

Boreal Woodland Caribou Workshops in North Slave Communities. Project Report, March 31, 2006

Principle Investigator

Dean Cluff, Regional Biologist Environment and Natural Resources Government of the Northwest Territories, Yellowknife, NT Canada X1A 2P9
Tel: (867) 873-7783 Fax: (867) 873-6230 E-mail: dean_cluff@gov.nt.ca

Collaborators:

Bruno Croft, Caribou Monitor Specialist, Environment and Natural Resources Government of the Northwest Territories, Yellowknife, NT Canada X1A 2P9
Tel: (867) 873-7019 E-mail: bruno_croft@gov.nt.ca

Joe Mackenzie, Wildlife Officer II, Tlicho Office, Environment and Natural Resources, Government of the Northwest Territories, Behchoko, NT Canada X0E 0Y0
Tel: (867) 392-6511 E-mail: joseph_mackenzie@gov.nt.ca

Tracy L. Hillis, Wildlife Biologist, Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT Canada X1A 3S8
Tel: (867) 873-7482 E-mail: tracy_hillis@gov.nt.ca

Executive Summary

We held a series of focus group interviews on boreal woodland caribou occurrence in communities throughout the North Slave Region (NSR) from January – March 2006. The purpose of the project was to document local and traditional knowledge on the extent of occurrence, area of occupancy, and priority habitat sites of boreal woodland caribou within the NSR. Local knowledge was recorded by decade and for recent (0-3 years) times. Distribution information was also obtained for woodland caribou over the last 30-40 years (3 generations).

Background

The decline of boreal woodland caribou (*Rangifer tarandus caribou*) numbers in much of Canada has led to their listing as threatened in 2004 under the federal *Species at Risk Act*. In the Northwest Territories (NWT) boreal caribou are spread over the land in low numbers. Their biology makes them particularly sensitive to human activities that could lead to a population decline. Boreal caribou are also a valuable economic and cultural resource to NWT residents as their meat is used for food and their hides are used for clothing and other crafts. To conserve and recover boreal caribou populations and their habitat across Canada, a national recovery strategy is being developed. Under this national strategy, the Government of the NWT (GNWT) Department of Environment and Natural

Resources (ENR) is developing an action plan for the conservation of boreal caribou in the NWT. This plan seeks to identify and manage current and potential threats to boreal caribou in the NWT. Potential threats include habitat change and loss, changes in predator and prey abundance, wildlife and climate change, parasites and diseases, vehicle collisions and harvesting.

In anticipation of addressing information gaps to develop a NWT conservation action plan, a boreal caribou research workshop was held in Yellowknife in November 2001. During this workshop, biologists from GNWT and renewable resources boards along with invited experts, identified the information base needed for boreal caribou status, management, and environmental assessment. Workshop participants agreed upon an objective statement for each information need and identified the appropriate research tools to meet that objective.

As a result of this workshop it was widely recognized that extent of occurrence and area of occupation of boreal caribou were needed for all of the NWT. Extent of occurrence is defined as the area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known inferred or projected sites of occurrence. For the NWT, this included the limits of suitable habitat where local knowledge or habitat information infers current or historical distribution. Area of occupancy is defined as the areas within extent of occurrence that is currently occupied by boreal caribou, excluding cases of vagrancy. This measure acknowledges that boreal caribou will not usually occur throughout the extent of occurrence which may contain unsuitable habitat or areas where populations have been excluded or extirpated.

Since the workshop, local information has been collected in the Deh Cho Region through a Deh Cho First Nations study, regional workshops, and community meetings. The harvest study in the Sahtu provided significant information for their needs and was followed by community meetings. In Inuvik, the Gwich'in harvest study, community meetings, and Renewable Resource Board meetings provided local and traditional knowledge information for their region.

In the NSR, a systematic aerial survey of grid blocks containing potential habitat in the Taiga Plain ecozone of the NSR was done in November 2004 (Hillis and Cluff 2005). This information provided an essential baseline for recovery and management planning and established a systematic method to update future information. However, this aerial survey is only part of the preliminary assessment needed before further efforts on status or threats to boreal caribou are considered in the region. Consequently, there is still a need in the NSR to engage North Slave communities to collect local and traditional knowledge on the extent of occurrence and area of occupancy. Therefore, a forum to collect details of historic and current boreal caribou information and enabled communities to have input into study designs was desired. In addition to occurrence and occupancy issues, priority habitat sites could also be discussed. Priority habitat sites are areas currently used by boreal caribou populations and necessary for maintenance of those populations. This could include calving areas, movement corridors, or winter ranges or others. The factors affecting habitat (i.e., threats) would also need consideration.

