time scale in response to foraging and trampling as caribou alternate between highs and lows. Caribou trails on the George River range, once abundant and well used, are overgrown.

These trails, and many other types of habitat studies, can be a predictor of a pending increase, as was the case in the early 1950s[51], or pending decline, as was the case in the late 1980s[52]. There are many measures of habitat, both Indigenous and Western. The *Habitat and Environmental Impact Action Plan* will develop the best of these into a simple habitat index to predict changes in caribou abundance.

Body Condition

Body condition is also linked with population size and, in the case of the George River Herd, was an important early indicator of decline[53]. We use four indicators of body condition: adult fat, birth mass, calf fall mass, and percentage of unantlered females. When the population is high adult caribou are skinny, calves weigh less than 6.0kg at birth and less than 45kg in the fall, and more than 7% of adult females have no antlers. When the population is low adults are very fat, calves weigh more than 7.5kg at birth and more than 55kg in the fall, and less than 5% of adult females have no antlers. For the Leaf River Herd these data exist only at relatively high levels of abundance (i.e., population greater than 200,000). We may assume that these measures may be similar to those of the George at lower levels of abundance, but we must also build a clearer picture of trend as we go forward. Importantly, the role of Indigenous Science and Knowledge in identifying and monitoring indicators of body condition, including assessments of bone marrow, will be developed through a Research and Monitoring Action Plan.

Recruitment

Recruitment, measured as the number of calves per 100 cows in the late fall, has also differed dramatically between increasing and decreasing phases. The number of calves per 100 cows has generally been greater than 34 during a period of increase, and less than 34 during a period of decline. Again, this data comes from the George River Herd, and may be applied to the Leaf as the picture becomes clearer.

[50] Short, 1978; Short & Nichols, 1977
[51] Hustich, 1951
[52] Bergerud et al., 2008; Couturier et al., 1988; Messier et al., 1988
[53] Couturier et al. 1988; Couturier et al. 1990; Couturier et al., 2009; Gunn, 2001; Huot, 1989

Predator Abundance

In the past, when the caribou population has been high, predator populations have also been high, and have remained high for a time as caribou abundance declined[54]. When the caribou population has been low, the predator populations have generally been low, and have remained low for a time as caribou abundance increased. Less than ten years ago wolves were abundant on the George River range and packs were large. Users report a switch to alternate prey on the coasts, and then a decline. Users also report more black bears on the Leaf River range and the George River range in recent years. As caribou populations increased, and for a time afterwards, the number of young predators (productivity) increased. Triplets have become more common for black bears, and larger litter sizes and larger pack sizes for wolves have been observed[55].

Step 2: Create Simple Categories

Building on this understanding of past trends, the Round Table has created a simple wheel meant to represent a full caribou cycle (Figure 4). This model is an approximation of the truth, as we have experienced past changes in caribou abundance. We know that the population alternates between high and low (Categories 1 and 5). We also know that highs and lows are separated by increasing and decreasing phases lasting several decades, and that increasing phases are different from decreasing phases, both in terms of the indicators we should expect to see, and the management actions we should plan to take. The decreasing phase, indicated on the right, is itself broken into three simple categories (high, medium, and low) as is the increasing phase at left (low, medium, high).

For reference, during the most recent population cycle, Category 1 lasted about 15-20 years for both herds. Category 2 lasted about 5 years for both herds. Category 3 lasted about 5 years for the George while the Leaf is data deficient. Category 4 lasted about 5 years for the George, while the Leaf is data deficient. Category 5 is uncertain, but may be about 30-50 years (we believe that management actions described in this Strategy may decrease the length of this category by decreasing harvest pressure). Category 6 lasted about 10 years for both herds. Category 7 lasted about 5 years for the George and about 10 for the Leaf. Category 8 lasted about 5 years for the George and the Leaf.

[54] Bergerud, 2008; Elton, 1942
[55] Parker & Luttich, 1986

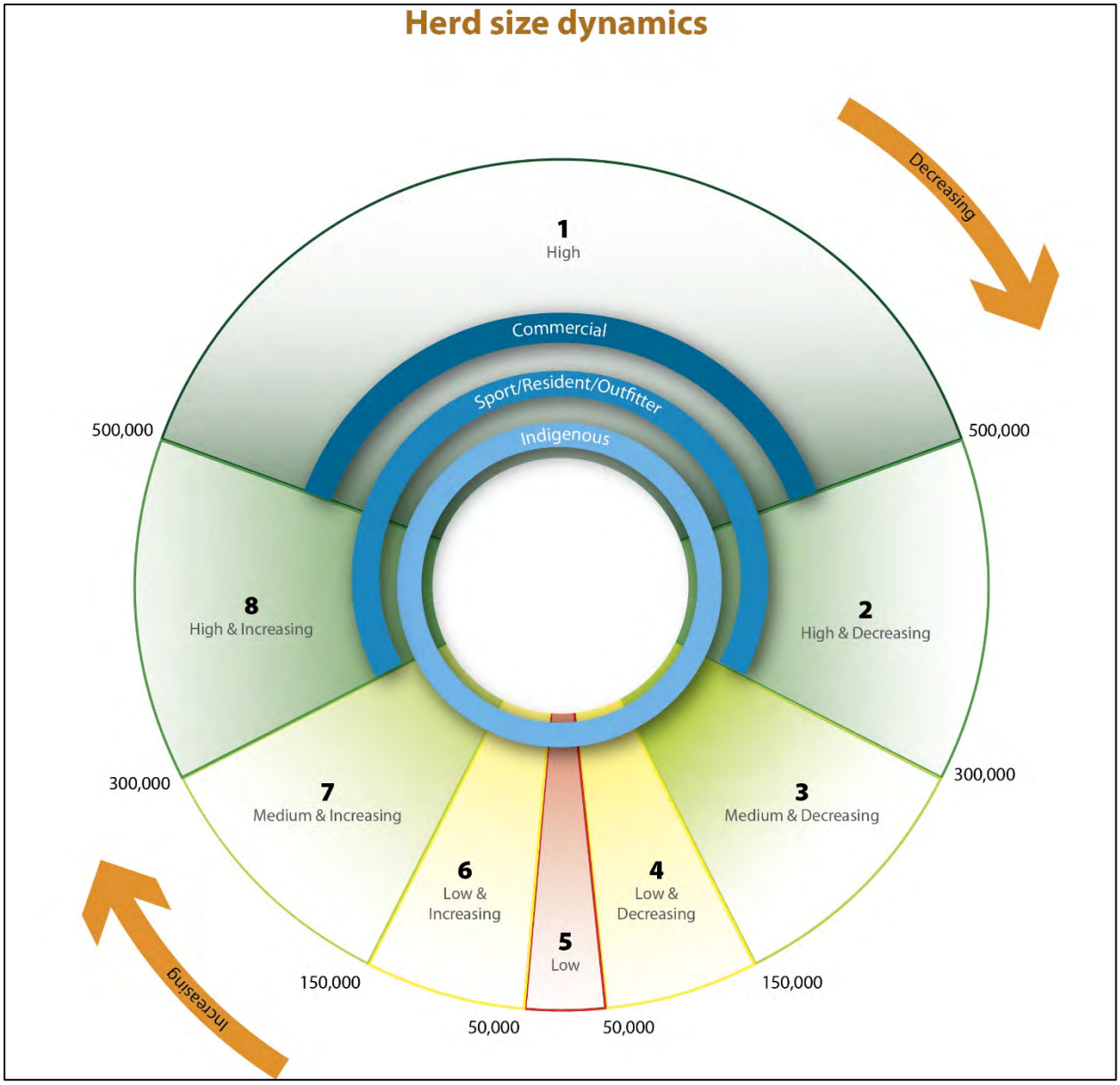


Figure 4: Caribou wheel of abundance with relative abundance, thresholds, and trend

Step 3: Identify Indicators to Determine Status

The patterns and relationships we have identified in the past (Step 1), become our indicators for the future. Abundance can be estimated directly through aerial survey, through modeled projections, or through a multi-criteria approach assessing range use, body condition, fall recruitment, and predator abundance. All of these tools will be used to determine status, provided all parties have been included in research design, analysis, and interpretation, and results and data have been shared in a timely fashion.

