

Gwich'in Knowledge of Bluenose West Caribou



A part of the

Nin Nihlinehch'i' – Łi' hàh Guk'àndehtr'inahtii
(Animals at Risk – animals we are watching closely) Project

2012-2015

Gwich'in Social and Cultural Institute
Fort McPherson, NT
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DEDICATION

This report is dedicated to the knowledgeable Gwich'in Elders, land-users, trappers, and hunters, both past and present, who contributed to this and other GSCI and GRRB projects.

By sharing their knowledge about animals at risk, they are helping to keep this knowledge alive to benefit future generations.

Mahsi' choo!



FIGURE 1. CAPE BATHURST HERD CARIBOU. PHOTO CREDIT: K. CALLAGHAN, GRRB.

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Cover photograph of John Jerome and Mary Clark in GRRB Board Room, credit: N. Melnycky, GRRB

Report prepared by Kristi Benson, Gwich'in Social and Cultural Institute



FIGURE 2. CAPE BATHURST HERD CARIBOU ON NICHOLSON PENINSULA, WITH DEW LINE STATION BEHIND. PHOTO CREDIT: K. CALLAGHAN, GRRB.

EXECUTIVE SUMMARY

The Gwich'in Social and Cultural Institute (GSCI) conducted a study to gather and present Gwich'in Traditional Knowledge of the Bluenose-West Caribou herd in 2014 and 2015. The Bluenose-West Caribou herd is a barren-ground herd with calving grounds far to the east of the Gwich'in Settlement Area near Paulatuk. From the 1960s to the 1990s, these caribou were considered to be a part of a single large herd (the 'Bluenose Herd'), which has since been classified into three smaller herds – the Cape Bathurst Herd to the north, the Bluenose-West Herd, and the Bluenose-East Herd. There are concerns about population decline with these herds, in particular with the Cape Bathurst Herd.

Gwich'in Elders and hunters have knowledge of Bluenose-West and Cape Bathurst caribou from hunting them generally in the fall and winter when the caribou are close to or within the Gwich'in Settlement Region. The purpose of this study was to gather unrecorded Gwich'in knowledge of the Bluenose-West and Cape Bathurst herds, and to collate this information with previously-recorded knowledge contained in the GSCI's digital archives, to produce this final report. Verification sessions were also conducted to review the report, which is organized to best present the information for use in management planning and for species at risk processes.



FIGURE 3. JOAN NAZON. PHOTO CREDIT: J. WINBOURNE, GRRB.

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FIGURE 4. GABE ANDRE IN GSCI OFFICE, TSIIGEHTCHIC. PHOTO CREDIT: K. BENSON, GSCI.

INTRODUCTION

DESCRIPTION OF PROJECT

The Gwich'in Social and Cultural Institute (GSCI) and Gwich'in Renewable Resources Board (GRRB) have a long history of working together to produce reports detailing Gwich'in Knowledge of Species at Risk, including Rat River Dolly Varden char (2010), boreal woodland caribou (2011), grizzly bears (2013), and wolverine (2014). The GSCI and GRRB have been conducting Gwich'in knowledge of species at risk projects led by a four-member steering committee with a member from Aklavik, Fort McPherson, Inuvik, and Tsiigehtchic, and representing all NWT Gwich'in communities. The committee, formed in 2012, generally meets once per year to review the previous year's report and plan for next steps. The meetings generally include a review of the project goals and background, informed consent statement (see Appendix A) and all questionnaires (see Appendix B for questionnaire). The steering committee also selects potential interviewees.

Building on existing sources of Gwich'in knowledge, this study included interviews with 12 Gwich'in hunters and Elders to compile information about Bluenose caribou habitat, food, behaviour, threats, distribution, and population (see Figure 6 for a map of Bluenose-West and Cape Bathurst caribou herds).

PREVIOUS TK STUDIES ON BLUENOSE CARIBOU IN THE REGION

Gwich'in knowledge of Bluenose caribou has not been the primary focus of any previous traditional knowledge studies. However, information about Bluenose caribou has been collected incidentally in various Gwich'in Social and Cultural Institute and Gwich'in Renewable Resource Board projects, mainly:

- Gwich'in Environmental Knowledge Project, GRRB (mid-1990s). Interviews about caribou were carried out with numerous elders from Aklavik, Fort McPherson, and Tsiigehtchic. It was generally not specified which caribou herds were being discussed but for Aklavik and Fort McPherson elders, geographic cues in the interviews point to Porcupine caribou.
- Gwich'in Knowledge of the Mackenzie Gas Project Area (2003-2005)
- Gwich'in Knowledge of Boreal Woodland Caribou (2010-2011)

In addition, traditional knowledge was recorded during the engagement process for management and stewardship planning for the Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground caribou herds by the Advisory Committee for Cooperation on Wildlife Management (ACCWM). Public engagement sessions were held between 2007 and 2013 in Inuvik, Aklavik, Fort McPherson, and Tsiigehtchic. Information shared by meeting participants was recorded by note-takers (and is therefore not necessarily *verbatim*, even though it is presented as quotations) and summarized into a report (Winbourne 2014). The information in the summary report is included here where appropriate. The information was not attributed to a specific person, and some of the meetings included both Gwich'in and Inuvialuit participants. The information collected from those shared meetings is included in this report, unless it is

clearly Inuvialuit in origin. Information from this report has footnotes with “Bluenose Caribou Management Working Group” and the location of the meeting.¹

Gwich'in harvesters tend to call caribou from the Cape Bathurst and Bluenose-West Herds “Bluenose caribou” and not distinguish between them. This nomenclature is continued in this report out of both necessity and in keeping with the hunter's usage. However, location and timing specifics are provided where possible, which may suggest a specific herd in some instances. In many transcripts, ‘caribou’ in the area north of the Mackenzie River and east of the Mackenzie Delta could refer to Bluenose-West, Cape Bathurst, or boreal woodland caribou. Before the mid-1990s, Cape Bathurst and Bluenose caribou were considered to be part of the ‘Bluenose’ herd (Winbourne 2014). Gwich'in hunters indicate that these animals look the same - **“there's not too much difference. I didn't see any difference.”**² They also overlap in range.

*Oh, I think they [overlap in range]...I think the only reason that they have those three names is they got a bunch of cows that go one place to calve. The other ones go [to] another place – like Bluenose caribou, they calve at Bluenose Lake. That's where they get their name from, ...because they calve there. Really, if you see ... just a bunch of caribou, you couldn't know what they are.*³



FIGURE 5. CAPE BATHURST HERD CARIBOU. PHOTO CREDIT: K. CALLAGHAN, GRRB.

The following table summarizes the differences between the boreal woodland caribou, Porcupine caribou, and Bluenose caribou to the Gwich'in.

¹ In this report, the footnotes indicate for which project an interview was conducted. The interviewees name alone indicates it was for the current (Gwich'in TK of Bluenose Caribou) study, GEKP indicates the Gwich'in Environmental Knowledge Project, etc.

² Morris Blake

³ Tom Wright

TABLE 1. COMPARISON BETWEEN WOODLAND, PORCUPINE, AND BLUENOSE CARIBOU

	Species name	Gwich'in community	General location	Notes
'Bluenose' caribou (three separate herds of Barren-ground caribou: Cape Bathurst, Bluenose-West, and Bluenose-East)	<i>Rangifer tarandus groenlandicus</i>	Historically used by Tsiigehtchic and Inuvik. Modern use restricted by current migration and tag system.	Migrates from the coastal areas of the Inuvialuit Settlement Region in the summer/calving time, into wintering areas in Inuvialuit, Gwich'in, and Sahtú regions – mainly in Sahtú and Inuvialuit areas currently.	Used by Gwich'in although not as often as Porcupine caribou, due to access constraints.
Boreal woodland caribou	<i>Rangifer tarandus caribou</i>	Inuvik and Tsiigehtchic, mainly. Also used occasionally by Fort McPherson in recent years, rarely by Aklavik.	Dispersed throughout the area west of the Mackenzie Delta/north of the Mackenzie River, and in the Peel Preserve.	Dispersed in small groups among a large territory. Much larger caribou.
Porcupine caribou (subspecies of Grant's caribou)	<i>Rangifer tarandus granti</i>	Very important for Fort McPherson and Aklavik, also used intensively by Tsiigehtchic and Inuvik residents by travelling up the Dempster Highway.	Migrates from Arctic Coast into Yukon mountains, migrating by Fort McPherson and across the Dempster Highway to the west.	Most important caribou for Gwich'in currently. Easier to hunt than woodland caribou due to regular movement in large herds and access from the Dempster Highway.

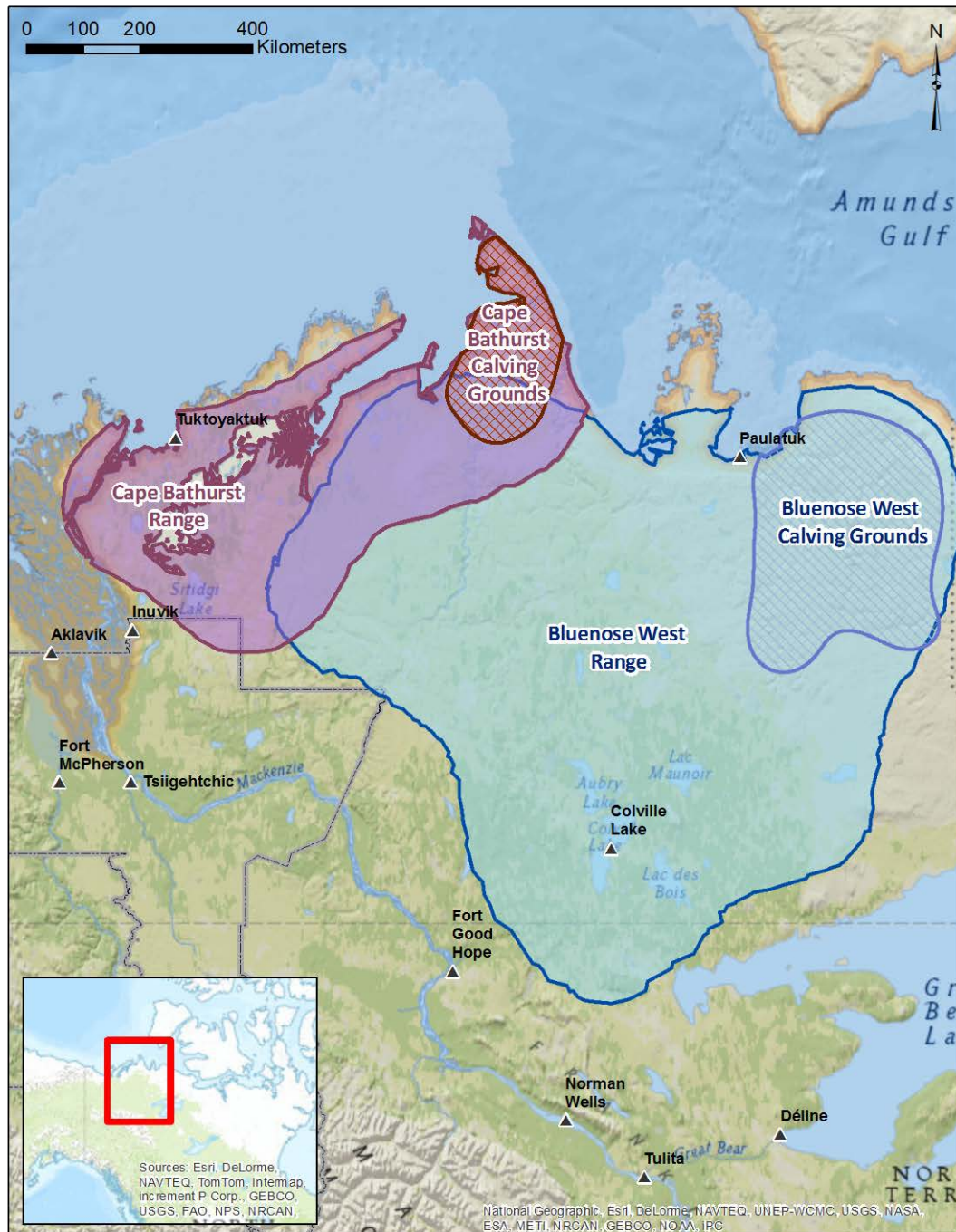


FIGURE 6. BLUENOSE-WEST AND CAPE BATHURST CARIBOU HERDS: RANGE AND CALVING GROUNDS⁴

⁴ Range map is a conservative map, with only recent collar data used. Ranges vary over decades. Range map information for caribou herds:

Nagy, J., D. Johnson, N. Larter, M. Campbell, A. Derocher, A. Kelly, M. Dumond, D. Allaire, and B. Croft. 2011. Subpopulation structure of caribou (*Rangifer tarandus* L.) in Arctic and sub-Arctic Canada. *Ecological Applications* 21(6), 2011: 2334-2348

METHODOLOGY

A total of 12 semi-structured interviews were carried out by a local co-ordinator hired for the work, and the GRRB Species at Risk Biologist or the project director.⁵ Interviews were conducted in all four NWT Gwich'in communities (Aklavik, Fort McPherson, Inuvik, and Tsiigehtchic). An informed consent statement (Appendix A) was reviewed with the interviewees, which described the project fully, including the use of the information. A questionnaire was used by interviewers to guide the interviews (Appendix B). All interviews were recorded using a Phillips Conference Recording System Model # LFH 0955 digital sound recorder, which stores the sound file in MP3 format. Sound files were later transcribed to GSCI standards by a professional transcription service. All transcripts and sound files are held by GSCI, and original research materials will be placed on deposit in the GSCI's storage area in the NWT Archives when the project is complete. Interviewees were given the option of receiving a copy of the sound recording or typed transcript, which was delivered in person where possible. After the interviews were completed, a series of verification sessions were held in Tsiigehtchic and Inuvik. The report was read aloud in the session and the participants provided feedback as appropriate.

The GSCI's digital archives were also searched for information collected during other projects (see "Previous TK studies on Bluenose Caribou in the region", above, and "Credits: Interviewees", below). The digital archives were searched using ISYS digital search software, with the search term "Bluenose."

⁵ 2 additional interviews were conducted but due to a microphone issue, no transcripts could be made.

GWICH'IN TRADITIONAL KNOWLEDGE: BLUENOSE CARIBOU

Caribou are extremely important to the Gwich'in. Knowledge about caribou is comprehensive, and detailed. In the Gwich'in language, there are many words and phrases to describe caribou, including the following select words and phrases from the Gwich'in Topical Dictionary.⁶

Word/Phrase	Translation*
atsàn'	caribou (running bull in October). Lit: 'it is smelly'. (G).
atsành	caribou (running bull in October). Lit: 'it is smelly'. (T).
dazhadh tsoo	caribou (young bull). Lit: 'light colored fur'. (G).
dazhoo tsoo	caribou (young bull). Lit: 'light colored fur'. (T).
egii tsoo	caribou calf. Lit: 'light colored calf'. (T).
khada' aatsan	caribou (young female). (T).
khaints'àn'	caribou (September bull). Lit: 'fall season'. (T/G).
ne'eedi'	caribou (lean November bull). (T).
vàdzaih	caribou. (T/G).
vàdzaih choo	caribou (large male). Lit: 'big caribou'. (T/G).
vàdzaih ch'iyah'tok	caribou (cow with nursing calf). Lit: 'caribou is nursing'. (T).
vàdzaih nichii	caribou (large). Lit: 'large caribou'. (T).
vàdzaih njòo'	caribou (cow with no calf). Lit: 'older caribou'. (T).
vàdzaih tr'ik	caribou (cow). Lit: 'female caribou'. (T/G).
vàdzaih tsal	caribou (cow). Lit: 'small caribou'. (T).
vadzaih vinijaatan	caribou (sedentary). Lit: 'caribou that stay in one area all winter'. (T).
vinagwahgwàn'	caribou (spring bull). Lit: 'the beginning of spring'. (T).