Within the NSR, three other distinct types of ungulates are present with boreal woodland caribou (*Rangifer tarandus caribou*); moose (*Alces alces*), bison (*Bison bison athabascae*), and barren-ground caribou (*Rangifer tarandus groenlandicus*). These ungulates have historically interacted in the area for at least a century. Although there are few roads or seismic lines in the NSR, other habitat changes are possible. Furthermore, global climate changes are likely to be strongly manifested in the western Arctic and sub-Arctic areas. These effects likely will include increased frequency and severity of forest fires that remove lichen woodlands for decades and create openings with early succession vegetation. Identifying natural variations in spatial responses of these ungulates, recent increases in development activities, and a rapidly expanding bison population have increased the need for an assessment of the spatial relationships between these ungulate species. Communities, especially Behchoko, have expressed concern of encroaching bison in their area and the impacts this will have on caribou and moose there, especially with respect to introduction of diseases and increased risk of predation.

Project Objectives

- 1) Collect local and traditional knowledge on the extent of occurrence and area of occupancy and priority habitat sites include calving areas, movement corridors, or winter ranges or others, of woodland caribou throughout the North Slave Region.
- 2) Collect local and traditional knowledge on the extent of woodland caribou interaction with other species, predation, natural and human disturbances.
- 3) Enable communities to have input into study designs and address issues of concern in respect to woodland caribou management.

Methods

Consultation workshops were held in the communities of Dettah, Behchoko, Whati, and Gameti. Local and traditional knowledge on the extent of occurrence, area of occupancy, and priority habitat sites of boreal woodland caribou were sought. Two PowerPoint presentations on the "Status of Woodland Caribou in Canada" and the "Status of Boreal Caribou in the Northwest Territories" were given by Bruce MacDonald of the Canadian Wildlife Service and Dean Cluff. Discussions focused on local and traditional knowledge on the extent of occurrence, area of occupancy, and priority habitat sites of boreal woodland caribou within the North Slave region. Participants were asked to provide information on a decadal and for recent (0-3 years) times. Both this local and traditional knowledge of boreal caribou will be mapped using the Department's standard 10 km x 10 km grid.

Participants were also asked to mark on maps provided where they know boreal woodland caribou to have occurred in the past and map locations where they recall having seen or harvested caribou. Details relevant to each sighting or harvest site were

requested. Participants were also asked to identify priority areas for boreal caribou. In some cases, the maps provided and the workshop environment lead to a discussion on the spatial relationships of the other ungulate species in boreal caribou habitat. Their understanding of the role of predators was also be requested. Mapping and spatial relationships was done in a GIS environment. All community sessions were audio-taped and a local interpreter was hired to assist in discussions.

Results

We held consultation workshops with elders and interested individuals in Whati (13 in attendance), Gameti (16 in attendance), Behchoko (7 in attendance) and N'Dilo/Dettah (8 in attendance). Workshops usually lasted 2-3 hours.



Figure 1. Harry Simpson and Joe Zoe discussing boreal caribou movements in Gameti.



Figure 2. Pierre Beaverho mapping boreal caribou locations in Whati.



Figure 3. Pierre Tlokka and Isadore Zoe discussing boreal caribou movements in Behchoko.



Figure 4. Isadore Tsetta, Michel Paper and Rachel Crapeau of the Yellowknives Dene, discuss the impact of fire on boreal caribou.



Figure 5. Judy Charlo, with Isadore Tsetta, Michel Paper and Rachel Crapeau discussing boreal caribou in Dettah.

Traditional knowledge holders identified two caribou subspecies on the lands within the North Slave Region: boreal caribou (*Todzi*) and barren-ground caribou (*Hozik'e gokwó*). The two caribou species were identified as being different by the characteristics of body size; boreal caribou are larger and antlers are smaller and more palmate than barren-ground caribou. Boreal caribou have a brown face and the hooves are relatively larger in boreal caribou than for barren-ground caribou. Communities indicated that boreal caribou are tough, fast, and can jump far. There is great respect for this species.

The information collected from all communities indicated that traditionally, residential boreal caribou populations appear to be found throughout the central area of the NSR. The central region is characterized by the Taiga Plain ecozone. The information spans 61 years with the earliest date of boreal caribou information from the 1945. The data collected shows general agreement that boreal caribou are not common on the landscape in the NSR. Boreal caribou were usually found in small groups and usually only 1-2 boreal caribou were hunted.