UPCART will assess each herd every two years and assign it a status according to one of the eight categories in the wheel developed in Step 2. Assessments will occur more frequently if triggered by a

survey result outside of the current designation, or if the technical committee has reason to believe a threshold may have been crossed, based on an annual review. UPCART will develop internal assessment protocols to ensure that all member Nations and Governments provide standardized status recommendations to form the basis for a consensus UPCART status designation.

Step 4: Assign Simple Actions

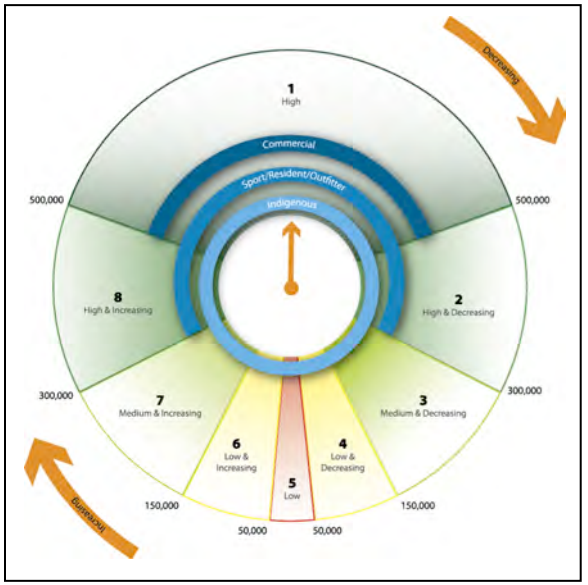
Having developed simple categories based on past patterns and relationships, and having developed those patterns into indicators for the future, the final step is to link knowledge with action. Management actions should change over time, as the population increases and decreases. These management actions include: 1) prioritization of user groups, 2) harvest exploitation rate, 3) research needs, and 4) communication.

Prioritization of users is fundamental to the implementation of this Strategy. Indigenous access is a first demand. When the cumulative Indigenous domestic harvest has been met, additional harvest opportunities must be shared first between non-Indigenous residents, sport hunters, and outfitters. Finally, further opportunities may be shared amongst commercial interests. This prioritization of users was not implemented as the George River Herd declined, and has not yet been implemented as the Leaf River Herd declines.

PART V: THE STRATEGY

Category 1: High

Caribou are abundant and the range is large. Adult caribou are skinny, calves are light in the Spring and Fall, and there are many predators. The harvest is optimized and is consistent with values and norms. The commercial and sport harvests are profitable and well-managed, with Indigenous leadership and participation in commercial opportunities. Access is liberal for residents and Indigenous, and food-security is high. Connections to social, cultural, and spiritual well-being are reinforced through harvesting and sharing: skills and values are developed, maintained, and transferred between generations. Despite the high harvest, there is no wastage, respect is high, and all user-groups are finding ways to maximize utilization. All harvesting is reported and summary data is made publicly available. Surveys occur every five years, but habitat assessments and the multi-criteria approach are looking for signs of having reached the peak. Everyone is starting to plan for a long decline. Even within this category, if there is evidence of a continued decline the harvest pressure will be reduced from greater than 10% to 5%.



At a Glance…

Indicators for the George

- Survey: >500k
- Modeled Estimate: >500k
- Range Size: >500km^2
- Adult: Skinny
- Birth Mass: <6.0kg
- Calf Fall Mass: <45kg
- % Unantlered Female: >7
- Calves per 100: No Trend
- Predators: Many
- Other herds are high
- Many Caribou Trails

Indicators for the Leaf

- Survey: >500k
- Modeled Estimate: >500k
- Range Size: >400km^2
- Adult: Skinny
- Birth Mass: no trend
- Calf Fall Mass: no trend
- % Unantlered Female: >7
- Calves per 100: No Trend
- Predators: Many
- Other herds are high
- Many Caribou Trails

Actions

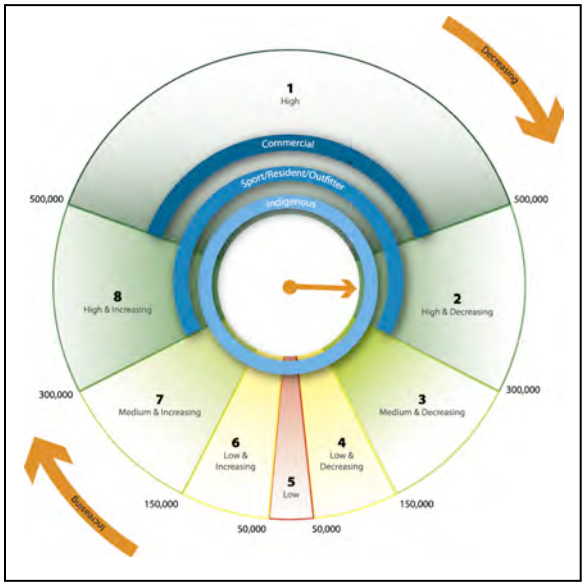
- Harvest Rate: >10-5% (80,000-25,000)
- Full harvest monitoring and reporting
- Survey every 5 years
- Status Assessment every 2 years

Users

- Indigenous
- Non-Indigenous (Sport/Resident/Outfitters)
- Commercial

Category 2: High and Decreasing

Caribou are still plentiful and the range is large, but both the population and the range size have definitely decreased. Access to caribou is becoming less reliable in some areas as the range contracts. Adult caribou are lean, but calves are still light, and there are many predators. The commercial harvest is now suspended, with no expectation that it will be resumed for at least several decades. The outfitter, sport and resident hunts are still active but allocations are declining as the population declines, and licenses are reduced to target an exploitation rate sloping down to 3%. Communication focuses on priority of access, as outfitters, sport hunters, and resident hunters determine how to best share their limited access. Harvest reporting is evaluated and optimized, and there is no wastage. Surveys are conducted every three years. Indigenous food-security is met. Indigenous parties review and update a sharing agreement, and a process is developed and implemented to determine the total Indigenous need, which will form the upper threshold of Category 3.



At a Glance...

Indicators for the George

- Survey: 300-500k
- Modeled Estimate: 300-500k
- Range Size: 300-500km^2
- Adult: Lean
- Birth Mass: <6.0kg
- Calf Fall Mass: <45kg
- % Unantlered Female: >7
- Calves per 100: 40-30
- Predators: Many
- Other herds beginning to decline
- Many Caribou Trails

Indicators for the Leaf

- Survey: 300-500k
- Modeled Estimate: 300-500k
- Range Size: 300-500km^2
- Adult: Lean
- Birth Mass: no trend
- Calf Fall Mass: no trend
- % Unantlered Female: >7
- Calves per 100: No Trend
- Predators: Many
- Other herds beginning to decline
- Many Caribou Trails