*T: Teet'it Gwich'in dialect spoken in the community of Fort McPherson. G: the Gwichya Gwich'in dialect spoken in Tsiigehtchic

⁶ Gwich'in Topical Dictionary, 6th Edition. Pages 9-15. Gwich'in Teaching and Learning Centre, Fort McPherson. 2009.

CULTURAL SIGNIFICANCE OF BLUENOSE CARIBOU

Bluenose caribou are of great importance to the Gwich'in. Before modern times when food became easily available in grocery stores, caribou were among the key food sources for Gwich'in families.

We depend on them, just like McPherson and Old Crow [depend] on the Porcupine [herd]. Not only us, but Tsiigehtchic, and Aklavik [residents] come over too, and hunt. ... We see a lot of people out there, like from Tuktoyaktuk, definitely, and Arctic Red. So everybody depended on them.⁷

Caribou were not just a food source – the hides, sinew, guts, bones, and other parts were all used very carefully.

That is the only food we had those days and moose...it's hard to get moose in those days all the time. Caribou...everybody depended on caribou. And after we eat all the meat and make bone grease out of the bones... most of the guts, we eat it. We also clean those hides and tan them and use them for clothing and pack sack and all kinds of other stuff. In summer they... save all the caribou skin, so they can make winter clothing with it... Some of them they make tents with it too, that was way back then.

They use everything, everything is used on caribou, even the caribou hoof, they clean it and they put it away. Then in the summer they soak it in the water and it gets soft and then they boil it and it really turns out good. The old people used to like that, so that way they don't throw anything away. The bones too, they break it up and they boil it and they make grease out of it. And those legs they take marrow out of it and they put it with pemmican or dry meat. They eat it with dry meat, pemmican, it's good too. Every bit of things, [they] make dry meat with it. And the sinew too, in those days the women they clean the sinew real good and then they hang it outside in the wind. Then whenever they're going to sew... sometimes in the evening I use to see my Mom sitting there making sinew, big pile of sinew she used to make. So they're really taking care of that sinew part too.⁸

The hides and sinew from Bluenose caribou were used for many purposes.

[At] one time every woman know how to tan, or make dry meat, everything. Skin legs, and how to make dry meat, how to make pemmican, how to make bone grease, and how to work with the

⁷ James Firth. Arctic Red is an old name for Tsiigehtchic.

⁸ Joan Nazon, GEKP-Caribou, similarly expressed by others such as Gabe Andre (GEKP)

sinew too. Sinew they used that lots, they tear it apart and they make threads... They always make winter clothes with caribou skin... Young ones they used mostly for clothing for kids. Like parky and pants... Shoes, they mostly used that leg skin, that is what they used for shoes, and for mitts they used, sometime they knit caribou skin too, same as rabbit, to make clothes.⁹

Meat from caribou was preserved for later use as well, and bone grease made from the bones.

They dry everything in winter time when they...kill caribou... Set up a camp and they dry the ribs, they even take the ribs off... the caribou. They dry it little bit, then they take off every bone, because that bone it spoils the meat if it's [left on]. ...And that bone too, they use it, pound it up for grease. Same with every leg, every bone in the caribou or moose they do same thing. They save every one until they get pile enough to make grease. They put in the pot and then they put maybe about one quart of water in it that's all, and it start to boil in the bottom and they put a big chunk of hard snow on top, while it is boiling that snow go down...go down and if it's gone, well, they put [on] another one. Keep putting that on, until the water show up...up to [the] top and they keep boiling, they keep putting that snow until the water is over the bone like, an inch or something like that. And they keep turning... they turn bottom of the pot, turn that bone over... When it boil enough... they take the pot down and take the grease off with a spoon. Once you get most of it off, half the time they use that little stomach in the caribou, they use that for bag...put grease in it. Always put it in there, not hot, they got to dry that thing too...before they put grease in it they blow in it and they hang it up Just like little bag, [a] plastic bag, and once they put grease in there, they can keep that grease. All summer they could keep it, never get spoiled...They bury it under moss in summer time.¹⁰

Caribou bones were also made into scrapers, used to scrape the hides during tanning.¹¹

The Bluenose caribou were important enough that Gwich'in families would follow their migration route. **"They would go down from Tsiigehtchic into Campbell [Lake area]. And they would cross over to [the] Caribou Lake [area] and live in all those lakes between Caribou Lake and Travaillant. And they used to have a community out at Trout Lake just above Travaillant. And they used to ... [spend] most of the winter there. They'd fish there because there's lots of fish lakes in that area."**¹²

⁹ Gabe Andre, GEKP-Caribou

¹⁰ Gabe Andre, GEKP-Caribou

¹¹ John Norbert, Tsiigehtchic Community Verification session

¹² Julie-Ann Andre

Today, caribou are valued as a healthy food source for Gwich'in families. **"Well, caribou in general is really important because they're from the land, and they [do not have] steroids in them."**¹³ For many people, the meat is much preferred over store-bought. **"If caribou wasn't around...I have to go to store and buy food...buy meat. They would rather have caribou than the meat they buy from the store."**¹⁴

What I like is to hunt caribou and skin caribou and cook the meat to the fire...Yeah, the kidney or fat ribs, that is what I really like when you're hunting.¹⁵

Some parts of the caribou were not for young people to eat. **"My grandmother and my grandparents, they used to like *igii* [caribou fetus]. ...They used to like that kind, so we used to shoot cows so we'd get [it]. They used to always say young people can't eat it."**¹⁶

SHARING OF CARIBOU

Sharing food has always been an important part of Gwich'in culture. Sharing **"still goes on, but it's mainly with your family and so forth. There's a few people that would just bring caribou in and then get somebody to cut it and give it out to the Elders."**¹⁷ Considering the price of groceries, sharing meat is economically important.¹⁸ There is a pattern of sharing caribou with Elders, in particular. **"We're seeing the same hunters going out and getting lots of caribou, and people see those hunters coming in with caribou, and they are asked for the meat. They give it out, so they go out again. ... For those who are successful, they are being asked for meat."**¹⁹ Elders often find caribou to be better than store-bought. **"Very important. I like to eat country food. ...And us we can't live off pork chops and hamburger. You know, it's got to be there. I mean, [for] us anyway, a lot of us Elders."**²⁰

However, many people do feel that **"fewer harvesters are sharing the meat with Elders."**²¹ Communal hunting in the past also supported sharing. **"And the way we used to hunt, we'd all hunt together, like seven people are out, they hunt together because if somebody gets caribou, they know everybody is going to share. Now it's just everybody for themselves. That whole sharing thing is gone."**²²

Caribou was also used to trade for other types of traditional food and supplies.

You'd have trading times. In the summer, you'd trade dry fish, dry meat. Well, all year long, if somebody came to you with meat, and they wanted dry fish and dry meat, they just trade. Sometimes they

¹³ Julie-Ann Andre

¹⁴ Gabe Andre, GEKP-Caribou

¹⁵ Joan Nazon, GEKP-Caribou

¹⁶ Wally Tyrrel

¹⁷ Julie-Ann Andre

¹⁸ Bluenose Caribou Management Working Group (Aklavik)

¹⁹ Bluenose Caribou Management Working Group (Inuvik/Shared)

²⁰ Wally Tyrrel

²¹ Bluenose Caribou Management Working Group (Inuvik/Shared)

²² James Firth

would just give it because they knew that guy was going to go hunting, and he would bring something back.

Long ago, they used to have like a big cache, and it would be for the whole community and for feasts. [No one] went over there and filled their freezer, they'd go over there and get something for tomorrow. But it would be there for everyone. And when it went low, they would be rationed. There was a lot of sharing and trading back then, not only for meat, for clothing, supplies.²³

Gwich'in hunters also share information on caribou to help other hunters. People generally share the location of caribou by word of mouth with other hunters, so other hunters are more likely to have success. This information sharing is even between communities – Inuvik and Old Crow hunters may call hunters in Aklavik.²⁴

HUNTING TECHNIQUE

Gwich'in hunters have always valued caribou by hunting them in a respectful way. This has been passed on from Elders to young people. **“When we used to hunt with the old timers, they made sure you took [everything of use]. Even the inside, the guts. They made sure you'd even take that. ...Young guys, they'll learn. If you teach them, they'll learn.”²⁵**

GWICH'IN STORIES AND LEGENDS

Many Gwich'in legends reference caribou, however it is generally not clear if the caribou are of the Bluenose herd, boreal woodland caribou, or Porcupine caribou. The following story recorded in the 1970s in the Committee on Original People's Entitlement (COPE) project describes the importance of caribou, and the value of sharing, in a time of starvation. The stories were told by Eliza Andre, a Gwichya Gwich'in Elder.

Old Man and His Wife - Part #1

COPE Story, Eliza Andre

Once there was an old man and his wife who moved out into the bush. Early in the fall, we all understood that the caribou were all in good shape just before running season. It happened that this man was married to a very wise woman. In the fall people killed lots of caribou. That woman was very well known for her wisdom. Because the people had killed a few caribou, they figured they were well off for the winter, but the woman figured there would be a shortage of meat. She cut out a piece of caribou fat the size of her knife and put this in her bag. A little later on, the people were starving

²³ Julie-Ann Andre

²⁴ Wally Tyrrel

²⁵ Wally Tyrrel

so they had to split up camp into groups. One group going one way and the other going in the other direction. This woman [and] her husband went by themselves.

The man was very hungry and didn't have the strength to even walk so his wife helped her husband until they stopped to make camp. Before they made this camp, they came across fresh caribou tracks. The woman, knowing her husband was very weak, took out the fat from her bag and cut the fat into small pieces to make ready a light soup for her husband. She gave this to her husband but he was so weak he could only take a little of the soup and return to sleep. When he awoke again she gave him another drink of the soup. This kept on until the morning. By morning, her husband told her, "I feel much better and I think I can go after the caribou now." He went out hunting and killed a bunch of caribou. When he came back to camp, he told his wife that he was going to go and look for the other hungry people that they had left. He gathered all those people and told them to return to his camp with him, that he had a bunch of caribou. The people wanted to buy meat off him but he told them, "If you want to buy meat, you can buy it off my wife, not me."

The following winter this same man and his wife moved into the bush. They were hungry, not having anything to eat. They made camp near two big mountains of snow. It happened that they now had a little boy who was so hungry he would ask his mom, "Mom, I want to eat caribou feet." His mom would ask him, "Where are we going to get it? We have nothing." They made a campfire near these two snow mountains and it happened that all the snow began to melt around the campfire and they discovered a moose leg. They began to shovel the snow and soon found two moose. What had happened was that two bulls had been fighting over a cow moose. As they fought with their horns, the horns became locked together. Yet now, they were still in good shape (having been preserved in the snow). The man went out in search of the other starving people and brought them back to camp. By this time it was getting warm, getting towards spring. It was just luck that this same man saved the other people who were in the need of food.

Old Man and His Wife - Part #2

People were travelling all over searching for food. This old man and his wife were coming behind these people. She came across a rabbit trail so she set out a snare. The next morning she told her husband, "On our way I set one rabbit snare. I'm going back to look at it." She found she had caught one rabbit but she did not wish to share it with the people, so she told her husband, "I have caught one rabbit and I will make soup for you." Her

husband was so thankful that he wanted to share a little bit with the people. He went outside and began talking with the people. "My wife, she caught one rabbit. We will make soup for everyone."

After the people got strong enough, the man went out to hunt for caribou. He was very lucky and got a few caribou and the people wanted to buy meat from him but he told them, "If you have anything to buy meat with, give it to my wife and she will give you meat to eat." Had this man not mentioned the one rabbit to these people, the woman would have kept it just for her and her husband.

This is why, even today, the people still help and share with one another.

PLACE NAMES AND TRAILS

Maps on the following pages show place names mentioned in this report and trails associated with hunting barren ground caribou. The trails map is based on data gathered during the Dene Mapping Project in the 1970s and 1980s. The trails were used from at least 1900. In the past, the caribou herds wintered close to Tsiigehtchic, and Gwich'in families were able to hunt them much closer to the community. However, as is very clear on the map, some of the trails used to hunt barren-ground caribou would have taken Gwich'in harvesters as far as 750km, as the crow flies, from Tsiigehtchic. Gwich'in hunters used bush planes, dog teams, and other methods of travel to get to distant areas and stay on their traplines. They travelled far into what is now the Sahtú Settlement Region and to the Arctic coast as well.

GWICH'IN NAMES

Several Gwich'in place names referring to caribou have been recorded by the GSCI within the historic range of Bluenose-West Caribou in the Gwich'in Settlement Area. These maps are included in a map on the following pages.

Vàdzaih Van (literally *caribou-lake*, also known as Caribou Lake) is a large lake northeast of Tsiigehtchic. A river flows from Vàdzaih Van into the southern end of Campbell Lake, known as Vàdzaih Van Njik (*caribou-lake-creek*). Vàdzaih Van and Vàdzaih Van Njik are within the historic winter range of Bluenose-West and Cape Bathurst caribou, as well as the year-round range of Boreal Woodland Caribou. Both barren-ground and woodland caribou are known as *vàdzaih* in the Gwich'in language.

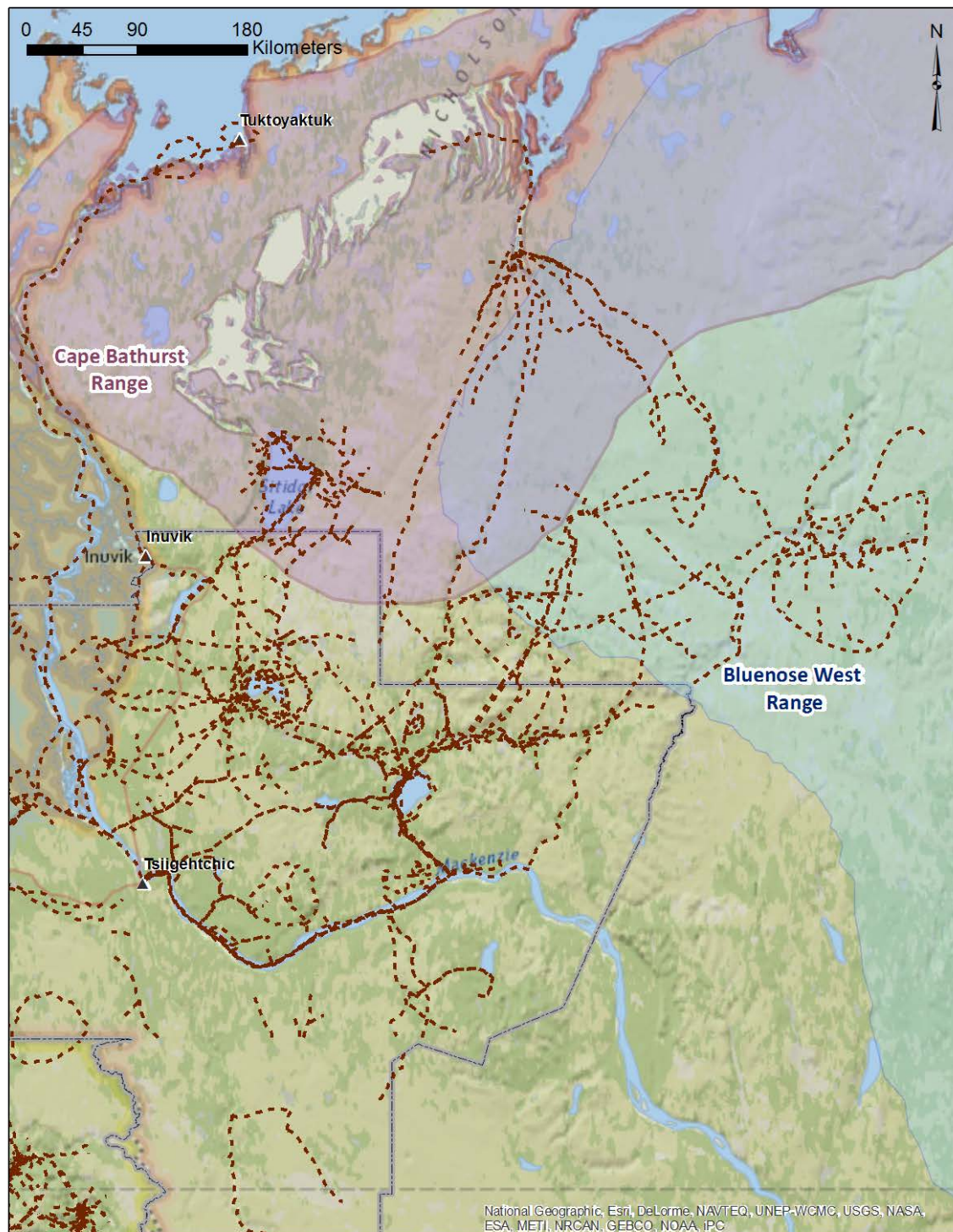


FIGURE 7. DENE MAPPING PROJECT TRAILS FOR BARREN-GROUND CARIBOU HERDS²⁶

²⁶ Note: trails shown were used, at least sometimes, to harvest barren-ground caribou of any herd. The Dene Mapping Project was a large Mackenzie Valley-wide project undertaken by the Dene Nation in the 1970s and 1980s to gather traditional use information for use in negotiating the Denendeh Claim.



