

BRITISH COLUMBIA

Métis Nation British Columbia



Boreal Caribou Métis Traditional Knowledge Project

Final Report

Submitted by:

Métis Nation British Columbia
Suite 905 – 1130 West Pender Street
Vancouver, British Columbia, Canada
V6E 4A4

Submitted to:

Kate Shapiro, M.R.M.
Consultation and Outreach Officer
Environment Canada - Canadian Wildlife Service
RR1 5421 Robertson Rd., Delta BC, V4K 3N2

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Table of Contents

<i>Table of Contents</i>	<i>i</i>
<i>1.0 Background</i>	<i>1</i>
<i>2.0 Project Activities</i>	<i>2</i>
<i>3.0 Project Results</i>	<i>2</i>
<i>4.0 Conclusion</i>	<i>9</i>
<i>Map A – Métis Traditional Knowledge – Boreal Caribou Range Map.</i>	<i>10</i>

1.0 Background

The MNBC Ministry of Natural Resources is mandated to address Natural Resources issues on behalf of our Métis Citizens. The Ministry of Natural Resources is comprised of a multi-layered process that includes a Minister of Natural Resources (political), a Director of Natural Resources (bureaucratic/technical), Ministry staff (technical) and the BC Métis Assembly of Natural Resources (BCMANR). BCMANR is made up of seven Regional Captains and 35 Community Officers. Collectively this Natural Resources Management Team is known as the MNBC Ministry of Natural Resources.

The Vision Statement for the MNBC Ministry of Natural Resources is as follows: ***“To help revitalize Métis culture and nationhood pride through the wise use of our natural resources”***. The mandate for the MNBC Ministry of Natural Resources is: ***“To establish a natural resource policy to support the sustenance and cultural needs of the Métis people in British Columbia through the conservation and management of our environment using both traditional and educational knowledge.”***

In September of 2008, the Métis citizens of British Columbia ratified the MNBC *Natural Resource Act*. This Act was developed and implemented by Métis citizens to express their desire for sustainable use of our natural resources and sustainable use is said to include:

- ∞ ***Managing natural resources to meet present needs without compromising the needs of future generations,***
- ∞ ***providing stewardship of natural resources based on an ethic of respect for the land,***
- ∞ ***balancing economic, productive, spiritual, ecological and traditional values of natural resources to meet the economic, social and cultural needs of the Métis peoples and other aboriginal and non-aboriginal communities,***
- ∞ ***conserving biological diversity, soil, water, fish, wildlife, scenic diversity and other natural resources; and,***
- ∞ ***restoring damaged ecologies.***

The Métis Nation BC Ministry of Natural Resources, as part of its mandate to conserve biological diversity and wildlife and to restore damaged ecologies, entered a Métis Traditional knowledge project agreement with Environment Canada in 2010. MNBC's objective is to contribute to the understanding of Boreal Caribou in North Eastern British Columbia and participate, where appropriate, in a recovery strategy to address the population declines for this species.

In 2010/11, Métis Nation BC and Environment Canada (Canada Wildlife Services) collaborated on a project to collect Métis Traditional Knowledge (MTK) on Boreal (Woodland) Caribou populations in North Eastern British Columbia. This project is part of a much larger Environment Canada initiative to develop a Recovery Plan for the remaining Boreal Caribou populations. Boreal Caribou reside primarily in the lowland Boreal forests and have shown significant declines in population over the past several decades. Aboriginal Traditional Knowledge will compliment western based science's understanding of the impacts that have caused population declines and ultimately identify potential opportunities to stabilize and recover Boreal Caribou populations.

2.0 Project Activities

The MNBC Boreal Caribou Traditional Knowledge Project is comprised of the following four components: identifying Métis Traditional Knowledge (MTK) holders, conducting Traditional Knowledge interviews, data entry into the MNBC Species at Risk database and Final Reporting.

The first component was to identify Métis Traditional Knowledge holders with specific experience with Boreal Caribou populations in North Eastern British Columbia. The MNBC consultation Coordinator, James Robinson, worked with Métis Citizens in Fort St. John and Fort Nelson to find ten MTK holders who he interviewed for this project.