Actions

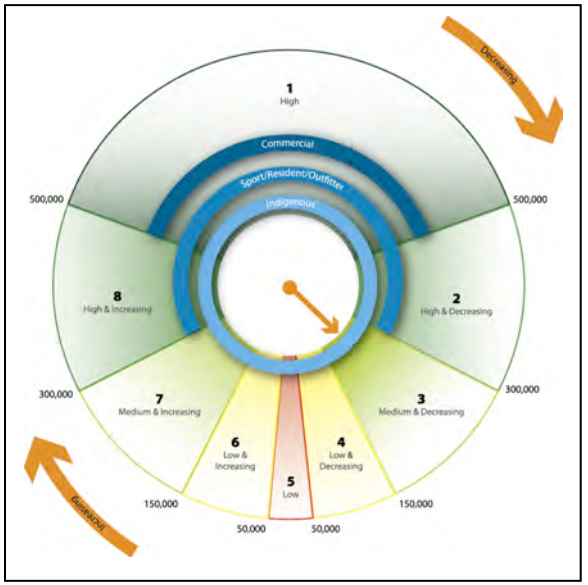
- Harvest Rate: 5-3% (25,000-9000)
- Full harvest monitoring and reporting (Review)
- Survey every 3 years
- Status Assessment every 2 years
- Commercial harvest removed
- Finalize Indigenous Sharing Agreement
- Finalize Indigenous Level of Need

Users

- Indigenous
- Non-Indigenous (Sport/Resident/Outfitters)

Category 3: Medium and Decreasing

Caribou are increasingly rare and the range is getting smaller – both have been in decline for over a decade. Adults and calves are fat, but there are fewer than 30 calves per 100 females and there are still many predators. The outfitter, sport, and resident harvest are now suspended, with no expectation that either will resume for several decades. Indigenous food security is not being met, and there are economic pressures on households as the harvest declines. The Indigenous sharing agreement is sharing limited access equitably amongst Indigenous Governments and Nations. Research and monitoring capacity is expanded, and hunter education and stewardship is focused on maximizing utilization. Surveys are conducted every two years, while communication focuses on research findings and the implementation of the plan. All harvesting is reported and summary reports are publicly available. There is no wastage, and the exploitation rate decreases from 3% to 2%.



At a Glance…

Indicators for the George

- Survey: 150-300k
- Modeled Estimate: 150-300k
- Range Size: 150-300km^2
- Adult: Fat
- Birth Mass: <6.0kg
- Calf Fall Mass: 45-50kg
- % Unantlered Female: 7-5
- Calves per 100: 30-20
- Predators: Few, switching prey
- Other herds declining or low
- Caribou trails less obvious

Indicators for the Leaf

- Survey: 150-300k
- Modeled Estimate: 150-300k
- Range Size: <300km^2
- Adult: Fat
- Birth Mass: no trend
- Calf Fall Mass: no trend
- % Unantlered Female: 7-5
- Calves per 100: No Data
- Predators: Few, switching prey
- Other herds declining or low
- Caribou trails less obvious

Actions

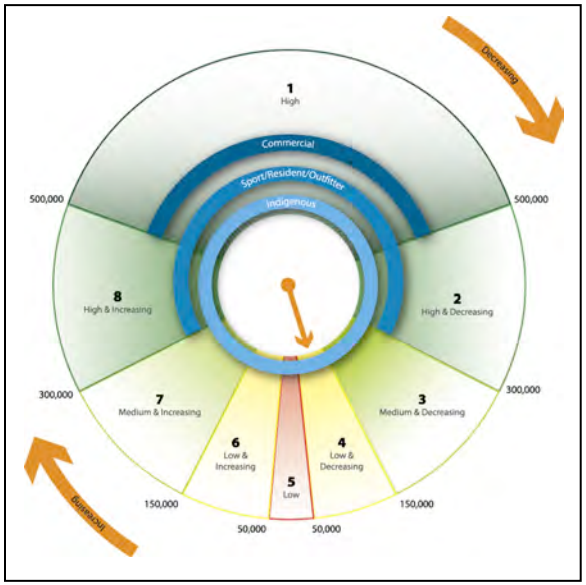
- Harvest Rate: 3-2% (9000-3000)
- Full harvest monitoring and reporting (Review)
- Survey every 2 years
- Status Assessment every 2 years
- Non-Indigenous (Sport/Resdident/Outfitter) harvest removed
- Indigenous Sharing Agreement Implemented
- Research and Monitoring expanded
- Stewardship Program expanded

Users

- Indigenous

Category 4: Low and Decreasing

The caribou population has been declining for several decades, while the range size has contracted. Adults and calves are very fat, but there are fewer than 20 calves per 100 females. Predators are still numerous but their populations are beginning to shrink in some areas. The Indigenous harvest is well below the need, and food security is not met. Indigenous Governments and Nations are sharing limited opportunities, and are developing strategies to maximize social, cultural, and spiritual connections as the population and the harvest continue to decline. This includes a plan to transition to community-based harvesting. Surveys are conducted every year, or every second year at a minimum. Communication celebrates successful initiatives, and focuses on best practices for optimizing social, cultural, and spiritual connections. There is no wastage, and the exploitation rate decreases from 2% to 1%. This category essentially buffers the low, which is expected to follow.



At a Glance…

Indicators for the George

- Survey: 50-150k
- Modeled Estimate: 50-150k
- Range Size: 100-150km^2
- Adult: Very Fat
- Birth Mass: >6.0kg
- Calf Fall Mass: 50-55kg
- % Unantlered Female: 7-5
- Calves per 100: <20
- Predators: Few
- Other herds declining or low
- Caribou trails less obvious

Indicators for the Leaf

- Survey: 50-150k
- Modeled Estimate: 50-150k
- Range Size: No Data
- Adult: Very Fat
- Birth Mass: No Trend
- Calf Fall Mass: No Trend
- % Unantlered Female: 7-5
- Calves per 100: No Data
- Predators: Few
- Other herds declining or low
- Caribou trails less obvious

Actions

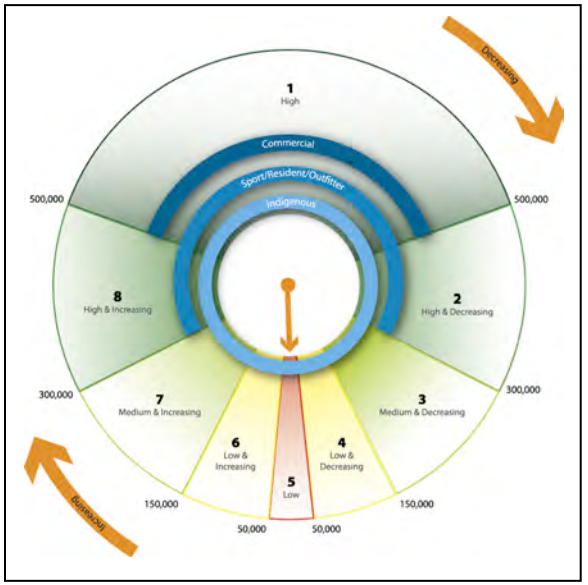
- Harvest Rate: 2-1% (3000-500)
- Full harvest monitoring and reporting
- Survey every 1-2 years
- Status Assessment every 2 years
- Review Indigenous Sharing Agreement
- Indigenous Sharing Agreement Implemented
- Develop plans to maximize social, cultural, and spiritual values

Users

- Indigenous

Category 5: Low

The caribou population is very low and the range is very small. Adults and calves are very fat, and there are very few predators. Habitat assessments suggest that the range is recovering. The Indigenous harvest is very small and is not contributing to food security. Each Indigenous Government and Nation is harvesting in accordance with its core spiritual, cultural, and social values. While respecting sovereignty, communication focuses on appreciation of core values, and sharing successful initiatives. Any harvesting that does occur is fully reported, and harvest management maintains and reinforces spiritual, cultural and social values. The low is expected to persist for years or decades, and communication about recovery reinforce this expectation. Surveys are conducted annually.