FIGURE 8. GWICH'IN TRADITIONAL PLACE NAMES REFERENCING CARIBOU IN THE BLUENOSE-WEST AND CAPE BATHURST HISTORIC RANGE²⁷

²⁷ Place names recorded by the Gwich'in Social and Cultural Institute, 1992-2014.

PHYSICAL DESCRIPTION

It is generally not possible to tell the difference between Bluenose-West and Cape Bathurst caribou.²⁸ However, Bluenose caribou (including Bluenose-West and Cape Bathurst) can easily be distinguished from the larger boreal woodland caribou.²⁹ They are also smaller, and darker, than Porcupine caribou.³⁰ In addition, **“I think the cows [antler’s] on the Bluenose...are a little bigger than the antlers on the Porcupine cows.”**³¹ Bluenose caribou are also different than Peary caribou.

*Yeah, they look different, and depends on what kind ...they are. Those ... down there [on the coast], they're mostly white. And woodland caribou is kind of black and white and yellow, ... bigger too... they got big bushy antlers.*³²

Males and females can sometimes be distinguished by their physical features as well. **“In size [the males have] bigger horn...The horn is real tall, and the cow, they got smaller horns. That is the only way you can tell, is different size of horns. If you see caribou is big and has got real tall horn, that's a bull... And a small little horn is a cow... They look dark [in] colour as a bull,...and white one - they're just like white colour, that's [a] cow. [Both have a tuft of hair, but]...the bull's is really long... [You can tell from] maybe one quarter of a mile, I guess. You can tell what they are if they're smaller and they're [a] lighter colour, but if you see bull they're dark...dark and bigger.”**³³ Males and females both grunt in the same way.³⁴

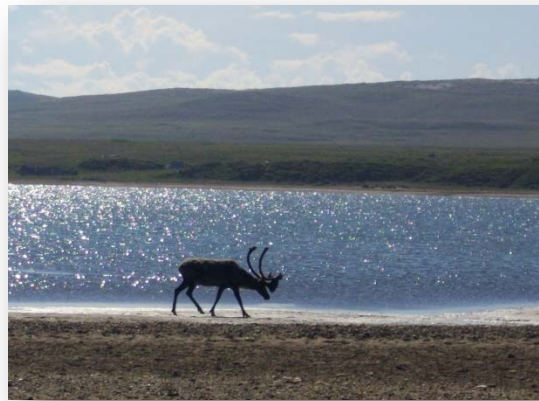


FIGURE 9. CAPE BATHURST HERD CARIBOU. PHOTO CREDIT: K. CALLAGHAN, GRRB.

²⁸ Tom Wright

²⁹ Wally Tyrrel

³⁰ Ernest Vittkrewa, Gwich'in TK of Boreal Woodland Caribou, James Firth

³¹ James Firth

³² John Jerome

³³ Gabe Andre, GEKP-Caribou

³⁴ Gabe Andre, GEKP-Caribou

Dry cows are cows that are not pregnant or do not have a young one. **“But, you can tell a dry cow. When there's no young ones around it, that's a dry cow. Those people go for those, because they're fat. That's what we call dry cows. You could tell really it's a cow because of their horns and there's no young ones with it. That's what they call dry cows. So, that's what people mostly go for, mainly like Elders.”**³⁵

The hides of summer caribou have short hair, **“it change, they shed in summer and the hair is kind of brownish like [and darker]. And then they lose all their winter hair, they're shedding.”**³⁶ These caribou were sought after in particular by Gwich'in hunters for some types of clothing. **“You have to go down...way down close to Bluenose...lot of time the people... they used to get clothing. They get them when it's really short hair, that is ... below Reindeer Station. They used to do that long ago, but now nobody looks for short hair caribou. But if you want to look for some, you have to go down along the coast, or else down Anderson River...way down that way.”**³⁷



FIGURE 10. DAN ANDRE. PHOTO CREDIT: GRRB.

Bluenose caribou are in good shape in particular during their northward migration. **“When they start going back north, that is what they're hunting for, ... people over there. They're hunting for bull caribou. They're hunting for *vadzaih choo* because, *vadzaih choo* is in good shape, really fat. The back on the fat is just thick as bacon, really, after that in March or February.”**³⁸

Bluenose caribou may be inter-breeding with domesticated reindeer.³⁹

³⁵ Wally Tyrrel

³⁶ Joan Nazon, GEKP-Caribou

³⁷ Gabe Andre, GEKP-Caribou

³⁸ Joan Nazon, GEKP-Caribou

³⁹ John Jerome

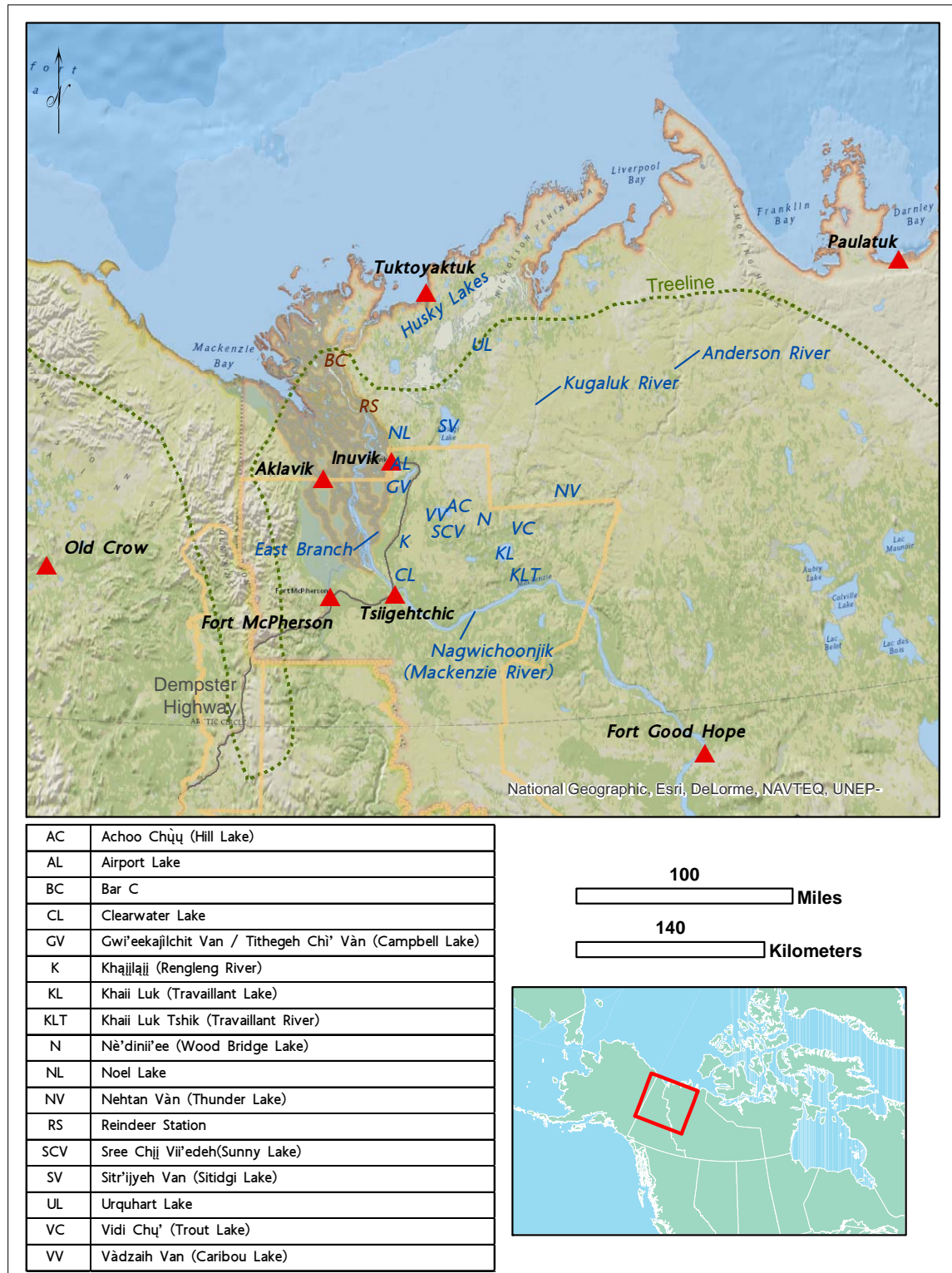


FIGURE 11. MAP OF GWICH'IN SETTLEMENT AREA SHOWING PLACE NAMES USED IN THIS REPORT.⁴⁰

⁴⁰ Names in this map are from the GSCI's Gwich'in Place Names Database or are official names. This database includes Gwichya Gwich'in, Teet'it Gwich'in, Nihtat Gwich'in, and Ehdiitat Gwich'in names.

DIET AND FEEDING

The following winter food sources for Bluenose caribou were mentioned by interviewees:

- Grass
- Caribou moss (lichen)
- Muskrat push-ups
- Small willows
- Aquatic vegetation
- Sedges
- Spruce bark

Grasses and lichen ('caribou moss') were mentioned by many interviewees as being important winter food for Bluenose caribou. **"It's moss... white moss, they call them *uhdeezhù*', and then short grass... anywhere on the land... Grass – they eat that, then they go to edge of the lake...eat lots of grass there too. In summer time they just eat it, but in winter time they dig it out...they dig out grass or else white moss."**⁴¹



FIGURE 12. TOM WRIGHT BEING INTERVIEWED IN GRRB BOARD ROOM. PHOTO CREDIT: N. MELNYCKY, GRRB.

Many interviewees mentioned that Bluenose caribou will eat muskrat push-ups. This was particularly noticeable in the past when there were considerably more muskrats.⁴²

- ❖ **[push-ups are] all roots and plants, so that's what [caribou] eat. I don't think...they don't eat the mud. But if you look at a rat house, it's just all plants.**⁴³
- ❖ **they just love that because it's just green stuff from the bottom of the lake. Oh, they'll eat the whole works. ... any time they find a lake they just clean it up.**⁴⁴

⁴¹ Gabe Andre, GEKP-Caribou

⁴² John Jerome

⁴³ James Firth

⁴⁴ Tom Wright, also mentioned by Wally Tyrrel

- ❖ **if there is no moss, they're going to eat rat house ...they dig out all the rat houses they can find, eat it right down to the ice...nothing left. It is just food [the muskrats] eat from the bottom of the lake in summers... It's grass in it and everything.**⁴⁵

The Bluenose caribou diet changes as the seasons change. **"Well, in the summertime, [grass,] that's all they eat. They don't eat moss. That's all they eat is grass. And that's why a lot of people don't really care for the caribou in the summer, because it tastes grassy. Come mid-August, from then on, they really try to put lots of fat on... And a lot of it is on the land, but a lot of it is in the lakes too."**⁴⁶ Caribou also get a certain unknown chemical from the lakes which helps them to grow their antlers.⁴⁷ They will sometimes scratch at the ice.⁴⁸

BIOLOGY AND BEHAVIOUR

BEHAVIOUR

Bluenose caribou are easily spooked by people approaching them, although some hunters feel they have gotten used to the sounds made by ATVs and skidoos over time. Good hunters know to pay attention to the wind direction and make use of hills and other landforms when trying to get close to caribou.⁴⁹ Other hunters feel that the Bluenose have become more spooky and wild in recent years due to being chased by skidoos.⁵⁰ **"Yeah, ...good caribou them days. They just don't run away."**⁵¹ However, Bluenose caribou are not as easily spooked as woodland caribou. **"The amount of time I've been out there, and if you see woodland and Bluenose, you just go after the Bluenose. It's just like we never hunted the woodland. Woodland, if they hear you coming, they'll just go in a bush and just hide. A Bluenose, them days, [if] you see them, and then you just do your little how-you're-going-to-hunt-them sort of thing. And then easy, very easy. But woodland is a little difficult sometimes. Like, they are more skittish, and they go into the real thick timber."**⁵²

Bluenose caribou are known for being quite curious when they're not spooked. **"In the olden days, when [people would] come on the lake and they'd see caribou on the other side of the lake, they'd sit down and make tea. And the caribou would get curious, and they'd come over to check what's going on. Even if they smell the smoke, they know it's not a forest fire because it's just a little smoke."**⁵³ They will also come to the sound of sticks being rubbed together, which is discussed below.

⁴⁵ Gabe Andre, GEKP-Caribou

⁴⁶ James Firth

⁴⁷ Tom Wright

⁴⁸ John Jerome

⁴⁹ John Jerome

⁵⁰ Julie-Ann Andre

⁵¹ John Jerome

⁵² James Firth

⁵³ Julie-Ann Andre



FIGURE 13. JOHN JEROME IN GRRB BOARDROOM. PHOTO CREDIT: N. MELNYCKY, GRRB.

Bluenose caribou can identify food under the snow by feel, and by digging for it. They can also smell the food from under the snow.⁵⁴ They know, in broad terms, where to find food within their range. **“If there is nothing one place, they go look for it and they find it easy too. By winter time...the way they walk they could feel it...by their hooves. They know where is good grass on the lake too, they dig that out.”**⁵⁵

*In winter time, when they stay one place...most of the time they lay down. They always lay down ...on the lake or where it's clear place in the bush, but [there's] always feed. They walk through if...they could feel the moss by their foot, you know where it is, always right close to the tree. Some place that moss is all over the place, well they go all over.*⁵⁶

Gwich'in hunters often see mixed groups or bunches of Bluenose caribou in their winter range. The caribou herds migrate to the treeline and then spread out.