The second component was to conduct Traditional Knowledge interviews with the identified Métis Traditional Knowledge holders in Fort Nelson and Fort St. John. All interviews complied with privacy standards developed jointly by Métis Nation BC and the University of BC – Okanagan (UBC-O). James Robinson, the Interviewer, was trained by the UBC-O on the interview process and appropriate privacy standards. Interviews will all be kept confidential and the resulting database will be the property of Métis Nation BC and its Citizens. Compiled maps generated from the interviews as well as a summary of comments and anecdotes related to Boreal Caribou will be shared with Environment Canada as part of the final report. Interviewee identities will always be kept confidential.

The third component was the entry of the data into the MNBC Species at Risk Database and the compilation of maps showing traditional knowledge data collected in the interviews. MNBC maintains an internal Species at Risk database with an associated mapping tool that was populated with the Boreal Caribou interview data. The mapping tool compiled and generated a map showing all geo-referenced data collected in the interview process. This tool may also be used to develop time referenced maps where appropriate.

The Fourth Component was the preparation of a Final Report. A Final Report was prepared and submitted to: Kate Shapiro MRM, Consultation and Outreach Officer, Environment Canada – Canadian Wildlife Service, RR1 5421 Robertson Road, Delta BC V4K 3N2.

3.0 Project Results

Ten Métis Traditional Knowledge (MTK) holders from Fort Nelson area (7), Fort St. John area (2) and Quesnel area (1) were interviewed for the project. The Métis Traditional Knowledge holder from Quesnel is a hunting guide and harvester with more than 20 years harvesting in the North East of BC. Below is a summary of the MTK interview results tabulated in the format provided by Kate Shapiro on February 2nd 2011:

Range Boundaries

What herds or populations or “groups of caribou” do you know of in your area?
How do you differentiate these from others? If there is more than one herd, do

they intermix or overlap? Could you draw the ranges of local populations that you are aware of?

Most MTK holders agreed with the supplied map identifying the different ranges for different herds of caribou, but thought that differentiating or identifying herd intermixing would be nearly impossible.

Have you seen Boreal Caribou outside the known or mapped range shown on this map?

The identified caribou range areas not shown on the supplied map are shown on the Map A.

Habitat Use

What types of plants and features of the land do caribou use? Do they use different plants and landscape features at different times of the year?

The caribou spend much of their time in the lowlands and muskeg (bog) areas and feed on Lichen as well as many other varieties of plants around wetland areas. They will use different plant and landscape features at different times on the year (example heavy snow year).

Population Trends:

Have the number of Boreal Caribou in your area changed over time?

Yes – Populations have decreased

- a) Do you see more or less caribou now than you did when you were younger?

Less

- b) Compared with what your parents/grandparents said, would you say there are more or less caribou now?

Less

Did you traditionally hunt Boreal Caribou? If so, have you changed your hunting practices because of a decline or increase in Boreal Caribou?

7/10 Métis interviewee's traditionally harvested Boreal Caribou. Most have either stopped or limited boreal caribou harvesting in an effort to conserve populations.

Do you still hunt Boreal Caribou? Are caribou easier or harder to hunt now? Do you prefer to hunt other species – which ones and why?

2/10 Métis interviewee's still harvest Boreal Caribou. They are much harder to find now and the regulated seasons limit harvesting in the rut and thus the meat is 'no good'. Everyone interviewed preferred to hunt other species namely Moose and Elk.

Calf survival (specific to a given area, based on information from the Scientific Review)

For example, lower than expected (for areas where the calf survival is lower than expected based on amount of disturbance). Western science has estimated that not many calves in this area survive to become a parent. Do you agree with this? Why or why not?

All MTK holders agreed with this statement and commented that calf survival was very low. Most felt the poor calf survival could be attributed to increased predation, and a loss of habitat.

For example, higher than expected (for areas where the calf survival is higher than expected based on amount of disturbance). Western science has estimated that lots calves in this area survive to become a parent. Do you agree with this? Why or why not?

No one agreed that calf survival is higher then expected.

Factors that have led to increased/decreased local populations (threats)

Habitat

What kinds of activities alter or destroy caribou habitat in your area?

Most agreed that oil and gas development was having a negative impact on Boreal Caribou habitat.

What changes have you observed on the land in your lifetime that may have changed the way caribou use the land?

Oil and Gas development and seismic exploration has increased exponentially in the area and thus has fragmented the caribou's habitat.

Forest fires

How do forest fires change the way Boreal Caribou use the land?