At a Glance…

Indicators for the George

- Survey: <50k
- Modeled Estimate: <50kk
- Range Size: <100k
- Adult: Very Fat
- Birth Mass: >7.5kg
- Calf Fall Mass: >55kg
- % Unantlered Female: <5
- Calves per 100: No Trend
- Predators: Very Few
- Other herds low
- Caribou trails growing over

Indicators for the Leaf

- Survey: <50k
- Modeled Estimate: <50k
- Range Size: No Data
- Adult: Very Fat
- Birth Mass: No Data
- Calf Fall Mass: No Data
- % Unantlered Female: <5
- Calves per 100: No Data
- Predators: Very Few
- Other herds low
- Caribou trails growing over

Actions

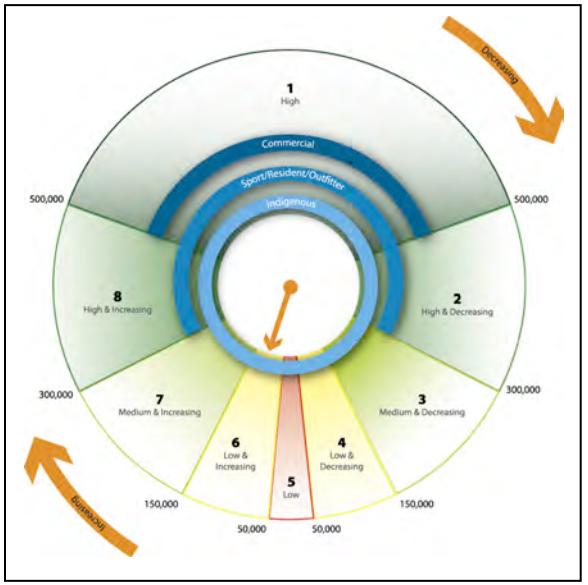
- Harvest Rate: <1% (less than 500)
- Full harvest monitoring and reporting
- Survey every year
- Status Assessment every 2 years
- Communicate successes and core values

Users

- Indigenous

Category 6: Low and Increasing

After several decades of decline, the population and the range are definitely increasing. The habitat quality is excellent, adults and calves are very fat, and there are still very few predators. After many years without a clear trend, there are now more than 40 calves per 100 females. The Indigenous harvest is still limited, but is expanded to provide more opportunities to more people. The expansion is paired with stewardship and hunter education for younger hunters, many of whom will have had very little exposure to caribou hunting. All harvesting is fully reported and the Indigenous sharing agreement is updated and is sharing access equitably amongst Governments and Nations. Everyone is preparing to expand the harvest further, and communications are celebrating the successful implementation of the Strategy.



At a Glance…

Indicators for the George

- Survey: 50-150k
- Modeled Estimate: 50-150k
- Range Size: 100-150km^2
- Adult: Fat
- Birth Mass: >7.5kg
- Calf Fall Mass: 55-50kg
- % Unantlered Female: <3
- Calves per 100: 40-45
- Predators: Very Few
- Other herds increasing
- Caribou trails more obvious

Indicators for the Leaf

- Survey: 50-150k
- Modeled Estimate: 50-150k
- Range Size: No Data
- Adult: Fat
- Birth Mass: No Data
- Calf Fall Mass: No Data
- % Unantlered Female: <3
- Calves per 100: No Data
- Predators: Very Few
- Other herds increasing
- Caribou trails more obvious

Actions

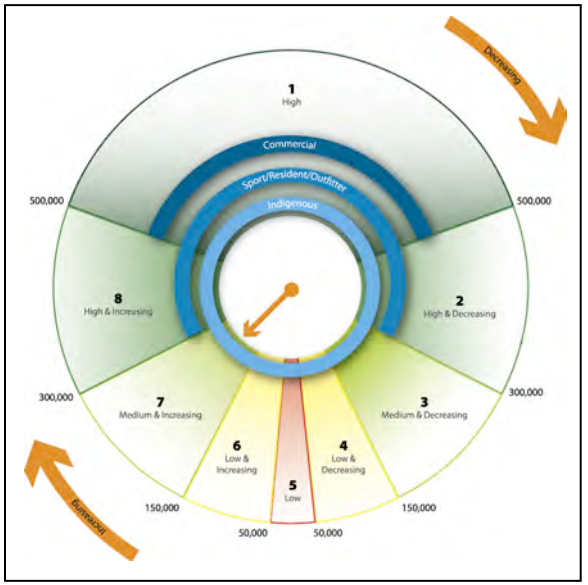
- Harvest Rate: 1-3% (500-4,500)
- Full harvest monitoring and reporting
- Survey every 2-3 years
- Update Indigenous Sharing Agreement
- Expand Indigenous harvest
- Hunter education and training

Users

- Indigenous

Category 7: Medium and Increasing

The caribou population and the range size have been increasing for years. Adults and calves are still fat, but less so. There are more predators but they are still relatively uncommon. There are now 45 calves per 100 females. Food-security is fully met, and there is no wastage. The total Indigenous need is assessed and revised, as it will have changed from decades past. The Indigenous harvest is further expanded as the population increases until all Indigenous needs are met. The Governments of Newfoundland and Labrador and Quebec are working together with UPCART and all users to plan for the resumption of outfitter, sport, and resident harvests. Surveys are conducted every three to five years. The total Indigenous need is applied as the lower threshold of Category 8.



At a Glance…

Indicators for the George

- Survey: 150-300k
- Modeled Estimate: 150-300k
- Range Size: 150-300km^2
- Adult: Getting Lean
- Birth Mass: 7.5-7kg
- Calf Fall Mass: 55-45kg
- % Unantlered Female: <3
- Calves per 100: >45
- Predators: Few, increased productivity
- Other herds increasing
- Caribou trails more obvious

Indicators for the Leaf

- Survey: 150-300k
- Modeled Estimate: 150-300k
- Range Size: 150-300km^2
- Adult: Getting Lean
- Birth Mass: No Trend
- Calf Fall Mass: No Trend
- % Unantlered Female: <3
- Calves per 100: Access Data
- Predators: Few, increased productivity
- Other herds increasing
- Caribou trails more obvious

Actions

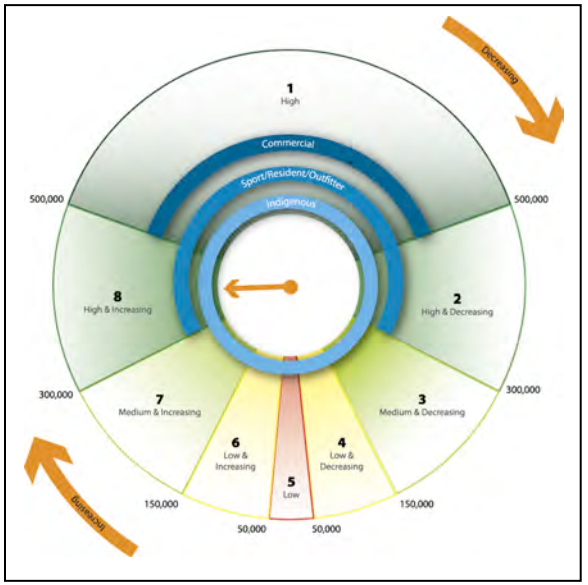
- Harvest Rate: 3-5% (4,500-15,000)
- Full harvest monitoring and reporting
- Survey every 3-5 years
- Determine Indigenous Total Need (Threshold)
- Expand Indigenous harvest
- Plan best practices for non-Indigenous (Sport/Resident/Outfitters) harvest

Users

- Indigenous

Category 8: High and Increasing

Caribou are abundant and the range is large. Adults and calves are lean, and predators are still relatively uncommon but increasing. The habitat may be starting to show signs of deterioration. There are greater than 45 calves per 100 females, and the population is still increasing. Indigenous food security is being met. Outfitter, sport and resident harvests are established and expanding, with full and accurate harvest reporting by all users, and Indigenous leadership in all aspects of harvest management. Communication focuses on establishing best harvesting and management practices for all users, and stewardship and education is continuing to build and reinforce social, cultural, and spiritual values. Surveys are conducted every five years. All users are working together to design a commercial harvest that is consistent with harvesting values, and maximizes social-economic benefits for Indigenous communities.