⁵⁴ William Modeste, verification session

⁵⁵ Gabe Andre, GEKP-Caribou

⁵⁶ Gabe Andre, GEKP-Caribou

- ❖ **30 to 50 in a bunch**⁵⁷
- ❖ **Men are hunting around, and they see sometimes there is a hundred of them, and they stay one place. Like all winter they stay there...**⁵⁸
- ❖ **...but the most I ever seen was about 100, I guess, one time**⁵⁹
- ❖ **when I was small, we used to see about maybe up to 15 in one group. It would be all mixed [bulls and cows, during their migration north at Travailant Lake].**⁶⁰
- ❖ **I always see them in bunches. There'll be little bunches here. One will be leading some over there and you might see another one lead over here. Or, eventually they all get to one. ...that's part of their survival I guess is [to] get along, and always [have] a leader.**⁶¹
- ❖ **Bluenose, where you might get 20 or 30 in a bunch... Like, right now, ...you'd see cows, you'd see bulls, or cows and calves and bulls. But they spread out, afterwards they're done their mating... But like, when we used to fly out there [north towards the treeline in August-September], they're all mixed up. Everybody is together until they get into the treeline. And then they go their own ways.**⁶²
- ❖ **sometime...bulls are in one bunch, sometime cow is in one bunch.**⁶³
- ❖ **Never see very many [alone]. Always two or three and sometime there is a big herd. Sometimes you see maybe two or three around, and...if you follow it, they're going to bring you back to the herd. They take off from the herd and just go so far, maybe ten miles around, and they will go back to the herd.**⁶⁴
- ❖ **sometimes [there are] hundreds, thousands.**⁶⁵
- ❖ **I hunted around Caribou Lake, too. Years ago, twice. And there was quite a bit there. Maybe 200, 300.**⁶⁶

Caribou are often seen on the move, going from place to place. **“All they're doing is just walking around and eat and eat and eat. Look for good food... Walking around eating.”**⁶⁷ The caribou are often seen on lakes where they eat muskrat push-ups.⁶⁸ They follow a yearly pattern of migration to and from the calving grounds, and make use of the same types of food every year.⁶⁹ In the summer they move to escape the insects. **“They can't stay quiet. They just got to go, go, go, go. That's how come they stay in the open around the coast where there's**

⁵⁷ William Modeste, Gwich'in TK of Boreal Woodland Caribou

⁵⁸ Joan Nazon, GEKP-Caribou

⁵⁹ Morris Blake

⁶⁰ Julie-Ann Andre

⁶¹ Tom Wright

⁶² James Firth

⁶³ Gabe Andre, GEKP-Caribou

⁶⁴ Gabe Andre, GEKP-Caribou

⁶⁵ Tom Wright

⁶⁶ Richard Ross

⁶⁷ Joan Nazon, GEKP-Caribou

⁶⁸ James Firth

⁶⁹ Gabe Andre, GEKP-Caribou

lots of water. It's by the wind.⁷⁰ As noted above in the Diet section, Bluenose caribou will dig in the snow.⁷¹



FIGURE 14. MORRIS BLAKE AT HIS CAMP AT EIGHT MILES. PHOTO CREDIT: K. BENSON, GSCI.

The temperature and weather affects the caribou's behaviour. **"When there's big storms, they probably have to reserve their energy to wait for warmer weather. I know they don't travel a lot in cold weather. They stay put. But in warmer weather, they'd start traveling."**⁷² **"[They move] in the daytime, mainly morning. In the afternoon too. When the sun starts coming up, they just lay around in the sun. ... They rest a lot after they eat."**⁷³

Maybe some time they play and sometimes they fight too, I guess. You know bulls, they fight.⁷⁴

Bluenose caribou will sometimes charge a person. **"Oh, caribou if they attack you it goes straight for you... So, you just have to stand there, and [when it's] close enough you have to move, and it just pass you... They put head down, so...put the horn down on the ground like."**⁷⁵ Bluenose caribou will sometimes fight each other. **"Well, they could fight, or horn each**

⁷⁰ John Jerome

⁷¹ Tom Wright

⁷² Julie-Ann Andre

⁷³ Julie-Ann Andre

⁷⁴ Joan Nazon, GEKP-Caribou

⁷⁵ Gabe Andre, GEKP-Caribou

other. Those horns are pretty sharp.”⁷⁶ Bull caribou are often the ones who break trail. “I had an Elder complain about the bulls-only [harvest rules] – [they] need bulls to break the trails.”⁷⁷



FIGURE 15. ABE PETERSON IN THE BAND OFFICE IN FORT MCPHERSON. PHOTO CREDIT: M. CLARK, GSCI.

Bluenose caribou will play, especially the young ones. Young caribou are seen playing “and sometimes these young ones, they run. They jump long ways.”⁷⁸ “Sometimes I see.... in the summer, they play around. Like they’re teasing their young ones. That is the only thing I know, but not in the winter. In the winter they always expect somebody is going to shoot them and they just listen for ski-doo.”⁷⁹ Bluenose caribou may also jump in the air to show how good their condition is. “You could tell looking at a caribou right away if it’s a poor one or a fat one... And usually [caribou] try to show off and jump up in the air, let the predators know they were ready for a rumble or something. That must be part of their survival thing. Even the little ones do that.”⁸⁰

Gwich'in hunters can call Bluenose caribou towards them by mimicking the sounds of caribou playing – and the curious caribou cannot resist approaching.

They do play lots you know...play with one another. That is why lot of time you can fool a caribou by rubbing two sticks together, that is because when you rub stick you know they think it's caribou playing over there. Well, they have to go over there and see what it is. They don't walk over there, they just full blast over there... That is why if

⁷⁶ Morris Blake

⁷⁷ Bluenose Caribou Management Working Group (Aklavik)

⁷⁸ John Jerome

⁷⁹ Joan Nazon, GEKP-Caribou

⁸⁰ James Firth

*your caribou run away from you, you hide and rub that stick together, it will come back to you... always come back to you.*⁸¹

*If they don't see you, then you have to carry stick with you. You carry them, little it's...green sticks, [from] small trees. You just break the end off and carry maybe about a foot long, you just clean it through, your hand like this, it's cold...when it's cold, break the branches right off and you carry that. When you see [caribou] on a lake you start rubbing that stick together, ... if you have to hide they come... right up the trees, and you'll be right over here, you [can] shoot.*⁸²

Hunters can also make use of the Bluenose caribou's typical behaviour if startled. **"A lot of times, if you follow caribou through the bush, if he starts to run before you can shoot, [and] if you know there is a lake close [by], you run for that lake, instead of running after caribou. You hit that lake, that caribou is going to go to that lake anyway. ... You have to know the country yourself too. If you know [that there is] a certain lake some place, well, you just run straight for that, and when you hit it sometimes they're already on it. Always, when they hit the lake they stand there and stay there, ... [and they watch for] whatever is coming after."**⁸³

When startled, Bluenose caribou will run in a circle in one direction or the other.⁸⁴ **"When they hear a noise, they try to run away all together."**⁸⁵ Groups of caribou have a particular habit when being chased. **"If they run, you always have to shoot the leader and knock the leader down, [and then the group will] turn back, they try to go the other way. Well, that way too, you shoot the leader – same thing, [they'll] turn right back, you just could clean up the whole thing right there."**⁸⁶

HABITAT USE AND REQUIREMENTS

The habitat in the Bluenose caribou's range is mixed. **"All over, there's good and there's bad [habitat], and in-between."**⁸⁷ They stay in areas where the habitat is good enough, **"if it wasn't, they'd move."**⁸⁸ Bluenose caribou will also move as the availability of food changes. **"Caribou manage their habitat. The caribou move to other areas and then move back to that area."**⁸⁹ **"Their feed will affect them. All the lichens... those take a long time to grow, so if they overuse certain areas, then the caribou move."**⁹⁰

If they can't find food they have to walk and walk and walk. Sometimes they have hard time when there is lots of snow, they have

⁸¹ Gabe Andre, GEKP-Caribou

⁸² Gabe Andre, GEKP-Caribou

⁸³ Gabe Andre, GEKP-Caribou

⁸⁴ Tom Wright

⁸⁵ Annie Norbert

⁸⁶ Gabe Andre, GEKP-Caribou

⁸⁷ Tom Wright

⁸⁸ Julie-Ann Andre

⁸⁹ Bluenose Caribou Management Working Group (Tsiigehtchic)

⁹⁰ Bluenose Caribou Management Working Group (Tsiigehtchic)

*to dig, dig out the snow until they find their feeding. That is hard work for them.*⁹¹

Bluenose caribou make use of the grassy areas around lakes for winter feeding. The lakes also may have muskrat push-ups, which the caribou eat. They use 'bushy' areas to avoid predators.⁹²

- ❖ I notice they like to go around rat houses, lakes and along the lakes, the grassy lakes... [for rat houses and] probably about the grass. They just go crazy for it. It's the hay. ...they also like to live around lakes⁹³
- ❖ They'd be more common where there's like grassy lakes and willowy areas.⁹⁴
- ❖ I think [Bluenose caribou make use of] lake shores. They like creek areas where they could just relax.⁹⁵

MOVEMENT AND SEASONAL MIGRATION

Bluenose caribou used to migrate much further into the Gwich'in Settlement Area – closer to Inuvik and Tsiigehtchic. During those years (the 1970s and 1980s), they would start to arrive into the traditional fall and winter hunting areas of Gwich'in communities in October. The caribou would migrate through Campbell Lake, over to the Caribou Lake area, and then on to the Travaillant Lake area.



FIGURE 16. JULIE-ANN ANDRE. PHOTO CREDIT: J. WINBOURNE, GRRB.

It used to be maybe the third week in October they would come in, because we used to fly out to a place called Urquhart Lake. We'd fly

⁹¹ Joan Nazon, GEKP-Caribou

⁹² Morris Blake

⁹³ Morris Blake

⁹⁴ Julie-Ann Andre

⁹⁵ Julie-Ann Andre

out from Inuvik here to hunt. And by then, they're migrating into this area. So about the third week in October, second week in October, we can pretty well go out to North Caribou Lake and hunt caribou... But if you understand what makes them go, and a lot of it has to do with the weather – they always say that the first snow that you get, that means that the caribou is going to start moving. And I think that's true.⁹⁶

In summer, they mostly move back to [the] calving grounds, that is way down...Bluenose Lake, I guess. ...they ... start back down maybe in May. A lot of time I see them going back around to [Travaillant] lake, sometime I see about three or four bunch crossing the lake, and head straight for east...steady like that for couple days, maybe more. I been there only during that time. Steady going, never...they're not full blast going, they just walk, walk, walk... Sometime they don't come this way, they come by around the Coast and then they go by around Good Hope area, sometime around Bear Lake. Sometime they go further than Bear Lake too, around close to Yellowknife but they always know to go back... Some of them, they calve before they get there, you know, but the young one... a little while [after they are born,] they start walking. They follow their Mom until [they are] back to the calving ground. [They] stay around there all summer and in the fall time, in October, they start back. The whole herd, they're going to go back to [their] winter ground, that is when they come...either go down around the coast, or come to here, around the grass, and all along the Mackenzie Valley, I guess. They never cross Mackenzie – there are [only a] very few [that] cross, but they always go back too. If you... bother them too much they just move little bit off the side, but they never go back, they always have to keep coming. Nothing will stop them. Like maybe 50 or 100 miles somebody is bothering them the whole time, it's got to go...still have to go around to go back winter ground....because once they start back they never stop, they [just] stop for feeding.⁹⁷

⁹⁶ James Firth

⁹⁷ Gabe Andre, GEKP-Caribou



FIGURE 17. CAPE BATHURST CARIBOU HERD. PHOTO CREDIT: K. CALLAGHAN, GRRB.

The herd moves south and then splits or fans out when they hit the treeline.⁹⁸

*If you have a warm fall, they'll just take their time and feed... If it's lots of snow, they'll hurry up and get to their wintering ground. ...when they're going, they're moving pretty good. But then once they hit the treeline, then they just slow right down, and just take their time and spread out.*⁹⁹

After spending the winter months in their range in or close to the Gwich'in Settlement Area, the caribou migrate north again in mid-to late-February and March.

Well, we used to live off of them out at [the north end of] Travaillant [Lake]. And there was always lots. We didn't see herds of hundreds, but we seen like herds of about 20. And it would last for about a week when they're passing through. Usually about end of February, beginning of March they're traveling north. ... Caribou Lake and Travaillant and [then] up through Anderson ... [Around] the end of February, we'd just stay home, and the caribou would walk on [Travaillant] Lake in front of us. So there would be four or five, and

⁹⁸ Gabe Andre, GEKP-Caribou

⁹⁹ James Firth

*we'd take one. We'd bring it in, and we'd butcher it up. And all day, it would just walk in front of our place.*¹⁰⁰

The caribou will start and stop their migration based on the weather. **“It depends on the weather conditions, when they start moving, like in the fall time. They wouldn't go to lakes until they were frozen.”**¹⁰¹ Some types of weather are known to be particularly bad for caribou. When there is rainfall after it snows, a hard crust can form on the snow. A crust can also form in the spring when the snow warms up and then freezes. **“I seen it from trying to get from point A to point B, and it's just all icing. So usually, you just see a big trail. And you just see caribou behind them stepping in the same hole that the one before them.”**¹⁰²

Along their fall and winter migration, Bluenose caribou will stop and feed. **“In the fall time they start and they stop here and there, they hang around there for long time and then they move again. Then they stay in one place for long time, they kept doing that until it's time for them to turn back.”**¹⁰³ **“They stop for a few months in one zone where their good eating areas are.”**¹⁰⁴



FIGURE 18. CAPE BATHURST CARIBOU. PHOTO CREDIT: GNWT/J. NAGY, ENR

¹⁰⁰ Julie-Ann Andre. Bluenose movement through Travaillant Lake area was also mentioned by William Modeste, Gwich'in TK of Boreal Woodland Caribou.

¹⁰¹ Julie-Ann Andre

¹⁰² James Firth

¹⁰³ Joan Nazon, GEKP-Caribou

¹⁰⁴ Julie-Ann Andre

When they are migrating, Bluenose caribou tend to walk directly towards where they want to go. **“Like anything else, you're migrating. You want to get there as fast as you can, so you just go ... in a straight line, but finding your feed as you come along. Like if you look at the Urquhart Lake, and then if you look at Caribou Lake, it's pretty well in a straight line.”**¹⁰⁵ They are always looking for areas with good food, and they remember areas of good food from previous migrations.¹⁰⁶ The caribou, or more particularly the leaders, also know where they are supposed to go, **“they been going there ever since the world started. Thousands of years.”**¹⁰⁷ **“They're going to go where there's the best feed, or where the leaders go. I don't know why the leaders know, but where the leaders go, they go. That's part of their... DNA ... part of their survival.”**¹⁰⁸

The caribou may stay away from disturbed areas, including burned areas from previous forest fires, or cut lines. **“Even if it was a good area, they'd stay away from it. They don't like disturbed areas.”**¹⁰⁹ Caribou are known, however, to use seismic trails or linear disturbances to travel along, although in some places the lines are too overgrown to use. **“Everything's growing in... they're having a hard time [even] with Bravos.”**¹¹⁰

Occasionally, some of the groups of Bluenose caribou will move in unexpected directions. At least once, a group of Bluenose caribou numbering around 100 crossed the Mackenzie River.¹¹¹ The caribou also may venture into the Mackenzie Delta. **“Bluenose or barren land [caribou], about ten years ago, [some] crossed towards Aklavik side, might have been reindeer mixed with barren land and [they] crossed quite a bit around Bar C and went right across the Delta towards Aklavik.”**¹¹² It seems likely that individuals from different herds do mix up with other herds, **“I think some just take off over this way and maybe they're eating and they get wandering over that way, and some wander the other way.”**¹¹³

Bluenose caribou have not migrated close to Inuvik or Tsiigehtchic for several decades. **“I know one year, there was caribou all over. On the river down there, probably would run into caribou. The next year, there was hardly [any]. We had to go quite a ways. But Fort Good Hope, we'd just skidoo out on there ...and they were killing caribou. So [the Bluenose caribou] moved more that way, like towards Colville Lake side. So they do change, like anything else.”**¹¹⁴ Interviewees suggested a number of possible reasons why the caribou migration changed, including changes in feed availability, and number of forest fires around Travaillant Lake and within their previous winter range.¹¹⁵

¹⁰⁵ James Firth

¹⁰⁶ Joan Nazon, GEKP-Caribou, Tom Wright

¹⁰⁷ Joan Nazon, GEKP-Caribou

¹⁰⁸ Tom Wright

¹⁰⁹ Julie-Ann Andre

¹¹⁰ Wally Tyrrel. A Yamaha Bravo is a small snow machine favoured by trappers.