In respect to interactions with wolves, traditional knowledge generally indicates that boreal caribou are harder for wolves to take than barren ground caribou. There was an observation that when chased by wolves boreal caribou group together making it harder for wolves to flush one out of the group. However, it was noted that wolves may be in greater numbers now because of more prey (bison, moose) and may take more boreal caribou.

Workshop participants also provided information on the relationship of boreal caribou with fire. Observations suggested that numbers of boreal caribou are low

because large areas of the range are burned therefore food that may have been available for boreal caribou is gone. Comments from one community suggested that boreal caribou from the NSR may have moved to the Sahtu region because there have been several large fires in the NSR in the last decade. There was agreement that boreal caribou affected by fire will return to an area approximately 30 years after a fire.

In respect to relationships with other species there were no comments about interactions between moose and boreal caribou. There was some information on bison and boreal caribou and it was suggested that low boreal caribou numbers may also be related to bison increasing their range. Of importance however, was the general agreement between communities of the relationship of boreal caribou with barren-ground caribou. Several comments indicated that the two subspecies are seen traveling together and mixing together in the winter.

Discussion

Our workshops successfully obtained important occurrence information on boreal caribou, with researchers and participants appearing noticeably relaxed and freely sharing knowledge. Feedback from participants indicated that they felt that it was a positive and worthwhile experience and that we had learned from each other. In several communities participants requested that we do this type of work again, provide general public information sessions, and that we work with the youth and elders on the land.

As a result of these workshops some recommendations were suggested as next steps;

- 1) Elders from all communities and all the regions need to assemble to discuss the impacts of fire, alternate prey species, predation, disease, changing habitat and human disturbance on woodland caribou. The results of this meeting can be used as a guideline for input into a national strategy.
- 2) Request to conduct field research on traditional woodland caribou migratory routes, feeding and calving areas. This work would be done with participation from GNWT, and would include elders and youth. All findings would be shared to produce a joint research study.

Acknowledgements

A number of individuals assisted with the development of this project, but elders and other local people who kindly agreed to share their knowledge and insight into the traditional knowledge of woodland caribou were invaluable. They were: Francis Simpson, Peter Moosenose, Lloyd Bishop, Pierre Beaverho, William Chocolate, Daniel Chocolate, John DeQuitte, Sammy Arrowmaker, Charlie Pride, Joe Zoe, Eddie Chocolate, Jimmy Wagary, Joe Black, Pierre Tlokka, Isadore Zoe and Georgina Chocolate, Michel Paper, Eddie Sikyea, Isadore Tsetta and Judy Charlo. Thanks also to interpreters Francis Zoe, Charlie Chocolate, Isadore Zoe, and Rachel Crapeau who helped bridge the gap

between languages. We appreciate the attendance and participation of Bruce MacDonald and Donna Mulders from Canadian Wildlife Service to highlight the federal role in boreal woodland conservation at these workshops.

Literature Cited

Hillis, T., and D. Cluff. 2005. Status of boreal caribou, *Rangifer tarandus caribou*, in the North Slave Region, Northwest Territories, Canada. Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT.

Budget Summary

FISCAL 2005 CIMP		
Boreal caribou workshops		
CATEGORY		EXPENDITURE
INCOME:	ALL SOURCES	
	NWT CIMP	\$9,825.00
	CIMP: Supplemental	\$2,456.25
	other (CWS)	\$1,300.00
	TOTAL FUNDING:	\$13,581.25
	Total Expenditures:	\$11,901.18
	Balance:	\$1,680.07
EXPENDITURE	GNWT	
DETAIL	Whati	
	travel	\$312.15
	accommodations	\$250.00
	rentals	
	interpretation	\$600.00
	other	\$800.00
	SUBTOTAL:	\$1,962.15
	Gameti	
	travel	\$600.00
	accommodations	\$800.00
	rentals	\$250.00
	interpretation	\$200.00
	other	\$850.00
	SUBTOTAL:	\$2,700.00
	Behchoko	
	interpretation	\$400.00
	other	\$206.17
	SUBTOTAL:	\$606.17
	Dettah & N'Dilo	
	honoraria	\$800.00
	interpretation	\$200.00
	other	\$87.86
	SUBTOTAL:	\$1,087.86
	ArcView 9.1 licence	\$1,980.00
	ArcGIS Spatial Analyst	\$3,565.00
	SUBTOTAL	\$5,545.00
	TOTAL EXPENSES:	\$11,901.18