At a Glance…

Indicators for the George

- Survey: 300-500k
- Modeled Estimate: 300-500k
- Range Size: 300-500km^2
- Adult: Lean
- Birth Mass: 7-6kg
- Calf Fall Mass: 45-40kg
- % Unantlered Female: <3
- Calves per 100: >45
- Predators: Increasing
- Other herds large and increasing
- Caribou trails extensively worm

Indicators for the Leaf

- Survey: 300-500k
- Modeled Estimate: 300-500k
- Range Size: 300-500km^2
- Adult: Lean
- Birth Mass: 7-6kg
- Calf Fall Mass: No Data
- % Unantlered Female: <3
- Calves per 100: No Trend
- Predators: Increasing
- Other herds large and increasing
- Caribou trails extensively worm

Actions

- Harvest Rate: 5-10% (15,000-50,000)
- Full harvest monitoring and reporting
- Survey every 5 years
- Implement non-Indigenous (Sport/Resident/Outfitters) harvest
- Plan best practices for commercial harvest

Users

- Indigenous
- Non-Indigenous (Sport/Resident/Outfitters)

PART VI: ACTION PLANS

The Management Strategy is intended to provide high-level strategic direction for caribou management on the Ungava Peninsula. It will be implemented, in part, through five Action Plans that will be developed by UPCART and nested within the Management Strategy. The five Action Plans, in priority order, are: **1) Indigenous Sharing Agreement; 2) Research and Monitoring Plan; 3) Habitat Management and Environmental Impact Plan; 4) Stewardship, Engagement, and Communication Plan; and, 5) Social and Economic Plan.**

Indigenous Sharing Agreement (Priority 1)

An Indigenous Sharing Agreement is a key document that will determine how a limited harvest is shared amongst Indigenous Nations and Governments in times of scarcity. An Indigenous Sharing Agreement will:

- Develop sharing principles to share access equitably amongst Indigenous Governments and Nations.
- Determine how to best accommodate changes through time.
- Develop mechanisms for manipulating limited harvests, and allocating access as per identified principles.
- Monitor harvest levels.
- Develop capacity within UPCART to monitor compliance.
- Develop actions for communicating Indigenous sharing principles.

Research and Monitoring Plan (Priority 2)

A Research and Monitoring Plan will prioritize research activities at different levels of abundance, ensuring that the right information is available at the right time. What do we need to know, and when do we need to know it? These questions require reflection, and have no easy answers[56]. The Research and Monitoring Plan will:

- Develop best practices for knowledge co-production.
- Develop and implement a strategic approach to the collection and integration of Indigenous Science and Knowledge into all aspects of caribou co-management.
- Ensure that data is shared between all co-management partners.
- Develop strategies to monitor and report on all of the parameters included in the multi-criteria approach.
- Develop and monitor indicators of health and body condition.
- Assess the impact of different harvesting strategies, including male harvest bias in sport hunting.
- Develop means of monitoring effects of climate change.

[56] Urquhart, 1996

- In all cases, develop research programs that will help to assign the population to one of the eight categories identified in the framework.

Habitat Management and Environmental Impact Plan (Priority 3)

Across the entire range there are concerns about impacts from industrial development and pollution/contaminants. In most cases these impacts have not been included in the multi-criteria approach because no historical patterns have been identified. The Habitat Management and Environmental Impact Plan will assess landscape scale planning processes, and assess how effective these processes have been in identifying critical caribou habitat and establishing protections against incompatible land uses. UPCART supports land use planning initiatives generally, and specifically endorses the Labrador Inuit Settlement Area Land Use Plan.

As a first step in identifying critical habitat, UPCART has adopted "Caribou House" – which has long been known as the refuge of George River Caribou during times of scarcity – as a central concept in all land use planning. Likewise, the cumulative calving range of the Leaf River herd is adopted equally as playing a comparable ecological role for the Leaf River herd in western Ungava[57] (Figure 5). Approximately 3.3% of the Leaf River calving range is protected by the Pingualuit National Park and, and 13% of Caribou House is protected by Torngat Mountains National park and Kuururjuaq National Park. An additional proportion of both calving grounds (ranging from 10-27%) are protected under Quebec legislation as Wildlife Habitat[58]. The Habitat Management and Environmental Impact Plan will:

- Identify critical habitat.
- Assess the cumulative impacts of development, including mineral exploration and extraction, hydro-electric development, low-level flying, military activity, road and rail corridors, and transmission corridors.
- Synthesize and assess land use planning processes, land use designations, and protected areas planning across the Study Area.
- Identify best practices for land use planning in northern Canada.
- Prioritize areas for protection under existing land use plans or protected areas planning.
- Develop tools to monitor range condition across the study area.
- Determine how climate change has affected, and is likely to affect habitat across the Study Area.
- Develop a simple habitat index for summer and winter range based on Indigenous Science and Knowledge and Western Science to be used as a predictive measure of trends in caribou abundance.

[57] As identified by Taillon and others (2011)
[58] Taillon, 2011

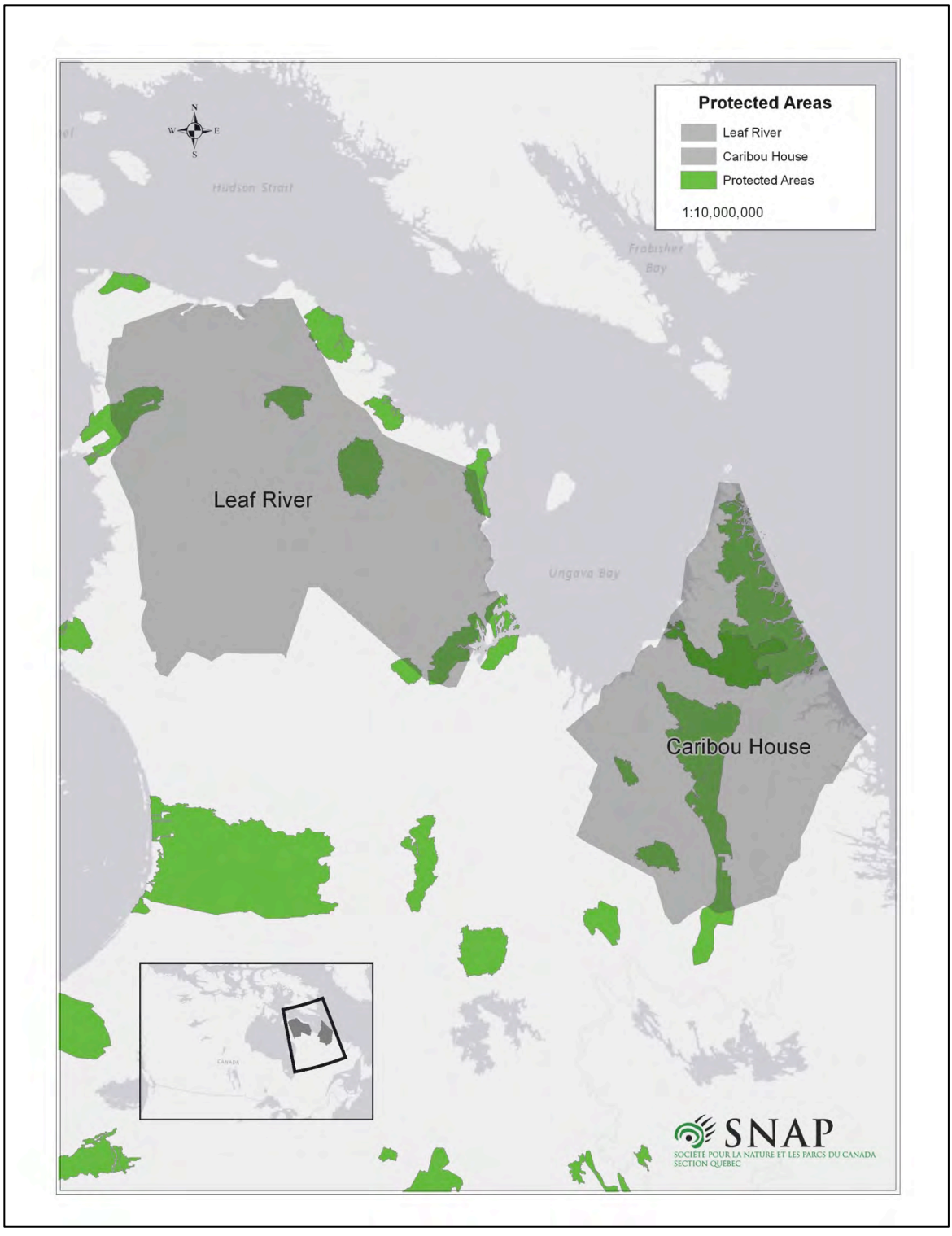


Figure 5: Protected areas relative to calving ranges and important habitat for the Leaf and the George