¹¹¹ Walter Alexie, Gwich'in TK of Boreal Woodland Caribou

¹¹² Albert Frost, Gwich'in TK of Boreal Woodland Caribou

¹¹³ Tom Wright

¹¹⁴ James Firth

¹¹⁵ James Firth, Julie-Ann Andre

Many interviewees mentioned that groups of caribou migrating through their winter range have leaders. **“Sometimes...lots of them travel together because of the trail through the ground. Like not only one... [They all follow one behind one another] so that way they know. [T]here is always one caribou [to] lead them. Maybe old one. Old man and old women.”**¹¹⁶ **“If there is whole bunch, there is always one to lead, and they know where they’re going.”**¹¹⁷ When they are migrating, the leaders should not be harvested, an important point that younger harvesters should be educated about.¹¹⁸

What we are trying to tell the young people, is that the first bunch is always poor caribou because they have been travelling steady... They just want to shoot caribou. They don’t care if it is poor caribou.¹¹⁹

LIFE CYCLE, PHYSIOLOGY, AND REPRODUCTION

Bluenose caribou mate in the fall when they are travelling southwards. This season is known as the rutting season. Caribou calve generally at their calving grounds close to the Arctic coast, although sometimes a female will calve before they arrive and the young one travels with the herd for the last portion of the journey.

Males and females start to look for each other **“end of October ... November. That is when you can only kill the cow, you can't kill the bull ... can't eat it anyways...[as it] stinks. They be like that, until maybe the end of November.”**¹²⁰



FIGURE 19. CAPE BATHURST CARIBOU CALF. PHOTO CREDIT: K. CALLAGHAN, GRRB.

Females likely calve for the first time when they are two years old. **“They calve, then [the young ones] come out here. They stay around here and they go back [to the coast]. They**

¹¹⁶ Joan Nazon, GEKP-Caribou

¹¹⁷ Gabe Andre, GEKP-Caribou

¹¹⁸ Bluenose Caribou Management Working Group (Tsiigehtchic)

¹¹⁹ Bluenose Caribou Management Working Group (Fort McPherson)

¹²⁰ Gabe Andre, GEKP-Caribou

come back, and next year they go back to have young ones. The second year they calve.”¹²¹ Calves stay with their mothers “not even a year. By that time they're getting stronger and bigger, [and can] protect themselves.”¹²² Pressure from bulls may be the reason that calves wean. “[At the] end of October they have to quit [nursing], because bull chase them away from their mother. That is when they start to stop feeding from their mother.”¹²³ There are many dangers to caribou calves, in particular predation. “Especially when they're little, the wolves get them, the bears get them, the eagles. So, they're very vulnerable that first little bit, [but] boy, they can really go.”¹²⁴ Calves are very mobile and capable even very early in their lives. “They're on springs. It's just amazing. It's hard walking in [calving grounds], it's really rough.”¹²⁵

Bluenose caribou calves learn how to make a living in the world from their mothers. Calves “just go only where it go, and follow his mother, that way they know what to do.”¹²⁶ Calves make a particular sound to call to their mothers, “and the mother knows right away, look for young one. That is if the young calf don't know where the mother went...make loud sound, and hear them right away.”¹²⁷

*Don't matter if there is 1000 caribou, still calves still know which one is their mother. I see that, if cow is going to cross a lake, or cross a river, the calf can get on the back...sit on their back. They wouldn't swim by themselves...they swim but they wouldn't stay in the water that long, they just jump on top their mother.*¹²⁸

If conditions are very hard or poor, a female caribou may not have a calf, conversely, sometimes there will be twins, especially if the herd is increasing. A single calf is most common. “Sometimes if ...[the] caribou [herd is] going to be increasing, they have lots... They have maybe two to each caribou, but if they're not going to increase, sometime they have one, sometime they have nothing. Lots of them have nothing, it's just the way they're going to be is going to be no calf, that means there is going to be no caribou... Some years they... they don't have that many calves, that means they going to be less than the other years. But if they really calve [lots], they will increase pretty fast you know.”¹²⁹ “They just calve right on the ground, anywhere.”¹³⁰

Young bulls are ready to reproduce when they are two years old. “They come out...come back to winter ground and they go back...they're coming out that is where he can breed too, and

¹²¹ Gabe Andre, GEKP-Caribou, also mentioned by Tom Wright and John Jerome

¹²² Joan Nazon, GEKP-Caribou

¹²³ Gabe Andre, GEKP-Caribou

¹²⁴ Tom Wright

¹²⁵ Tom Wright

¹²⁶ Gabe Andre, GEKP-Caribou

¹²⁷ Gabe Andre, GEKP-Caribou

¹²⁸ Gabe Andre, GEKP-Caribou

¹²⁹ Gabe Andre, GEKP-Caribou

¹³⁰ Gabe Andre, GEKP-Caribou

then that coming spring he go back”¹³¹ The bull’s antlers are larger than a cow’s, and “the velvet comes off quick so like they’re ready for action.”¹³² However, not all bulls will be able to reproduce. “The bulls, they fight for that right. And it’s the biggest, or the toughest one, he’s the one.”¹³³ For this reason, there is some concern with the bull-only harvest. “Killing all the bulls, when it’s time to breed, there won’t be any prime caribou for breeding. They are needed in the rut.”¹³⁴



FIGURE 20. BLUENOSE WEST CARIBOU. PHOTO CREDIT: GNWT/B. TRACZ, ENR.

Caribou are unusual in that both cows and bulls have antlers. “And you know how they find out if the caribou had a baby or not? If [a cow] had a baby, it’s got no horns [in the spring]. It seems kind of backwards, wouldn’t it? You’d think ... she would need horns to protect [herself], but they don’t. And that’s how you tell if they had one, they have horns or not... They drop them after [they calve].”¹³⁵

The Bluenose caribou’s condition relates to the climate and weather. “Could be the weather, or a year of more snow, all those things. It really makes a difference.”¹³⁶ Only some of the caribou calves born make it to adulthood – they are picked off by predators such as wolves and bears. “Oh, I see lots of caribou bones sometime.”¹³⁷

Yeah, there’s times when they’re not fat, and then some[times]... I’ve seen a lot of them [in the] fall. I couldn’t believe it. You know in the rump, it had this much fat. It came from Naaluk, that’s the end of the Kugaluk River. That’s in the fall, so, and I mean I couldn’t believe it. I

¹³¹ Gabe Andre, GEKP-Caribou

¹³² James Firth

¹³³ Tom Wright

¹³⁴ Bluenose Caribou Management Working Group (Inuvik/Shared)

¹³⁵ Tom Wright

¹³⁶ Tom Wright

¹³⁷ John Jerome

*measured it ... It had like four and a half inches of fat on the rump.*¹³⁸

Bluenose caribou are known to be able to move over even rough terrain and over steep hills. **“Caribou could go [up] steep hills. I see them when I used to work in the Miner River east of Tuktoyaktuk, some high hills. Could see their trail.”**¹³⁹

INTERACTIONS WITH OTHER ANIMALS

Bluenose caribou live in the same territory as many other animals. Some of the animals see the caribou as prey, and some live peacefully around the caribou herds. However, some animals prefer to not live around caribou. **“There is some just like owls, they get disturbed...and they don't like caribou. Just like chickens, and same with moose too, they don't like to live where caribou is, they always run. Caribou make more noise than moose.”**¹⁴⁰ **“The rabbit, could eat their food too.”**¹⁴¹

Some birds are known to stay around Bluenose caribou herds, to get the scraps from other kills or in the case of eagles, to hunt calves. **“There is crow [raven] live around caribou, because when they get killed...they always go there for scraps, that is why they want to live around... where caribou is.”**¹⁴²

WOLVES

Wolves are an important predator of caribou. Many interviewees, when asked about what kills the most Bluenose caribou, responded with ‘wolves.’

*Wolves are very smart. They strategize. They know how to hunt. Just a little nip, a little blood, and they follow and follow and follow until they get them. I've seen so many trails and so many wolf kills, mile at a time, that you could tell that all they do is just run. And if they know it's like a good bite, then eventually, the caribou is going to lay down and stiffen up, and they can't get up. So they just follow and take their time and they're there. Yeah, they're a smart animal, that, very smart. There's the place up... Caribou Creek, on the Dempster. Traditionally, that's where the wolves would chase the caribou into these little narrows, and there's like an ambush there. They plan it. And then they don't try to kill them right away. Well, of course, if you get the chance, you do. But all they do is just bite them, bite their tendons ...and there's so many of them sometimes.*¹⁴³

¹³⁸ Tom Wright. Naaluk is located near Husky Lakes, exact location unknown.

¹³⁹ John Jerome

¹⁴⁰ Bluenose Caribou Management Working Group (Tsiigehtchic)

¹⁴¹ John Jerome. Chicken refers to grouse or ptarmigan.

¹⁴² Bluenose Caribou Management Working Group (Tsiigehtchic)

¹⁴³ James Firth

Wolf packs, along with other predators, will follow Bluenose caribou herds. **“Lots of wolves and bears... they follow calves, and cows when they're going to have young ones. They kill lots of them too.”**¹⁴⁴



FIGURE 21. JAMES FIRTH IN GRRB BOARDROOM. PHOTO CREDIT: R. BROOKS, GRRB.

Wolves also kill Bluenose caribou by grabbing them and tiring them out that way. They sometimes also chase caribou through difficult conditions to tire them out, and the wolves will hunt co-operatively by helping out other members of the pack if one gets tired. **“Wolf, he grab them by the legs, and, once the caribou is played out, he fall down and they grab them by the throat...kill them right there... They run fast, [and they can] leave the wolf behind just like nothing, if it's good going, but lot of time if it's lots of snow, the wolf he - when it's lots of them, they [take] shifts running... One plays out, well, I jump in the side, the other one go [they break trail for one another].”**¹⁴⁵ The condition of the snow has an impact on whether the caribou or the wolves can move more quickly. **“I've seen some pretty fat ones. But, like sometimes, [if there's] lots of snow and all them caribou, they've got to follow each other... Sometimes [the wolves] have it easier, and sometimes they don't because they can't go on that soft snow. Once it's hard, then they can run, catch them.”**¹⁴⁶

Bluenose caribou have a few defenses against predation by wolves. As described above, they are very fast even when they are calves. **“Caribou never stumble when they're running. Wolves, they stumble all the time. It's really amazing.”**¹⁴⁷ However, a cow may have to leave

¹⁴⁴ Gabe Andre, GEKP-Caribou

¹⁴⁵ Bluenose Caribou Management Working Group (Tsiigehtchic)

¹⁴⁶ Tom Wright

¹⁴⁷ Tom Wright

her calf. **"Lot of times their young ones get killed, and the mother can't do nothing, they have to run too, to protect their own self."**¹⁴⁸

They can also defend themselves in an attack. **"Caribou protect themselves against wolves by kicking them."**¹⁴⁹

Many interviewees indicated that wolf populations are increasing. **"Wolf populations are really climbing now."**¹⁵⁰ In the past, bounties may have kept wolf populations low.¹⁵¹ However, culling wolves may also serve to increase the wolf population. **"And there's so much wolves. [Because they are] breeding, apparently... Some of us used to kill them, and then, a couple people told us, 'you shoot one wolf, suddenly next year it'll be four more,' for example. They breed because they die. That's what I've been hearing, and that's pretty close to what I've been seeing."**¹⁵²

*Birds are not wicked like wolf. Wolf, killing caribou and moose, that is all he is good for, is killing... Crow, [it] is good for him when wolf kill something, eagles too... This caribou will try to fight with this wolf and then the rest are going to attack him from behind, right there they'll kill him. I see that, I seen one time caribou was trying to do that to wolf and the rest of the wolf ... came behind him, and just grabbed him by the leg and they throw him down like nothing. They grab him right here like this, and chew their veins [the tendons]. After that he ... just can't run anymore.*¹⁵³

OTHER PREDATORS

Lynx and wolverines, though much smaller than wolves, occasionally kill Bluenose caribou. **"Wolverine too, sometime he hunt caribou, or lynx... they hunt caribou too."**¹⁵⁴ They do not hunt collaboratively like wolves. **"Lynx, he jump on top the caribou, and he chew behind the head...the big sinew here, he chew that one...caribou will get paralyzed...fall down... [Lynx will kill] anything they get, whatever they can grab first."**¹⁵⁵

Grizzly bears and eagles are also known to kill Bluenose caribou calves. Their numbers are considered to be increasing as well.¹⁵⁶

¹⁴⁸ Gabe Andre, GEKP-Caribou

¹⁴⁹ Bluenose Caribou Management Working Group (Tsiigehtchic)

¹⁵⁰ Bluenose Caribou Management Working Group (Tsiigehtchic), also mentioned by numerous other interviewees including Wally Tyrrel

¹⁵¹ Bluenose Caribou Management Working Group (Tsiigehtchic)

¹⁵² Morris Blake

¹⁵³ Joan Nazon, GEKP-Caribou

¹⁵⁴ Bluenose Caribou Management Working Group (Tsiigehtchic). Tom Wright mentioned that reindeer herder David Roland had seen a lynx kill a caribou twice.

¹⁵⁵ Bluenose Caribou Management Working Group (Tsiigehtchic)

¹⁵⁶ Bluenose Caribou Management Working Group (Inuvik/Shared)

WOODLAND CARIBOU

Bluenose caribou share portions of their winter range with boreal woodland caribou. The two types of caribou co-exist.¹⁵⁷ **“There’s a lot of Bluenose caribou all through here—Sitidgi Lake, back—and woodland caribou meet them in this area. There’s not a big population of woodland; never has been. But they are in here and they mingle... On the surveys, we’ve seen woodland caribou and Bluenose caribou in the same herd, just feeding at that particular time, and then of course when they migrate to their calving grounds [the Bluenose caribou] go this way; the woodland mostly calve in this area.”**¹⁵⁸ Woodland caribou may be changing their range as well, **“in the summer, woodland caribou come up as far north as Husky Lakes. I’ve seen them with barren-ground [caribou] running around in the barrens. A population shift is happening.”**¹⁵⁹

MOOSE, MUSKOX, AND REINDEER

Most interviewees agreed that Bluenose caribou and moose get along, although the caribou and the muskox stay away from each other.¹⁶⁰ **“I’ve seen moose and caribou 20 feet apart. One is eating willows, and one is eating grass. So I see that, they don’t mind each other.”**¹⁶¹

*Bluenose been living with moose for a long time. But I know when the muskox went up to around Paulatuk, they used to always have caribou there. And the caribou just disappeared when the muskox arrived. I’m not sure what it is with the muskox. It’s—I don’t know if it’s their smell, or they just eat too much.*¹⁶²

Muskox are expanding their range to the south. Some have been spotted around Rengleng River, far into the Bluenose caribou’s winter range.¹⁶³

Reindeer are domesticated caribou, and they were brought into the area north of Inuvik about 80 years ago. Several interviewees mentioned that reindeer may be interbreeding with caribou.