Most were unsure how forest fires would impact caribou and had not witnessed caribou in recently burned areas. We take these observations to mean that Boreal Caribou would avoid burned areas until suitable vegetation returned.

Do Boreal Caribou return to burned areas? If yes, how long does it take for the caribou to come back? What kinds of things do you see them doing in areas that have grown back after a burn?

From the above interpretation, we would conclude that generally Boreal Caribou avoid burned areas for some time. It was also mentioned that it depends on the level of burn and type of fire – crown fires could leave some ground vegetation etc.

Industry and Development

Have you observed Boreal Caribou using or avoiding areas that have been altered by industrial activity or developments? Can you provide specific examples?

Some MTK holders have witnessed Boreal Caribou feeding on reseeded pipelines and reclaimed areas and bedding down in abandoned lease pads. All MTK holders had also witnessed caribou along the Alaska Highway. Some felt that Boreal Caribou now frequent roadways or industrial areas solely to avoid an overpopulated Wolf treat because this seems to be a recent trend and is not natural for the caribou.

Several feel that the improvement of roads and increased speeds and traffic have had very significant effects on Caribou over the last couple decades.

Predation

Are there more predators (such as Wolves, Bears, or Lynx) in areas where there are Boreal Caribou than there were in the past in your area?

All MTK holders feel there are too many predators for the Boreal Caribou to thrive. About half felt there were too many Wolves and Bears and the rest thought there were just too many Bears. Métis trappers interviewed felt there are currently far too many Wolves and the population is increasing exponentially with a correlated decrease in trapping.

One Métis TK holder who was interviewed in 2009 as part of an earlier Métis Traditional Land Use study, spoke to the issue of Wolf populations being sustained through winter months by road kill Moose, Elk and Caribou along the Alaska Highway and to a lesser extent the Fort Liard Highway. As was the case with other interviewees, this informant noted significant increases in road mortality for ungulates as speeds and traffic increased in the previous decades. This MTK holder was born and raised in the area north of Fort St. John; he is a very active harvester and traditionally harvested Boreal Caribou. He works in the Oil Patch and travels more than one hundred thousand kilometers per year in the area. What makes this MTK holder unique is that he observes wildlife along the highway corridor and along oil patch roads daily throughout the year. He reported that road kill (Moose and to a lesser extent Elk and Caribou) was providing sustenance for Wolves that now spend the winter scavenging road kill. His observation is that there are no hard times for Wolves living within a significant distance of highways (Wolves are drawn to the highway corridors) and that Wolf winter mortality is low while reproduction is high.

Have you seen changes in the abundance of prey species, such as Beaver, Deer, Musk ox, Bison, Moose, or Barren-ground caribou, in areas where there are Boreal Caribou?

MTK holders felt there have been increases in Beaver, Bison, Deer and Elk in some areas where there are Boreal Caribou.

Are any of these prey species new to your area?

Until recently (past twenty to thirty years) Bison, Mule Deer, Whitetail Deer and Elk were uncommon in the area. Populations of these animals have increased and their ranges expanded into Caribou habitat

If there is a change in the number of predators, do you think these changes are having an effect on Boreal Caribou?

Yes, more predators will most currently mean less Caribou due to low calf survival rates and mortality on breeding age animals.

If there is a change in the number of prey species, do you think these changes are having an effect on Boreal Caribou?

Most MTK holders felt that there may be some effect, but it would be negligible in comparison to an over population of predators. Very few of the MTK holders connected the dots between predator/prey relationships possibly due to the way the questions were presented. It is presumed that populations of these additional prey animals allow a larger predator population to survive in the area. Caribou may not be able to maintain their numbers in the face of this additional predator pressure.

Caribou parasites and disease

Have you seen a change in caribou health in your region? For example, body condition, size, behaviour, parasites, or increased mortality.

Because most MTK holders no longer harvest Boreal Caribou and the reduction of chance sightings, there is little recent experience on overall health. Some interviewee's did mention experience with bot flies and a caribou covered in large blisters, but these encounters were rare.

What do you think is the cause?

Unsure

Have you seen a relationship between caribou health and the arrival of new species?

Unsure

Noise and light disturbance

Have you observed noise or light disturbance from aircraft, skidoos, ATVs, or industry affecting Boreal Caribou in your area?

Most MTK holders had witnessed some form of disturbance on Caribou from noise or lights.

If so, how is it affecting the caribou?