Stewardship, Engagement, and Communication Plan (Priority 4)

Stewardship, engagement, and communication are cross-cutting themes that will form a core component of all action plans. The Stewardship, Engagement, and Communication Plan will:

- Develop a harmonized approach to collaboration that establishes UPCART as a single window.
- Document and promote awareness of customary practices, norms, and Indigenous Laws.
- Develop tools for hunter education programs to minimize wastage and transfer knowledge and skills from elders to youth when access is limited.
- Development an effective conservation and guardian program to monitor compliance.
- Develop social media and web-based platforms to communicate key messages.
- Develop an effective consultation plan to coordinate the sharing of information to and from all user groups.

Social and Economic Plan (Priority 5)

Caribou provide social and economic benefits for all users. The Social and Economic Plan will:

- Develop best practices for maximizing the social value of caribou at different levels of abundance.
- Optimize the economic benefit of caribou through sport and commercial hunting when population allows.
- Minimize social and economic hardship at all levels of abundance.
- Assess the economic value of caribou to family economies and livelihood strategies, monitor food-security, and develop plans to mitigate food security issues when caribou is scarce through sharing, alternative harvesting strategies, and other means.
- Develop rules for sport and commercial hunting that are consistent with values in other harvesting sectors.
- Design sport and commercial hunting that benefits Indigenous partners and communities, and is consistent with Indigenous values and norms.

TRIBUTES

The Late Chief Isaac Pien

The late Chief Isaac Pien was a man who served our community proudly for many years. Isaac was a strong and committed advocate for our Nation: he served for many years on Council, on the Board of Directors of Naskapi Development Corporation and on many committees and working groups. Isaac was elected as our Chief on 23 August, 2012.

As everyone who knew him is well aware, Isaac was a devoted family man who cared deeply for his wife, Sannie, and all of his children and grandchildren. Isaac also had a deep knowledge of the land and he was an active hunter, trapper and fisherman.

During Isaac's long tenure with Council, he continually strived for a balance between the protection of the environment and our traditional pursuits and the development of our territory. He recognized the need for jobs, but not at any cost. He was also active in promoting the interests of our Elders and in acknowledging their past and present contributions to our families and to our community. He was present since the beginning of the round table in Kuujjuaq in January, 2013. Although he knew that gathering all Nations can be challenging in different level, he would strongly assure the participation of the Naskapi Nation at the table.

Although Isaac had many qualities, two of them were always present during any meeting or gathering: respect and humour. In Council, community meetings or at the Round Table, Isaac conducted himself respectfully, even if the discussions grew heated, and that respect was returned to him. This happened without fail or exception. He was also excellent at diffusing situations with his sense of humour and you never had to wait long for a smile.

Isaac's leadership and presence in our community will be missed for a very long time to come.

Photo Wycliffe Canada | Alan Hood

The Late Francis Penashue

Francis Penashue, Innu elder, environmental activist, and former Chief of the Sheshatshiu Innu passed away in September 2013 from ALS.

Francis' life story, one of the power and possibility of personal transformative change serves to remind those who know the history of the Labrador Innu of the harsh juxtaposition between the strength Innu typically have on the land and the struggles found through forced colonization in community life.

The latter years of Francis' life embodied the wholeness of who Innu of his generation are: strong, resilient, inherently capable and proud when in Nutshimit (the country). He is remembered as an example of what health and fullness of life mean to Innu -- a survivor who opened the eyes of many to the possibility of change, rejection of forced principles, and confidence in his place as a skilled Innu hunter, provider and teacher.

Francis is remembered by Innu and non-Innu alike for his conviction in embracing and sharing his knowledge and Innu way of life, particularly to young Innu, so that they might understand, appreciate and accept that they have rightful place of pride and dignity in today's changing world.

His presence is missed most by his wife and partner, Tshaukuesh, who continues with their children and grandchildren on what was once a journey she shared with Francis -- to model and nurture Innu cultural strength -- for the benefit of generations to come.

GLOSSARY OF TERMS

Indigenous Harvest:

A harvest conducted by Indigenous people for subsistence purposes.

Non-Indigenous Harvest (Sport/Resident/Outfitter):

A harvest conducted by non-Indigenous people, for the purpose of subsistence, financial gain, or recreation.

Commercial Harvest:

A harvest conducted exclusively for financial gain.

REFERENCES

Agrawal, Arun. 1995. Indigenous and Scientific Knowledge: Some critical comments. IK Monitor, 3 (3): 1-9. Retrieved from http://www.nufic.nl/ciran/ikdm/3-3/articles/agrawal.html

Anderson, D. 1999. *Rangifer* and human interests. Rangifer, 20 (203): 153-174.

Armitage, D., Berkes, F., Dale, A., Kocho-Schellenberg, E., & Patton, E. 2011. Co-management and the co-production of knowledge: Learning to adapt in Canada's Arctic. Global Environmental Change, 21 (3): 995-1004.

Banfield A.W.F. 1957. Preliminary investigation of the barren-ground caribou. Parts 1 and 2, Wildlife Management Bulls. 10A, 79 pp., 10B, 112 pp. Canadian Wildlife Service, Ottawa.

Banfield, A.W.F. 1958. The Canadian caribou research programme. The Arctic Circular, X (2), Ottawa, Canada.

Banfield, A.W.F. 1961. A revision of the reindeer and caribou, genus *Rangifer*. Bulletin of the National Museum of Canada, 177, Biol. Ser. No 66: 1-137.

Banfield, A.W.F., Flook, D.R., Kelsall, J.P., & Loughrey A.G. 1955. An aerial survey technique for northern big game. Transactions of the North American Wildlife Conference, 20: 519–532.

Banfield, A.W.F., & Tener, J.S. 1958. A Preliminary Study of the Ungava Caribou. Journal of Mammalogy, 39 (4): 560-573.

Bathurst Caribou Management Planning Committee. 2004. A Management Plan for the Bathurst Caribou Herd.

Bergerud, A.T. 1958. An aerial caribou survey of Labrador and Ungava, March and April 1958. St. John's: Nfld. Wildlife Service.

Bergerud, A.T. 1967. Management of the Labrador Caribou. The Journal of Wildlife Management, 31 (4): 621-642.

Bergerud, A.T. 1996. Evolving perspectives on caribou population dynamics, have we got it right yet? Rangifer, 16 (9): 95-116.

Bergerud, A.T., Luttich, S.N., & Camps, L. 2008. The Return of Caribou to Ungava. Montreal and Kingston, Canada: McGill-Queens University Press.

Beverly and Qamanirjuaq Caribou Management Board. 2005. Beverly and Qamanirjuaq Caribou Management Plan 2005-2012: 24p.