Another time, there was some [Bluenose caribou on a small lake near] Campbell Creek... on that lake there, was just full of caribou. Yeah, we shot 32 caribou. In the fall... That’d be in the late ‘80s... But probably some of [them were] reindeer, because there was one there who was kind of spotted, kind of grayish. And we were trying to get him, me and Buster [McLeod], and we couldn’t get him... But that was Bluenose and probably reindeer mixed, I guess, because they used to do [the reindeer] slaughtering around there, very close to the airport... [reindeer have shorter noses and] shorter legs, I think. Yeah, a little shorter, not too much. ...But we couldn’t get them,

¹⁵⁷ James Firth, Gwich'in TK of Boreal Woodland Caribou

¹⁵⁸ Willard Hagen, Gwich'in TK of MGP

¹⁵⁹ Bluenose Caribou Management Working Group (Inuvik/shared)

¹⁶⁰ John Jerome, James Firth

¹⁶¹ James Firth

¹⁶² Julie-Ann Andre

¹⁶³ Morris Blake

*though, that one [obvious reindeer] there. Probably other ones were part reindeer, too. But supposed to be mixed, mixed in with Bluenose.*¹⁶⁴

DISTRIBUTION AND DISTRIBUTION TRENDS

Places where interviewees used to go hunt for Bluenose caribou include:

- Airport Lake
- Anderson River
- Campbell Lake
- Campbell River
- Caribou Lake
- Clearwater Lake
- East Branch
- Hidden Lake
- Husky Lakes
- Inuvik
- Noell Lake¹⁶⁵
- Sitidgi Lake
- Sunny Lake
- Tànahjil
- Thunder Lake
- Tower Lake
- Travaillant Lake
- Tuktoyaktuk
- Wood Bridge Lake

It's not easy to determine if a caribou is from the Bluenose-West or Cape Bathurst herd, which makes it hard to tell where ranges start and end.¹⁶⁶ As noted in the migration section above, the migration route, and therefore the distribution and range, of the Bluenose caribou has changed drastically. In the 1970s and 1980s, and possibly the early 1990s, the herd was much closer to Gwich'in communities.¹⁶⁷ **“Currently, the caribou overwinter closer to Tuk and around Husky Lakes, or possibly even around Noell Lake.”**¹⁶⁸

[Before about 40-50 years ago] you see them right from Campbell Creek basically all the way to Tsiigehtchic and further east to Travaillant, and right to the edge of the reindeer reserve. ...That's how far they migrated... There's nothing that comes into our area anymore. Nothing. I just think there's not enough of them anymore

¹⁶⁴ Richard Ross

¹⁶⁵ According to the NWT Official Place Names register, “Named after Noell Koaksuk (also spelled Ekaoksuk), a Delta Inuk who fished here years ago.”

¹⁶⁶ Tom Wright

¹⁶⁷ Morris Blake, Wally Tyrrel, John Jerome, Tom Wright

¹⁶⁸ John Jerome

*to make it this far, you know... It just seems like they're just trying to survive now, and not having to expend too much energy or something.*¹⁶⁹

A large forest fire around 1970 burned close to Inuvik, and was, in part, responsible for a shift in the Bluenose caribou's winter range away from Inuvik. Caribou were more often found towards Travaillant Lake after that.¹⁷⁰ Interviewees suggested several reasons for the shift in the migration and distribution of the herd after the late 1980s – 1. Fire, 2. Seeking food, and 3. Hunting pressure:

1. FIRE

- ❖ **And I know around Travaillant, it's been burnt almost right around. There's been, I think, three different fires in that area. So I'm thinking maybe that's why they moved more north.**¹⁷¹
- ❖ **The caribou used to be really plentiful around Travaillant Lake when I was growing up as a kid, but since then, there was a fire that burnt just north of Rat Lake and east to Big Lake and all through this whole section ... And since that time, the caribou, because all of their food supply had burned in this area, they move...they travel just a little bit north of the lake. But ...I've noticed since 1986, as the vegetation is growing back, the caribou are starting to come back down through here, because we see their trails and their tracks and so on. But they don't stay for as long as they used to. They usually just make their way through, and then they travel further north, and then they're going across east—or west, to Inuvik.**¹⁷²

2. SEEKING FOOD

- ❖ **they just changed their pattern... Like they used to come here and then maybe they eat it out so they move over.**¹⁷³

3. HUNTING PRESSURE

- ❖ **Maybe too many hunters--they might make them move a little bit.**¹⁷⁴

However, the caribou may also be following a cycle. Bluenose caribou were considered very scarce before the 1960s, after which they were common in the Gwich'in Settlement Area even close to Inuvik and Tsiigehtchic. As noted above, they then moved to another wintering area or declined in numbers after the late 1980s. **"Well, they used to say there was no caribou around here a long time ago. Hyacinthe [Andre] said there's no caribou. He used to have to go 200**

¹⁶⁹ James Firth

¹⁷⁰ John Jerome

¹⁷¹ Julie-Ann Andre

¹⁷² Dan Andre, Gwich'in TK of MGP

¹⁷³ Tom Wright

¹⁷⁴ Tom Wright. The Inuvik verification session indicated that hunting pressure can be controlled through the tag system.

miles before they see caribou long ago. But like since the Inuvik has been here... there's lots of caribou. But, see now there's nothing. So, they just went some place else maybe.”¹⁷⁵

*There was quite a bit...and when I was young, my uncle told me that one time, long ago, his father told him, lots of caribou on this side. He said, 'Someday it will come back,' he said. I thought he was talking for nothing, and I saw it happen. There was so much caribou a few years, it was just like being in Africa. When you go ... trapping, there's caribou jumping and looking at you and everything; sometimes they don't even get out of your way. Because you didn't need them; all over [the Hill Lakes, Caribou Lakes area]. All over this whole country. They were right on the highway up here. Right at Campbell Creek, they were just... where Rocky's got his house. We went there, took boys from Aklavik there and shot thirty right there on the lake. And they were still crossing; they were still coming.*¹⁷⁶

These days, hunters from Inuvik must get a tag and travel all the way to Miner River to legally hunt Bluenose Caribou, even if caribou are seen closer to town.¹⁷⁷

If the Bluenose herd went extinct, another herd would likely move in to their range. **“I think as the land... grows up again, then I think you'll see more of... that Bluenose East? You'll see them moving this way. In this area too, because of the reindeer, there's a lot of mixtures. And the old-timers say they even breed together now.”**¹⁷⁸ After a long time with no caribou, the habitat **“would become even better because over time, things grow back again.”**¹⁷⁹

Bluenose caribou are occasionally seen by Gwich'in hunters when they are in their summer range. They were seen during the geese hunt, **“right to Mason River on the Arctic Ocean.”**¹⁸⁰

¹⁷⁵ Tom Wright. In an interview for the Boreal Woodland Caribou project in 2010, Tom indicates that this was when Hyacinthe was “young”.

¹⁷⁶ Buster McLeod, Gwich'in TK of MGP

¹⁷⁷ Tom Wright

¹⁷⁸ James Firth

¹⁷⁹ James Firth

¹⁸⁰ Morris Blake



FIGURE 22. BLUENOSE WEST CARIBOU. PHOTO CREDIT: GNWT/B. TRACZ, ENR.

POPULATION SIZE AND TREND

About 50 years ago now, all of a sudden, it just – there was just nothing, no caribou. Just over one year, just nothing. So since then, we've been hunting the woodland caribou.¹⁸¹

Because in 1940s no, more than that...in those days you don't see meat like this around here, you don't see no caribou meat but you see very few moose meat. Lots of times I said, if it wasn't for rabbit and fish, if it wasn't for rabbit and fish people will be starving. We'll be hungry those days in 1940s... this meat start not long ago about 10

¹⁸¹ James Firth

*years ago [in the mid-1980s], I guess. Start to be lots of caribou... When you travel hundreds of miles you never see a track of caribou or moose tracks, nothing.*¹⁸²

There are cycles in the Bluenose caribou's population, as well as the route of their migration. It is not always clear if the population has decreased or if the caribou have shifted their migration, or both. **"Years ago, it used to be only woodland - before the Bluenose came... In the fifties and early sixties never see... Bluenose caribou... They came in... I would believe after '65. Maybe around '67 or '68? Something like that was when the... Bluenose caribou came in here. After that, they kept coming in here every year until just a few years ago, where they kind of backed up a little bit. They, you know, went back to where they were, or where they come from, or else they... they got less anyway."**¹⁸³ Along with migration route changes, population cycles can be driven by factors such as changing weather patterns, which can bring higher temperatures and forest fires.¹⁸⁴ The decline in caribou numbers was predicted in the past by the Elders, **"Pretty soon this country will be, will pretty, pretty well nothing, they said."**¹⁸⁵

Unfortunately, the population surveys have not been going on long enough to understand these cycles.¹⁸⁶ **"Probably a 20, 25-year cycle, I think. So we're probably the bottom end now."**¹⁸⁷ It is not easy to tell when the population is going to increase or decrease.¹⁸⁸ Since the hunting regulations prevent hunters from harvesting from the Bluenose herd except in a location very far from Inuvik, it has become more difficult to monitor it when hunting.¹⁸⁹

As noted above in the life cycle section, the population growth of the Bluenose herd also relates to the conditions that support calving. **"Well, it's in account of calving. Some years if there is going to be no caribou, well, there is lots of them, even they breed they don't have young one... It's just...certain things, how they eat, or... When they breed, they have some kind of disease maybe. It don't effect [the cow], but it wouldn't make no caribou [calves]. But some year they're well ... they can breed [and] every cow will have young one."**¹⁹⁰

LIMITING FACTORS AND THREATS

Interviewees were aware of several important current and future threats to the Bluenose herd.

CUMULATIVE EFFECTS

Cumulative effects refers to how the effects of different types of development, and climate change, can work together to create large changes to the landscape. Cumulative effects are one

¹⁸² Joan Nazon, GEKP-Caribou

¹⁸³ William Modeste, Gwich'in TK of Boreal Woodland Caribou, also mentioned by Tom Wright

¹⁸⁴ Bluenose Caribou Management Working Group (Inuvik)

¹⁸⁵ John Jerome

¹⁸⁶ Bluenose Caribou Management Working Group (Inuvik)

¹⁸⁷ James Firth

¹⁸⁸ Gabe Andre, GEKP-Caribou

¹⁸⁹ Bluenose Caribou Management Working Group (Inuvik/shared)

¹⁹⁰ Gabe Andre, GEKP-Caribou

of the key factors which may be a threat to Bluenose Caribou. **“If everything was left just the way it is, I don't think it would be a problem. But if industry comes in, and you do your seismic and you do your drilling, the road to Tuk, mining around Paulatuk, things will change. That's the only thing, other than your global warming, of course, [which] is going to change things quite a bit around too.”**¹⁹¹ **“It's presence of people and all that other stuff too. I mean, they all contribute to each other.”**¹⁹²



FIGURE 23. WILLIAM MODESTE, IN GSCI OFFICE IN INUVIK. PHOTO CREDIT: K. BENSON, GSCI.

INDUSTRY AND DEVELOPMENT

There has been some development in the Bluenose caribou's range, and more development is planned or underway – in particular, the proposed Mackenzie Highway (including the Inuvik to Tuktoyaktuk portion) and the Mackenzie Fibre Link (internet connection). The Mackenzie Highway and the fibre link will travel through the Bluenose caribou's historic winter range and close to their current winter range. The highway will provide easy access to hunters. Interviewees commented about both active development (such as seismic activity or road-building) and the more permanent or long-term changes to the landscape.

In around Travaillant, the flow of the water north of Travaillant around... Anderson River flows towards the ocean. And then from Travaillant, it flows towards the Mackenzie. And in the area of Travaillant and Caribou Lakes... there's a lot of lakes... it's an area where the caribou go to eat and graze and whatnot.... If there was ever a break in the [pipe]line, that gas would eliminate the oxygen in the lake, depending on how much gas and how big of a lake it releases into. But if the oxygen leaves the lake, all the organisms in

¹⁹¹ James Firth

¹⁹² Morris Blake

*that lake is going to die. And whatever lives off of those organisms are going to be out of luck.... they're all interconnected underneath the ground.*¹⁹³

ACTIVE DEVELOPMENT

Many interviewees felt that caribou would get used to active development sounds, such as machinery. **"I've been with the Bluenose caribou and I worked around the Tuk area lots when all the exploration was going on up there and you would see caribou on those roads and close to the drill sites and whatnot."**¹⁹⁴



FIGURE 24. JOHN NORBERT IN GSCI OFFICE IN TSIIGEHTCHIC. PHOTO CREDIT: K. BENSON, GSCI.

However, others felt that active development would impact Bluenose caribou.

- ❖ **Caribou have very good smell and sight so any industrial development scares them away.**¹⁹⁵
- ❖ **There used to be quite a bit of seismic work out there [with Colt]. And because of all that noise, they just kept away. You wouldn't see them around there. And it was good for me at that time, because they drove all the caribou to my side.**¹⁹⁶
- ❖ **I'm sure if they're coming to a road and there's lots of activity they're not going to walk right through it.**¹⁹⁷
- ❖ **Low-level flying bothers caribou, as does the activity of active development.**¹⁹⁸

¹⁹³ Julie-Ann Andre

¹⁹⁴ Harry Carmichael, Gwich'in TK of Boreal Woodland Caribou

¹⁹⁵ Bluenose Caribou Management Working Group (Inuvik/Shared)

¹⁹⁶ James Firth

¹⁹⁷ Tom Wright

¹⁹⁸ Tom Wright

CHANGES TO THE LAND

Development can change the land in various ways. In some cases, the changes do not effect Bluenose caribou. **“Caribou don't seem to be bothered by that stuff. On the Dew Line they used to have to chase the caribou off the airstrip when the planes come at Blow River.”**¹⁹⁹ **“[I] worked around industry all my life – DEW lines – it doesn't affect the caribou at all.”**²⁰⁰

Some disturbances will affect the Bluenose caribou. Caribou will learn to avoid areas with certain types of development. **“I know with disturbances, they tend not to return after they found out it's disturbed. Like, if somebody made a big cat road, well, the next year when they came, they would detour that area.”**²⁰¹

MACKENZIE HIGHWAY

The Mackenzie Highway will connect Gwich'in communities to the rest of the NWT, following a route from Fort Good Hope on the north side of Travaillant Lake, to the Dempster Highway. The highway will provide year-round access to Gwich'in communities, and others, to the wintering ranges of the Bluenose caribou (the current range does not extend this far, but the caribou use a much larger range over a longer term, see the Movement and Seasonal Migration section above). It is currently in the planning stage. Many interviewees felt that the highway will have an impact on the Bluenose caribou herd. **“They'll slaughter them. Well, somebody'll shoot them every time they see them regardless. They'll clean them right out.”**²⁰²

*What it does is opens up the country to everybody. You just go down the highway until you see the tracks... people don't realize it. It's going to change the way we do things so much, right, from cutting wood to... your peace and quiet on the land is not going to be there anymore. ...10 years ago, when they put the coal plant between here and Good Hope, they made that winter road all the way down to Thunder River. Everybody was on there that had a 4x4, hauling wood. And many caribou were shot, many, but woodlands. Unfortunately, that's what's going to happen.*²⁰³

The hunting may not be the main concern with the highway. There will be an increase in other types of development when the highway makes the area accessible. **“Not even hunting. The hunters are going to use it. Those immigrants are going to come in and cut roads and do whatever, development and whatever. They'll eventually drive them off. Look at what's happening over in Yellowknife with all those mines. Same thing.”**²⁰⁴

¹⁹⁹ Tom Wright

²⁰⁰ Bluenose Caribou Management Working Group (Tsiigehtchic)

²⁰¹ Julie-Ann Andre

²⁰² Morris Blake

²⁰³ James Firth

²⁰⁴ Morris Blake



FIGURE 25. DEMPSTER HIGHWAY NEAR TSIIGEHTCHIC. PHOTO CREDIT: K. BENSON, GSCI.