The Caribou will be deterred to return to previous calving, rutting and wintering grounds or safe areas if there is noise disturbance namely from helicopters, industry or skidoos.

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

Any area within an identified Caribou range (particularly calving and rutting areas) where there is extensive helicopter work. Also, frozen skidoo tracks open up areas to Wolves and increases their ease of travel and therefore their chances of a kill.

Do you have suggestions for how to address this?

Limit or ban access, including helicopter use, to identified Boreal Caribou calving, rutting and wintering areas (including recreation and industry).

Over-harvesting

Are Boreal Caribou being over-harvested in your area?

No

Have there been changes in hunting pressure on Boreal Caribou in your area?

Not really, there is so few now that they are not harvested as frequently as in the past.

Vehicle collisions

From your experience or observations, are vehicle collisions with Boreal Caribou occurring in your area?

All MTK holders had experience with Boreal Caribou being hit by vehicles in their areas. Moose are still hit more often, but there are also more of them.

To what extent are these collisions occurring? For example, how many or how often are they occurring?

The estimates ranged from a couple per year to one Caribou per day on the Alaska Highway. Many times multiple Caribou will be killed in one occurrence thus making it very hard to judge.

Are there particular areas where vehicle collisions are more of a problem? If so, where are they?

206km, Prophet River area (+-50km), Bucking Horse, Andy Bailey Creek, North of Fort Nelson

Do you have suggestions for addressing this problem?

Slow down, more signage, possible licks off the road, control Wolf populations, Deer whistles on cars

Decreasing speeds north of Fort Nelson seems to be helping.

Climate change

Have you observed any changes related to climate change such as changes in snow condition, temperature, or precipitation in your area?

Most MTK holders agreed that winters are now milder in the NE. Some felt this is natural cycling, still varying greatly year to year, and there is little overall trend.

If so, have you noticed if these changes have affected Boreal Caribou or their habitat in your area? How?

In a warmer winter the ice conditions may increase success rates for Wolves. One MTK holder mentioned that with the lack of snow patches, where the caribou like to avoid bugs and heat, later into spring in some areas the Caribou are not where they once were.

Threats - general

From your experience or observations, are there any other things that negatively affect caribou that we haven't already discussed? If so, what are they?

Most MTK holders agreed that the interview did a good job of covering all possible threats to Caribou with the following additions:

***Human encroachment of all forms
Seismic testing in calving season
Bison and Elk range encroachment***

Which of these threats stand out to you as having the most impact upon Boreal Caribou in your region?

Grizzly Bears, Wolves, increased number of predators,

Are there potential mitigation measures or solutions to these threats?

A list of potential mitigation measures or solutions:

***Predator (Wolf, Bear) population control
More open Bear seasons, up quotas
More highway signage
Closing ALL activity in sensitive areas during calving
Extremely limit or ban Harvesting
Get a better understanding of behaviors***

Other observations or beneficial practices

Do you know of any conservation practices or activities that your people, or others, have used to conserve Boreal Caribou now or in the past?

A list of conservation practices:

***Predator population control
Never over harvest
Harvest only for sustenance
Harvest only males
Share and knowledge of Caribou and challenges***

4.0 Conclusion

The Métis Traditional Knowledge holders interviewed represent well over 300 combined years of traditional knowledge and experience on the land with the Boreal (woodland) Caribou. Although the breadth of experiences is diverse there are several trends that can be taken from the extensive knowledge about the historic and present status of the Boreal Caribou. The Boreal Caribou are without question decreasing in population and encounters are becoming much less frequent. Theories behind the decline include, but are not limited to, human encroachment, highway collisions, overpopulation of Wolves and Bears (grizzly and black), excessive unnatural linear corridors, disturbance during calving. Some possible solutions to the decline in Boreal Caribou include, but are not limited to, controlling predator populations (Wolves and Bears), limit or ban access (industry and recreation) to important identified Boreal Caribou range areas, better signage on highway and possibly reduce speed limits in sensitive areas, limit or ban air space travel over important identified Boreal Caribou range areas, control encroachment of non-native ungulates (Bison, Elk) into Boreal Caribou ranges. The Métis Traditional Knowledge holders interviewed were extremely pleased to share their extensive traditional knowledge and wish to be further involved in the resulting Boreal Caribou Recovery Plan.

Map A – Métis Traditional Knowledge – Boreal Caribou Range Map.