Boudreau, S., Payette, S., Morneau, C., & Couturier, S. 2003. Recent decline of the George River Caribou Herd as revealed by tree-ring analysis. Arctic, Antarctic, and Alpine Research, 35 (2): 187-195.

Brice-Bennett, C., Duquette, L.S., Jacobs, J.D., Montevechhi, W.A., & Wiltone, D.H.C. 1995. Public Forum on the Cultural and Economic Significance of George River Caribou. In The George River Caribou Herd: Report of a Workshop held in Labrador City, January 27-29, 1994.

Brody, H. 1975. The People's Land: Eskimos and Whites in the Eastern Arctic. Hammondsworth, Middlesex, England: Penguin Books Ltd.

Carruthers, D.R., & Jakimchuck, R.D. 1983. The distribution, numbers and movements of the Bluenose caribou herd, Northwest Territories, Canada. In: Pulliainen, E., ed. Proceedings of the Third International Theriological Congress, Helsinki, 1982. VII. Third International Reindeer/Caribou Symposium, Saariselki, 1982. Acta Zoologica Fennica, 175: 141-143.

Couturier, S. 1994. Estimation des effectifs du troupeau de caribous de la rivièreaux Feuilles en juin 1991, Nord-du-Quèbec. Ministère du Loisir, de la Chasse et de la Pêche. Québec City, Québec, 18 pp.

Couturier, S., Brunelle, J., & Lapointe, G. 1988. Decline of physical condition and decrease of recruitment in the George River Caribou Herd. Proceedings of the Third North American Caribou Workshop, Nov. 1987, Alaska, Alaska Dept. of Fish and Game, Juneau, Wildlife Technical Bulletin, 8: 35-37.

Couturier, S., Brunelle, J., Vandal, D., & St. Martin, G. 1990. Changes in the population dynamics of the George River Caribou Herd. Arctic, 43 (1): 9-20.

Couturier, S., Côté, S., Huot, J., & Otto, R.D. 2009. Body-condition dynamics in a northern ungulate gaining fat in winter. Canadian Journal of Zoology, 87: 367-378.

Couturier, S., Courtois, R., Crépeau, H., Rivest, L.-P. ,& Luttich, S. 1996. Calving photocensus of the Rivière George caribou herd and comparison with an independent census. Rangifer (special issue), 9: 283–296.

Couturier, S., & Dale. A. 2012. How caribou management does and should change through abundance variations: The Rivière-George and Rivière-aux-Feuilles herds examples. Presented to the 8th CARMA Conference, Vancouver, December 2012.

Couturier, S., Jean, D., Otto, R., & Rivard, S. 2004. Demography of the migratory tundra caribou (*Rangifar tarandus*) of the Nord-du-Québec region and Labrador. Ministère des Ressources naturelles, de la faune et des Parcs, Direction de l'amenagement de la faune du Nord-du-Québec and Direction de la recherché sur la faune. Québec. 68 pp.

Cox, S.L. 1977. Prehistoric settlement and culture change at Okak, Labrador. Ph.D. diss. Cambridge: Harvard University.

Crête, M., Le Hénaff, D., Nault, R., Vandal, D., & Lizotte, N. 1987. Estimation du nombre de caribous associés aux aires de mise bas de la rivière aux Feuilles et de la rivière George en 1986. Ministère du Loisir, de la Chasse et de la Pêche. Québec City, Québec, 31 pp.

Dale, A., & Armitage, D. 2011. Marine mammal co-management in Canada's Arctic: Knowledge co-production for learning and adaptive capacity. Marine Policy, 35 (4): 440-449.

Department of Fisheries and Oceans, Government of Canada. 2007. Northern Shrimp Integrated Fisheries Management Plan for Shrimp Fishing Areas 0-7 and the Flemish Cap.

Department of Forestry and Agrifoods, Government of Newfoundland and Labrador. 2003. Forest Ecosystem Strategy Plan for Forest Management District 19: Labrador/Nitassinan.

Elton, C. 1942. Caribou herds and modern trade. In Voles, mice and lemmings: Problems in population dynamics. London: Oxford University Press. 496 pp.

Ferguson, M.A.D., Williamson, R.G. & Messier, F. 1998. Inuit knowledge of long-term changes in a population of Arctic tundra caribou. Arctic, 51: 201-219.

Fitzhugh, W.W. 1980. Preliminary report on the Torngat archaeological project. Arctic, 33 (3): 585-606.

Fitzhugh, W.W., & Lamb, H.F. 1985. Vegetation history and culture change in Labrador prehistory. Arctic and Alpine Research, 17: 357-70.

Flaherty R.J., & Flaherty, F.H. 1924. My Eskimo friends: "Nanook of the North." Garden City, New York. 170 pp.

Gates, C.C. 1985. The fall and rise of the Kaminuriak caribou population. In Meredith, T.C., & Martell, A.M., eds. Proceedings of the 2nd North American caribou workshop, Val Morin, Quebec, 1984. McGill Subarctic Research Paper No. 40:215-228.

Gosling, W.G. 1910. Labrador, its discovery, exploration and development. Toronto: Musson. 574 pp.

Government of Quebec. 2010. *Results of the George River Caribou Herd Census - Minister Simard is concerned by the reduction in the herd's size* [Press Release]. Retrieved from https://mffp.gouv.qc.ca/english/press/press-release-detail.jsp?id=8714

Government of Quebec. 2012. *George River Caribou Herd - The MRNF publishes the survey's results* [Press release]. Retrieved from https://mffp.gouv.qc.ca/english/press/press-release-detail.jsp?id=9880

Government of Quebec. 2016. *Migratory caribou sport hunting closure* [Press release]. Retrieved from https://www.mern.gouv.qc.ca/english/press/press-release-detail.jsp?id=11881

Government of Newfoundland and Labrador. 2016. *Minister Trimper Advises that the George River Caribou Herd is Critically Vulnerable During Winter Months* [Press release]. Retrieved from http://www.releases.gov.nl.ca/releases/2017/env/0202n03.aspx

Government of Nunavut, Department of Environment. 2010. Working Together for Caribou: Draft Nunavut Caribou Strategy Faramework. 23 pp.

Government of the Northwest Territories. 2011. A Barren-ground Caribou Management Strategy for the Northwest Territories.

Gunn, A. 2003. Voles, lemmings and caribou – population cycles revisited? Rangifer, Special Issue No. 14: 105-111.

Gunn, A., Russell, D., & Eamer, J. 2011. Northern caribou population trends in Canada. Canadian Biodiversity: Ecosystem Status and Trends 2010, Technical Thematic Report No. 10. Ottawa, ON: Canadian Councils of Resource Ministers. iv + 71 pp.

Haber, G.C., & Walters, C.J. 1980. Dynamics of the Alaska-Yukon caribou herds and management implications. In Reimers, E., Gaare, E., & Skjenneberg, S., eds. Proceedings of the 2nd International ReindeerKaribou Symposium, Roros, Norway, 1979. Trondheim: Direktoratet for vilt og ferskvannsfisk. pp. 645-660 and annex.

Heard, D.C., & Calef, G.W. 1986. Population dynamics of the Kaminuriak caribou herd, 1968-1985. In Gunn, A., Miller, F.L., & Skjenneberg,S., eds. Proceedings of the Fourth International Reindeer/Caribou Symposium, Whitehorse, Canada, 1985. Rangifer, Special Issue No. 1, 159-166.

Hemming, J.E. 1975. Population growth and movement patterns of the Nelchina caribou herd. In Luick, J.R., Lent, PC., Klein, D.R., & White, R.G., eds. Proceedings of the First International Reindeer/Caribou Symposium. Biological Papers University of Alaska, Special Report 1: 162-16

Huot, J. 1989. Body composition of the George River caribou (*Rangifer tarandus* caribou) in fall and late winter. Canadian Journal of Zoology, 67 (1): 103-107.