PREDATION

Predation on the Bluenose caribou herd is an important threat – wolves, in particular, kill a lot of Bluenose caribou and are one of the reasons for the herd's population decline. **"We need to know predation rate over harvest rate. I think the predation rate on the herds is more than harvest. We need to know this to manage better."**²⁰⁵ Trappers used to control predator populations, but trapping is not nearly as prevalent as it was in the past. **"Long ago there were a lot of trappers out on the land. They could make a good living trapping. Today there is nobody out there, so all those predators are growing, especially the wolves. They are really migrating. I don't like saying that but it is true. And the wolves, they are bad for caribou and moose too."**²⁰⁶ If the snow conditions are poor, then wolves can kill even more caribou.²⁰⁷

Sometimes wolves are good, but some of them are bad. They're hungry all the time. They just go, and they leave all the good parts too sometime. They just eat a little bit.²⁰⁸

The wolf population is linked to the Bluenose caribou population and migration. When the caribou are low or move to a different location, the wolves decline as well. **"I think there is less because the Bluenose does not come in there anymore, I think maybe last year we might have got four wolves. Where usually we get 10 or 12. I think the wolves are more after moose in that area. There is quite a bit of moose in there. But before when the Bluenose were all in there, there was bears and lots of wolves and lots of wolverine."**²⁰⁹

²⁰⁵ Bluenose Caribou Management Working Group (Inuvik/Shared)

²⁰⁶ Bluenose Caribou Management Working Group (Tsiigehtchic)

²⁰⁷ Bluenose Caribou Management Working Group (Tsiigehtchic)

²⁰⁸ John Jerome

²⁰⁹ James Firth, Gwich'in TK of Boreal Woodland Caribou

Several cougars have been seen in recent years in the Gwich'in Settlement Area as well. One was spotted about 15 miles up the Mackenzie River from Tsiigehtchic, and another around Campbell Lake.²¹⁰

CHANGES TO THE LAND AND CLIMATE

Changes to the weather and resulting changes to the land are important threats to Bluenose caribou. Icing events, where a crust of ice forms on top of snow, can be hard on Bluenose caribou. They fall through the crust and their legs can be cut from it, or the skin scraped. Icing also makes it easier for wolves to hunt the caribou, and it can change their migration route. **"The vein [on the front of their legs is damaged]. And there too sometimes the wolf catches up to them."**²¹¹ **"Oh, [icing events are] hard on them. They can't run. They just walk. They can't run away, and [they] have a heck of a time to find food."**²¹² Bluenose caribou can handle a certain amount of icing though, **"they're used to that."**²¹³

*I'm sure it happens when it happens, but I think it's more in the last 10 years, because I never used to remember it raining in the fall time when we were kids. It's mainly in the fall time with the rain, and probably the heavy snow that covers the lakes before they freeze, because if you have too much snow on the lake before it gets cold enough to freeze, the lake stays open. And then there too if they're crossing, they'd run into slush and they would cut their hooves. Even ...with that crust, it would cut their hooves up.*²¹⁴

Changes in the weather can compound to make things very hard on Bluenose caribou. **"With lots of rain in the winter of 2004 to 2005, lots of caribou starved, then [there was] a hot summer and a boom in predators. They got hit all at once, the caribou."**²¹⁵

*With the hotter summers that we're having now, that must be hard for them. Because of that, there's a lot more mosquitoes. So I think that really affects them... I think we used to get more rain. It seems like we don't get as much as we used to, the last few years, anyway. You talk about climate change. ... It never used to be that way. But in the last few years, I really noticed that all the falls have been like stretched right out longer, like this year and the year before, the rabbits were white, and we never even had snow. So it's late.*²¹⁶

²¹⁰ Julie-Ann Andre

²¹¹ John Jerome

²¹² Morris Blake

²¹³ Richard Ross

²¹⁴ Julie-Ann Andre, also mentioned by James Firth

²¹⁵ Bluenose Caribou Management Working Group (Aklavik)

²¹⁶ James Firth

Climate change may be affecting the Bluenose caribou in other ways. **“You talk to people in Paulatuk, and they never, ever had lightning. Now they're getting lightning. And that's right by the calving grounds. So that must do something to them.”**²¹⁷

The weather is very unpredictable compared with the past. **“Used to [be] you could look at the moon. You could look at the sun. You could look at clouds. You know this time of year, you're going to get south wind. You can't do that anymore. You can't even depend on the weatherman to get those right. It's really hard. I lived with my uncle many times. And we get up in the morning, he'd just know what the weather [will be] today, because he was bang on every time. But now, honestly, you just can't. You can't, you just put all your stuff in the sleigh, and use it if you have to. That's the way it is now.”**²¹⁸



FIGURE 26. GEORGE NIDITCHIE. PHOTO CREDIT: I. KRITSCH, GSCI.

The changes to the climate and weather has made changes to the land that caribou use to make a living. **“There just seems to be willows growing all over the place, even on some lakes that used to be grassy. Now you see willows growing on them.”**²¹⁹ A herd of caribou with healthy population numbers could likely handle changes to the land more easily than a herd with a low population.²²⁰

²¹⁷ James Firth

²¹⁸ James Firth

²¹⁹ Wally Tyrrel

²²⁰ James Firth

FOREST FIRES

Forest fires are an important threat to Bluenose caribou. As mentioned above, forest fires are part of the reason the Bluenose herd shifted its migration away from the Travaillant Lake area. Forest fires change the caribou's feed supply. Interviewees and verification session participants indicated that the caribou's food can take up to 40 years to grow back. **"Lichens growing back, 10 to 20 years after a fire, it can take to come back."**²²¹ **"It takes quite a while. I think about ten years, anyway, before grass and the moss start to grow back."**²²² Bluenose caribou **"avoid where the fire [was], other than just traveling through."**²²³ If the caribou are unlucky enough to get caught in a fire, they may perish from smoke inhalation.²²⁴ A forest fire 'cleans out' all small animals born in the summer.²²⁵



FIGURE 27. BLUENOSE WEST CARIBOU. PHOTO CREDIT: GNWT/B. TRACZ, ENR.

On the other hand, forest fires have an important function to rejuvenate the land. **"Well, it burns up everything. So you've got to wait a few years to revitalize, but they say when it comes back it's always better. [For the first plants to grow back] it's two or three years, not very long. But maybe lichen might grow slower. Like there's different sedges they call it, but they grow slower too. Maybe the stuff for the moose come back sooner. But, even ...marten and all that, they come back real fast. Caribou too because they like those new places."**²²⁶

²²¹ Bluenose Caribou Management Working Group (Tsiigehtchic)

²²² Gabe Andre, GEKP-Caribou, also mentioned by Julie-Ann Andre

²²³ James Firth

²²⁴ John Jerome

²²⁵ Tsiigehtchic Community Verification session

²²⁶ Tom Wright

“From the marten side, [they’ll come back in] one year. From caribou, probably, looking at areas that burnt out there, probably five, six years.”²²⁷

Changes in forest fire management may also have an effect on caribou. **“Long ago if a fire started somewhere they’d attack it right away. Now they don’t do that; they let it burn and it burns a lot of caribou feed and young birds.”²²⁸**

HUNTING PRESSURE

Hunting pressure may be an important threat to Bluenose caribou. The threat includes a larger number of caribou being hunted, and the style or method of hunting. **“There’s too many people around that don’t have respect. And that’s why you have so many wounded caribou. They don’t take the time to set up the gun, and they just shoot into the herd. [Everyone should] just take what you need. A toboggan can only handle so much, you know. So just take what you need.”²²⁹** Using high-speed skidoos to chase caribou when hunting them is **“not very good for the caribou or the meat, because it gets stressed.”²³⁰** Meat wastage is also a concern. Caribou meat is sometimes discarded of, despite the usual practise of sharing. **“Everybody’s been living too good. You know, long [ago] I’ll tell you, it used to be tough here when there was no work. There was no money, nothing. The only economy was trapping.”²³¹**

Hunting pressure may have changed with the establishment of Inuvik. **“Before Inuvik was built, nobody stayed there. And so nobody hardly hunt there, that side. So, when Inuvik came up, then people started going hunting.”²³²**

You can’t expect the caribou to go up when we are killing, killing, killing.²³³

Some interviewees noted that although there is not a lot of hunting pressure right now, things may change with the establishment of the Mackenzie Highway. **“When they had that road out to Good Hope that one year from Inuvik, there was caribou right between Inuvik and Travaillant. And some people found out, and they went up and just slaughtered them. It was about six, eight years ago. They had a winter road out there. They were exploring route possibilities for the pipeline, I think. And we heard that they ran into some caribou. And then a couple of days later, we got a report saying that there was just caribou legs and heads all over out there. [So,] I’m pretty sure that would happen [with the Mackenzie Highway]. Nobody goes out there and hunts, and then suddenly, there’s a road, and everybody is out there hunting.”²³⁴**

²²⁷ James Firth

²²⁸ Bluenose Caribou Management Working Group (Tsiigehtchic)

²²⁹ James Firth

²³⁰ Julie-Ann Andre

²³¹ Tom Wright

²³² Richard Ross

²³³ Bluenose Caribou Management Working Group (Tsiigehtchic)

²³⁴ Julie-Ann Andre

PROBLEMS WITH POPULATION ESTIMATES

Population estimates for the Bluenose caribou herd are based on counting caribou and doing mathematical modelling. Several interviewees pointed out potential problems with the models or process. In particular, there could be a greater reliance on knowledge and information from Gwich'in hunters.²³⁵

They say, "Oh, there's no caribou." You could be flying [and] there could be tons of caribou over here just over the hill a little ways.

But they do all kinds of things, but they're not going to admit [to] none of that anyway. But, it's really sad, and I don't know why they do it.

They seem like they don't want to admit that we know anything different from them. When I say "we" I mean local people in any locality. Well, I mean we've been raised and born with them and live with them, hunt them, and eat them. And ... one time ... they were out looking for caribou. They're flying over the place and there's supposed to be a herd at a certain place and they couldn't find them. So there was another plane. He was going to Paulatuk and on the way back he seen them someplace and he calls. The guy said, "Hey, your herd's over here." They didn't go and verify. Now tell me why they don't. I don't know. It's strange."²³⁶

ANIMAL HEALTH

Bluenose caribou are considered to be healthy animals. Some interviewees indicated that there has not been changes to the overall health of the Bluenose caribou.²³⁷ However, others felt that they have become less healthy. **"Long ago, we used to never see a poor caribou... Today, there's lots of poor animals. It might be predators. It might be the weather conditions. In the fall when it rains, it's harder for them to get to their food because it makes that crust. I think the weather is the main factor, because there hasn't been that many fires or cut lines or disturbances up there."**²³⁸

A hunter can tell a healthy animal from a short distance away by their appearance. It is not as easy to tell from a greater distance.²³⁹

²³⁵ Tom Wright

²³⁶ Tom Wright

²³⁷ James Firth, Tom Wright

²³⁸ Julie-Ann Andre

²³⁹ Tom Wright

Healthy Animal	Poor Animal
<p>Healthy animals walk with their heads up.²⁴⁰</p> <p>Just the color. You could just see it. A little more muscular, energetic, playing with each other, not scared you know they come because they know like all they have to do is outrun a wolf... But you could just see it, just in the color.²⁴¹</p> <p>The caribou are in better shape at the beginning of their migration south, after spending the summer at their calving grounds eating.²⁴²</p> <p>[In late February during their migration north] They're really good shape. ...they were fat.²⁴³</p>	<p>If a caribou is walking with his head down, that animal is likely not as healthy.²⁴⁴</p> <p>Sometimes you can get a little skinny one... [in] not that good of shape.²⁴⁵</p> <p>Closer to their wintering grounds, they have lost quite a bit of fat.²⁴⁶</p> <p>I know some caribou, they'd have lumps on their knees or their ankles. And that, it would just be like a jelly. And that would be most likely from getting injured... just between the joint and the skin, there would ... be a jelly stuff. And that's from maybe getting hit by a tree, or running through the bush and you hit your leg. There was one caribou I seen that was really poor. It was so poor that when you cut the meat, there was these little white things that came out.²⁴⁷</p>

PROTECTION

Gwich'in participation in co-management and policy creation are important to the protection of the Bluenose caribou herd. **"We're the ones that said, 'Because there's no caribou, then here's the quota.' And everybody bought into it. Of course, there's people that are going to break the law. But that's far and [few] in between there. Yes, definitely, we are part of it. And we support it."**²⁴⁸ The Gwich'in will have to work with other regions to ensure the herd is protected. **"It won't just take one or two communities. It will take all the NWT."**²⁴⁹ Management should include Gwich'in traditional knowledge from knowledgeable hunters.²⁵⁰

²⁴⁰ John Jerome

²⁴¹ James Firth

²⁴² James Firth

²⁴³ Julie-Ann Andre

²⁴⁴ John Jerome

²⁴⁵ Tom Wright

²⁴⁶ James Firth

²⁴⁷ Julie-Ann Andre

²⁴⁸ James Firth

²⁴⁹ Bluenose Caribou Management Working Group (Tsiigehtchic)

²⁵⁰ Tom Wright

Education is also an important way that the herd can be protected for Gwich'in hunters for many years to come. **“Teach our people how to harvest properly – according to season – fall bulls, after rut, dry cows, then back to bulls again to leave birthing cows alone.”**²⁵¹

The way that Gwich'in traditionally hunted and managed the herd will help to protect it. Gwich'in hunters used to **“shoot their bulls when they're ready for bulls, and they'll shoot their dry cows after that... And then, coming up right away, some of them may even try to find dry cows, but they'll shoot cows because they're in better shape... From now until probably March.”**²⁵² Management focussed on taking only what you need. **“It's no use to kill the whole thing, you have to leave some of it and same with moose, you kill too much moose for nothing, it's no good. You just have to get what you need. Lot of time people they say they kill 50 - 60 caribou, well, [then] maybe 20 families [are] there...to use it.”**²⁵³ Gwich'in hunters also moved from year to year, to avoid 'cleaning an area out.' **“One year you will hunt in a certain area, another year somewhere else. [We] should have hunting in different areas. Spread it out and change it so [we're] not over-hunting within each area.”**²⁵⁴

Scientific research may assist in protecting caribou by increasing information. **“Well, if you lose 10 caribou [through being collared], you might gain 10,000. So, there's always a sacrifice. If you want something there's going to be a sacrifice.”**²⁵⁵ Gwich'in hunters are also voluntarily not hunting the herd until it increases. **“I'm thinking about the future of our caribou. I've not hunted caribou for the last six years. I'm trying to abide by this. I think there should be a temporary ban on hunting all caribou until a management plan is in place. Don't wait for the Minister to act. We are at a critical stage and if we want to keep our caribou we are going to have to move all at once.”**²⁵⁶ Even in the past Elders practised conservation measures like this, and did not rely as much on caribou during times of low population.²⁵⁷

*I know long ago, when they used to run into caribou, if they see six caribou there, and they need six caribou, they would only take three, because they know they will run into another bunch sometime soon again. But they never, ever took whatever they saw. They only took half. And they'd be respectful as to how many cows and how many bulls they'd take. They wouldn't like cut themselves off with cows just because they're cows. They see four cows and two bulls, they'd take probably two cows and a bull.*²⁵⁸

There should be rules for the new highway, and the ability to enforce the rules. For example, no hunting within 500 meters of the highway, which will be good for the caribou and safer for other

²⁵¹ Bluenose Caribou Management Working Group (Inuvik/Shared)

²⁵² Morris Blake

²⁵³ Gabe Andre, GEKP-Caribou

²⁵⁴ Bluenose Caribou Management Working Group (Fort McPherson)

²⁵⁵ Tom Wright

²⁵⁶ Bluenose Caribou Management Working Group (Inuvik/Shared)

²⁵⁷ Bluenose Caribou Management Working Group (Aklavik)

²⁵⁸ Julie-Ann Andre

people.²⁵⁹ The highway will also allow greater access to game wardens. **“You need the highway more than anything else. Then the game people, it would be easier for them to go out more, and they need to be out there more. And we've been trying for years to get them to be out there, [to] be visible. And if somebody is doing wrong, stop them.”**²⁶⁰

Gwich'in interviewees also noted that climate change may have benefits for Bluenose caribou. **“It's getting [to be] warmer weather. So the caribou should be better off.”**²⁶¹ In particular, earlier springtime warming may be a boon to caribou, **“and then could get to the vegetation quicker.”**²⁶²



FIGURE 28. CAPE BATHURST CARIBOU. PHOTO CREDIT: GNWT/J. NAGY, ENR

²⁵⁹ Julie-Ann Andre

²⁶⁰ Tom Wright

²⁶¹ Tom Wright

²⁶² Julie-Ann Andre

PRIMARY SOURCES/ INTERVIEW CREDITS

This report was possible due to the knowledge and generosity of the interviewees in various projects.

Mahsi' choo.

GWICH'IN KNOWLEDGE OF BLUENOSE CARIBOU 2014-2015 (GSCI):

Interview	Date	Name
n/a ²⁶³	25/09/2014	Noel Andre
n/a	25/09/2014	Archie Inglangasuk
1	02/10/2014	Tom Wright
2	02/10/2014	William Modeste
3	18/11/2014	Richard Ross
4	18/11/2014	Wally Tyrrell
5	19/11/2014	John Jerome
6	19/11/2014	James Firth
7	08/12/2014	Abraham Peterson
8	08/12/2014	Morris Blake
9	09/12/2014	Julie-Ann Andre
10	09/12/2014	Annie Norbert
11	14/01/2015	John Norbert
12	15/01/2015	George Niditchie

GWICH'IN KNOWLEDGE OF BLUENOSE CARIBOU 2014-2015 COMMUNITY REVIEW SESSION PARTICIPANTS

INUUVIK:

- Tom Wright
- William Modeste
- John Jerome

TSIIGEHTCHIC

- John Norbert
- George Niditchie Sr.

CARIBOU (FOCUS: BLUENOSE HERD) INTERVIEWEES, GWICH'IN ENVIRONMENTAL KNOWLEDGE STUDY 1996-1997 (GWICH'IN RENEWABLE RESOURCES BOARD):

- Joan Nazon
- Gabe Andre

²⁶³ The sound recordings from two interviews were unusable due to issues with a microphone. Re-interviewing these individuals was not possible. No interview notes were made.

GWICH'IN TK OF THE MACKENZIE GAS PROJECT AREA, 2003-2005 (GSCI):

- Dan Andre
- Louis Cardinal
- Buster McLeod
- Willard Hagen

GWICH'IN TK OF BOREAL WOODLAND CARIBOU 2010: (GSCI)

- Harry Carmichael
- James Firth
- William Modeste
- Albert Frost
- Walter Alexie
- Ernest Vittkrewa

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APPENDIX A INFORMED CONSENT STATEMENT

Gwich'in Traditional Knowledge of Species at Risk 2012-2014

Interviewee: _____

Date: _____

Community: _____

Location: _____

Interviewer(s): _____

Translator: _____

Others Individuals Present: _____

Background

The Gwich'in Renewable Resource Board and the Gwich'in Social and Cultural Institute are interviewing holders of Gwich'in traditional knowledge to gather information that will be used in various species at risk processes. For example, this could include reviewing and providing information for territorial and federal status reports, and creation of plans to help the species at risk. This interview is about

☐ Wolverine ☐ Grizzly bear ☐ Mountain woodland caribou

Study Goals

The objectives of this study are to collect Gwich'in knowledge about species at risk including observations on the land, special significance, physical description, distribution, habitat, population size and trend, limiting factors and threats, and animal health. This knowledge will benefit the communities in that it will be a permanent record available for future generations and that it will be useful in assessing species at risk, recovery planning, and resource management.

Recording of interview

With your permission, the interview will be recorded and a transcript made. The transcript is a typed record of the interview and is useful for report writing and extracting information later on. The information marked on the maps will be digitized or traced into a computerized mapping system.

Verification of information

The interviews will be transcribed and a summary report will be completed. Following the interview you will receive a copy of the transcript if you wish and will have opportunity to correct any of the information that was recorded. There will be a verification meeting at a later date to go over the TK study results, which will include knowledgeable Gwich'in Elders and harvesters from all Gwich'in communities. Corrections and changes can be made at the meeting.

Language

If you would prefer to be interviewed in Gwich'in, we can arrange for a translator.

☐ YES (I want a translator) ☐ NO (I don't want a translator)

Data Storage

Original materials, which may include audio files, written notes, transcripts, translations, maps, videos, and photographs, will be kept at Gwich'in Social and Cultural Institute offices and eventually placed in secure storage at the GSCI's archives in Yellowknife. A copy of the final report will be distributed to each organization identified by the Aurora Research Institute for consultation. Copies of all research materials will be stored on a secure computer at the GRRB office in Inuvik as well.

Use of information

The information collected in the study will be used to write a report that will be distributed to community organizations, each participant if desired, and will be made public.

This summary report may be shared with the Northwest Territories Species at Risk Committee for the creation of Species Status Reports, to the federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for their use in assessing species at risk, and to the federal government for use in the recovery planning, among others, so that they can benefit from this knowledge and avoid asking knowledge holders for the same information. In the future, other researchers may be interested in using this information. Access to the original materials will be controlled by the GSCI and GRRB.

Funding

The funding for this study has been provided through a contribution agreement from the Aboriginal Funds for Species at Risk through Environment Canada, with in-kind support from GRRB and GSCI.

Payment

You will be compensated for your time and knowledge at a rate of \$XX. You will be paid by cheque from the GRRB office in Inuvik, and it will be mailed to you within two weeks. An invoice will be filled out at the end of the interview.

Confidentiality

Gwich'in Elders and participants interviewed will have credit in the report for the valuable information they provide. Gwich'in like to know who provided traditional knowledge information and their names on tapes and/or transcripts and final reports will add credibility to the traditional knowledge provided.

If confidentiality is requested, then the interviewees name will be removed from the report and they will not receive credit for their information.

Participation

Your participation in this interview is completely voluntary. You have the right to refuse to answer questions you are not comfortable with. You also have the right to stop the interview at any time and withdraw your participation from the study at any time, even after the interview is complete.

You do not have to answer any questions you do not want to, and you can stop the interview at any time.

May we interview you for this report? ☐ YES ☐ NO [INTERVIEW ENDS]

Do you wish to be given credit for the information you provide? That is, have your name in the report? If not, confidentiality of your name is ensured.

- ☐ I want to be acknowledged specifically (such as at the end of quotes).
- ☐ I want to be acknowledged generally: my name will not be associated with specific comments but I will be acknowledged as a contributor.
- ☐ I do not want my name used or associated with the information I give or included in the report; I want to remain anonymous.

May we record this interview for the report and for future generations to use?

☐ YES ☐ NO

May we take your photo for use in this report and other GSCI or GRRB materials?

☐ YES ☐ NO

Would you like a copy of the taped interview on CD?

☐ YES ☐ NO

Would you like a copy of the transcript?

☐ YES ☐ NO

By signing below, you give informed consent for this interview. We respect the choices you made filling this consent form.

Signature of interviewee

X _____

Date: _____

Signature of interviewer(s)

X _____

Date: _____

Contact:

Kristi Benson

Sharon Snowshoe

Amy Amos

APPENDIX B QUESTIONNAIRE

Questionnaire/interview guide for Gwich'in Traditional Knowledge Interviews on Bluenose/Bathurst Caribou

Gwich'in Social and Cultural Institute/Gwich'in Renewable Resources Board

[Informed Consent statement reviewed/signed]

[We ask these questions so we have a better idea of where your knowledge relates to]

What year were you born? Where were you born and raised?

Have you always lived in _____? If not, where else have you lived?

How much time do you spend on the land each year?

What months do you usually spend on the land?

What types of activities do you do on the land now and when do you do them?

What types of activities did you do on the land when you were a child?

At other times in your life?

Have you seen Bluenose caribou your whole life? If not, when in general have you seen or not seen them?

Have you heard that what Gwich'in commonly call "Bluenose" caribou or the Bluenose herd is also known as three separate herds: the Bathurst Herd, Bluenose East, and Bluenose West?

If you know the difference, do you think you have experience with both the Bluenose West and Bathurst?

Where in general do you usually see Bluenose caribou?

What are you usually doing when you see them? What time of year is it?

Can you easily tell if the animals you see are Bluenose or Bathurst caribou, compared with Porcupine, or woodland? If so, what makes them distinctive?

[If they are a speaker of Gwich'in] Is there a separate name for Bluenose caribou in Gwich'in? What is it?

Are there any names for Bluenose caribou which should be recorded?

Female caribou

Male caribou

Young caribou

Any others?

How important are Bluenose caribou to the Gwich'in and why?

Range Boundaries

Have you seen Bluenose caribou or their sign outside the known or mapped range shown on the range map?

How has the winter range changed for Bluenose caribou? (If they know, also ask about summer).

Are they found evenly in their winter range, or are they more common or less common in some areas?

Have you ever seen a Bluenose caribou somewhere and thought, "that's unusual"

Do you think Bluenose caribou are kept separated from each other because of rivers, roads, poor habitat, or anything like that? Or do their ranges overlap at all? In other words, could different populations become totally separated or do they always mix up?

- [If they know about the summer ranges] Would you consider any specific areas to be important to Bluenose caribou during the **summer or when they calve**? Why?
- Would you consider any areas important to Bluenose caribou during the **spring**?
- Winter?
- Are there areas that are the most important to protect for the long-term survival of Bluenose caribou?

Migration

How has the migration route change, if at all? (Include general timelines)

How has the migration timing or season changed, if at all? (Include general timelines)

Is there anything that stops them from moving freely – for example, open areas or treed areas, roads, mountains?

Do different groups or parts of the herd come together at any time of year, for example, to mate or travel together?

If there are sub-groups, have they changed in any way over the years?

Does the caribou's condition have an effect on their migration?

Behaviour and biology

Habitat Use and requirements

What do Bluenose caribou eat? Does it change by season or range?

Is there any landscape features (for example: wooded areas, valleys, lake shores) that Bluenose caribou use? For what, and when?

What sort of area (habitat) would support a lot of Bluenose caribou?

Do you think the whole area used by Bluenose caribou is good habitat for them? Or are any areas poorer – like some locations aren't quite as good, or along their migration route? If so, why are they using those areas?

Is there anything a Bluenose caribou needs to stay healthy – something medicinal, such as a particular plant or mineral?

Life cycle and reproduction

How old are Bluenose caribou when they first calve?

Do they usually live to be adults?

Do you know how long Bluenose caribou live?

Any other information about their life cycle? *[can you tell us anything about how they grow up]*

What do Bluenose caribou usually die from? Have you seen any carcasses?

Physiology and adaptability

Are there years or times where the Bluenose caribou are in better shape, or times when they are underfed? What causes these things?

Can Bluenose caribou tolerate changes to their habitats – to their food, their migration routes, their calving areas? If so, how much and what types of changes?

Interactions

How do Bluenose caribou get along with other animals (moose, muskoxen, other caribou)?

Do Bluenose caribou stay in groups together? What is the make up of the group? Does it last all year?

Do Bluenose caribou and other barren-ground herds ever mix up – do any caribou leave the herd to join another, or mate with a bull from another herd?

What animals can kill a Bluenose caribou?

What are their main predators? Are any seasons worse than others? Has predation changed over a number of years, and why? Would this be a cycle, or just changes in a single direction?

How does each predator listed by interviewee kill Bluenose caribou?

Do Bluenose caribou have to compete with any other animals for their food?

Do they have any other interactions or relationships with other animals?

Population

Does the Bluenose caribou population have a cycle? If so, is it related to other animals or plants? Describe the cycle over the long term.

Have you ever heard Elders talking about Bluenose caribou populations far in the past?

Was there ever a time when there were very few? Or way more? Was this because the numbers were low, or had they moved to a different place?

Do Bluenose caribou look the same as always?

Do you hunt, or hear of anyone hunting, Bluenose caribou today?

Describe your hunting over the last ten years.

If the Mackenzie Highway goes ahead, how do you think this will change Bluenose caribou hunting?

Describe if and how Bluenose caribou hunting practises have changed and why? (Price of fuel, move to skidoos over dog teams, staying out on the land in the winters).

How did people used to hunt caribou – traditionally harvesting dry cows in certain season, bulls in another for example?

How have laws and regulations about harvesting changed the way Gwich'in hunt Bluenose caribou? (tag system, zones, bull-only harvest)

How do Gwich'in hunters ensure Bluenose caribou populations are healthy, especially with easier access due to fast skidoos etc.?

How do Gwich'in hunter share Bluenose caribou meat?

Habitat

If you consider the plants, animals, and other natural things that a Bluenose caribou requires to live well, is it likely that Bluenose caribou populations will change in the future? Why?

Distribution trends

Do Bluenose caribou generally live across their whole seasonal range, year after year? Or is there cycles or changes in their range? If there are cycles, can you describe why, and how it works?

If Bluenose caribou became extinct, would you imagine that another herd would move in? Or another type of caribou? Do you think the new caribou would be different enough that they would find it hard to adapt to life?

If the Bluenose caribou were gone for a long time, would the habitat change in such a way that it would be hard for the caribou to return? How?

Threats

Habitat

What would make an area no good for Bluenose caribou?

Are there any changes in the land around you which are good for Bluenose caribou?

Forest fires

How do forest fires affect Bluenose caribou?

Do Bluenose caribou return to burned out areas? If yes, how long does it take for them to come back?

What are they doing there?

Industry and Development

Have you observed Bluenose caribou using or avoiding areas that have been altered by industrial activity or developments? Can you provide specific examples? For example, seismic lines, roads, etc.?

Do any of the following affect Bluenose caribou:

low level flying, seismic line construction activity, pollution and garbage

Predation

[May have been covered under interactions]

Are there changes to the number or behaviour of predators (such as wolves, or lynx) of Bluenose caribou? Describe.

Bluenose caribou health and disease

How can you tell if a Bluenose caribou is healthy, either from a distance or if it's being skinned or butchered?

Have you seen a change in Bluenose caribou health?

If so, what do you think is the cause?

Noise and light disturbance

Have you observed noise or light disturbance from aircraft, skidoos, ATVs, or industry affecting Bluenose caribou?

Do you notice areas where it is more of a problem?

Do you have suggestions for how to address this?

Over-harvesting

Are Bluenose caribou being shot or otherwise killed too often? Describe. If yes, what could be done to stop it?

Vehicle collisions

Do vehicles strike and kill Bluenose caribou? If the Mackenzie Highway goes ahead, do you think this will change how often vehicles strike Bluenose caribou, based on your knowledge of other herds?

Climate change

Have you observed any changes related to climate change such as changes in snow condition, temperature, or rainfall in the area used by Bluenose caribou?

Is weather as predictable as in the past? Does this affect the Bluenose caribou?

Has 'icing' effected Bluenose caribou? How?

If so, have you noticed if these changes have affected Bluenose caribou or their habitat? How?

Threats - general

Are there any other things that negatively affect Bluenose caribou that we haven't already discussed?

Which of these threats stand out to you as having the most impact upon Bluenose caribou?

Are there potential solutions to these threats?

[IF APPROPRIATE] were there any threats to Bluenose caribou in the past that have been resolved, and are no longer a threat? [use peregrine falcon example].

[IF APPROPRIATE] are there any threats that might happen in the next ten years that will affect Bluenose caribou?

Other observations or beneficial practices

Do you know of any traditional Gwich'in conservation practices or activities which would preserve Bluenose caribou now or in the past?

Has there been anything done by people or governments that have been good for Bluenose caribou, such as the creation of a park, or rules about hunting?

Stories

Do you know any old time stories or legends about the Bluenose caribou?