Hustich, I. 1951. The lichen woodlands in Labrador and their importance as winter pastures for domesticated reindeer. Acta Geographica, 12 (1): 1-48.

Jean, D., & Lamontagne, G. 2004. Plan de gestion du caribou (*Rangifer tarandus*) dans la région Nord-du-Québec 2004-2010. Ministère des Ressources naturelles et de la Faune – SecteurFaune Québec, Direction de l'aménagement de la faune du Nord-du-Québec. Québec City, Québec, 86 pp.

Jordan, R. 1975. Pollen diagrams from Hamilton Inlet, central Labrador, and their environmental implications for the Northern Maritime Archaic. Arctic Anthropology, 12 (2): 92-116.

Lauriol, B., & Gray, J.T. 1987. The decay and disappearance of the late Wisconsin ice sheet in the Ungava Peninsula, Northern Quebec, Canada. Arctic and Alpine Research, 19 (2): 109-126.

Le Hénaff, D. 1976. Inventaire aérien des terrains de vêlage du caribou dans la region nord et au nord du territoire de la municipalité de la Baie James (mai – juin 1975). Ministère du Tourisme, de la Chasses et de la Pêche, Direction de la recherché faunique, Québec City, Québec, 28 pp.

Le Hénaff, D. 1983. Troupeau de caribous de la rivière aux Feuilles Nouveau-Québec – Recensement du terrain de vêlage. Ministère du loisir, de la Chasse et de la Pêche. Québec City, Québec. 14 pp.

Low, A.P. 1896. Report on explorations in the Labrador Peninsula along the Eastmain, Koksoak, Hamilton, Manicouagan, and portions of other rivers, in 1892-95. Geological Survey of Canada, 8: 1-387.

McGhee, R., & Tuck, J.A. 1975. An Archaic Sequence from the Strait of Belle Isle, Labrador. Archaeological Survey of Canada. Paper No. 34, Mercury Series. Ottawa, ON: National Museum of Man.

Meldgaard, M. 1986. The Greenland caribou-Zoogeography, taxonomy and population dynamics. Meddelelser om Grønland, Bioscience, 20: 1-88.

Messier, F., Huot, J., Le Hénaff, D., & Luttich, S. 1988. Demography of the George River caribou herd: Evidence of population regulation by forage exploitation and range expansion. Arctic, 41 (4): 279-87.

Morneau, C., & Payette. S. 1998. A dendroecological method to evaluate past caribou (*Rangifer tarandus L.*) activity. Ecoscience, 5: 64–76.

Morneau & Payette, S. 2000. Long-term fluctuations of a caribou population revealed by tree-ring data. Canadian Journal of Zoology, 78 (10): 1784–1790.

Nadasdy, P. 1999. The politics of TEK: Power and the "Integration" of knowledge. Arctic Anthropology, 36 (1-2): 1-18.

Paci, C, Tobin, A., & Robb, P. 2002. Reconsidering the Canadian Environmental Impact Assessment Act: A place for traditional environmental knowledge. Environmental Impact Assessment Review, 22 (2): 111-127.

Parker, G.R., & Luttich, S. 1986. Characteristics of the wolf (*Canis lupus labradorius Goldman*) in Northern Quebec and Labrador. Arctic, 39: 145-49.

Payette, S., Boudreau, S., Morneau, C., & Pitre, N. 2004. Long-term interactions between migratory caribou, wildfires and Nunavik hunters inferred from tree rings. A Journal of the Human Environment, 33 (8): 482-486.

Porcupine Caribou Management Board. 2010. Harvest Management Plan for the Porcupine Caribou Herd in Canada. 45 pp.

Rasiulis, A. 2015. Survie et dynamique de population des caribous migrateurs du Quebec-Labrador. M.Sc submitted to Université Laval, Quebec, Canada.

Røed, K.H., Ferguson, M.A.D., Crête, M., & Bergerud, T.A. 1991. Genetic variation in transferrin as a predictor for differentiation and evolution of caribou from eastern Canada. Rangifer, 11 (2): 65-74.

Rousseau, J. 1950. Le caribou et le renne dans le Quebec Arctique et Hemiarctique. Rev. Canad. de Geogr., 4: 60–89.

Rousseau, J. 1951. Basic principles for the protection of the barren-ground caribou and reindeer breeding in Quebec. Ann. Rept. Prov. Que. Assoc. Protect. Game & Fish, 92: 28–35.

Rousseau, J. 1952. Les problèmes de conservation de l'Ungava et du Labrador. Can. Conserv. Assoc. Ann. Rept., 1952: 51–79.

Short, S. 1978. Palynology: A Holocene environmental perspective for archaeology in Labrador-Ungava. Arctic Anthropology, 15 (2): 9-35.

Short, S., & Nichols, H. 1977. Holocene pollen diagrams from sub-arctic Labrador-Ungava: Vegetational history and climate change. Arctic and Alpine Research, 9 (3): 265-290.

Skoog, R.O. 1968. Ecology of the caribou (*Rangifer tarandus granti*) in Alaska. Ph.D. diss. Berkeley: University of California.

Spiess, A.T. 1993. Caribou, walrus and seals: Maritime Archaic subsistence in Labrador and Newfoundland. Archaeological Report 25, 73-100. Jackson: Mississippi Dept. of Archives and History.

Stevenson, M. 1996. Indigenous knowledge in environmental assessment. Arctic, 49 (3): 278-291.

Stevenson, M. 1995. Incorporating Inuit Ecological Knowledge into the Design of the Nunavut Harvest Study. A Report prepared for Dr. Fikret Berkes, Natural Resources Institute, University of Manitoba.

Taillon, J, Festa-Bianchet, M., & Côté, S. 2012. Shifting targets in the tundra: Protection of migratory caribou calving grounds must account for spatial changes over time. Biological Conservation, 147: 163-173.

Taillon, Joëlle, Brodeur, Vincent, & Rivard, Stéphane. 2016. Biological status report of migratory caribou, Leaf River herd, ministère des Forêts, de la Faune et des Parcs, Québec, 67 pp.

Urquhart, D. 1996. Caribou co-management needs from research: Simple questions – tricky answers. Rangifer, Special Issue No. 9, 263-272.

Usher, Peter. 2000. Traditional ecological knowledge in environmental assessment and management. Arctic, 53 (2): 183-193.

Valkenburg, P., Kellyhouse, D.G., Davis J.L., & Ver Hoef, J.M. 1994. Case-history of the Fortymile Caribou Herd, 1920-1990. Rangifer, 14: 11-22.

Vors, L.S., & Boyce, M.S. 2009. Global declines of caribou and reindeer. Global Change Biology, 15: 2626-2633.

Wenzel, G.W. 1991. Animal rights, human rights. ecology, economy and ideology in the Canadian Arctic. Toronto: University of Toronto Press.

Wenzel, G.W 1999. Traditional ecological knowledge and Inuit: Reflections on TEK research and ethics. Arctic, 52 (2): 113-124.

Western Arctic Caribou Herd Working Group. 2003. Western Arctic Caribou Herd Cooperative Management Plan. Nome, Alaska. 33 pp.

Wilson, K.S., Basterfield, M.W., Furgal, C., Sheldon, T., Allen, E., the Communities of Nain and Kangiqsualujjuaq, and the Co-operative Management Board for the Torngat Mountains National Park. 2014. Torngat Mountains Caribou Herd Inuit Knowledge, Culture, and Values Study. Final Report to the Nunatsiavut Government, Makivik Corporation, Parks Canada, and the Torngat Wildlife and Plants Co-Management Board.

Whitten, K.R. 1996. Ecology of the Porcupine caribou herd. Rangifer Special Issue No. 9: 45-51.

Wright, J.G. 1944. Economic wildlife of Canada's Eastern Arctic-Caribou. Canadian Geographical Journal, 40: 3-17.

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