BQCMB Caribou Workshop
February 2010

Detailed Report:

Commentary from Workshop Participants about Challenges Facing the Beverly and Qamanirjuaq Caribou Herds and Some Possible Solutions

– April 2011 –

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Beverly and Qamanirjuaq Caribou Management Board

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Executive Summary

Around the world today, most caribou herds are shrinking in size. These declines are due to both natural and human-caused factors. In Canada, government surveys have shown that very few caribou are using the Beverly herd's traditional calving ground, and the herd may be very small, or most of the herd may have changed its seasonal movement patterns. While the neighbouring Qamanirjuaq herd is still plentiful, a recent population survey found that it may be one-third smaller than the last time these caribou were counted. Hunters from about 20 communities in Manitoba, Nunavut, NWT and Saskatchewan depend on the Beverly and Qamanirjuaq herds to feed their families. The annual harvest from these herds has a net value of at least $20 million, according to 2005–2006 statistics. The social and cultural importance of caribou is priceless.

The Beverly and Qamanirjuaq Caribou Management Board (BQCMB) decided it should work more closely with communities that have depended on the Beverly herd to figure out how everyone can help the herd. The BQCMB also wanted to prevent the Qamanirjuaq population from going through a major decline. As a result, the BQCMB held a Caribou Workshop in Saskatoon, Saskatchewan from February 23 to 25, 2010. It drew more than 75 elders, hunters, government staff, scientists and others from Saskatchewan, the Northwest Territories (NWT), Nunavut, Manitoba, Alberta, Yukon, British Columbia and Ontario. The workshop began with informative presentations about caribou, and then participants broke into small groups to identify the main factors affecting the Beverly and Qamanirjuaq herds. Later, they shared knowledge to better determine what can be done to aid caribou. From the participants' wealth of comments and suggestions came numerous recommendations (see "5. Recommendations").

In March 2010, the BQCMB distributed a very brief summary of the Caribou Workshop (available from www.arctic-caribou.com) and has since started community visits to provide information about the herds, and to ask people for their ideas on what everyone can do to help the caribou.

Doug Urquhart

Searching for solutions. BQCMB Caribou Workshop facilitator (and talented illustrator) Doug Urquhart of Whitehorse, Yukon drove points home for participants by sketching concepts that marked the progress of the three-day workshop

Once community meetings have been completed (likely by the end of 2011), the BQCMB will publish a report in spring 2012 summarizing discussions from these meetings, and making recommendations to governments and others based on comments provided.

The BQCMB is grateful to many people for making the Caribou Workshop a success, including workshop facilitator Doug Urquhart, organizer Tina Giroux and translators Rosanna Good and Elaine Hay. The BQCMB also thanks the Workshop's sponsors: NWT's Department of Environment and Natural Resources, Nunavut's Department of Environment, the Saskatchewan Ministry of Environment, Indian and Northern Affairs Canada (NWT and Nunavut regional offices), Manitoba Conservation, the Prince Albert Grand Council (PAGC), the Athabasca Land Use Office, the Athabasca Denesuline Negotiation Team, the Nunavut Wildlife Management Board, WWF–Canada, AREVA Resources Canada Inc. and Cameco Corp.

Marion Soublière of M.E.S. Editing and Writing Services worked in collaboration with BQCMB biologist Leslie Wakelyn, the Workshop's lead organizer, to create this report along with its companion publication, the *BQCMB Caribou Workshop February 2010 – Overview Report*. The BQCMB thanks Marion and Leslie for all their hard work and assistance.

Tina Giroux

BQCMB members, alternates, staff and friends. Standing, left to right, are Mitch Campbell, Dennis Larocque, Allicia Kelly, Earl Evans, David Vetra, Thomas Elytook, Daryll Hedman, Laurent Angalik, Ross Thompson, Tim Trottier, Jerome Denechezhe and Archie Catholique. Seated, left to right: Albert Thorassie, Jan Adamczewski and Pierre Robillard. Missing are BQCMB members George Tsannie and Peter Kusugak

Introduction

This report provides information about a caribou workshop held by the BQCMB in February 2010 in Saskatoon, Saskatchewan. It contains summaries of presentations made to workshop participants on the first day of the three-day workshop, as well as the results of group discussions that occurred over the remainder of the workshop. This report also describes numerous recommendations for conservation and management of the Beverly and Qamanirjuaq barren-ground caribou herds made by the BQCMB and workshop participants to address the Board's overall goal to safeguard the herds for current and future generations of traditional caribou harvesters and other Canadians. A brief overview report that provides a list of the presentations and summaries of discussions and recommendations has also been produced. Both the **overview** and this more **detailed report** are available electronically from the BQCMB website or as printed copies from the Secretariat:

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David Vetra

Drummers Matthew Mercredi of Fond du Lac, Saskatchewan (left) and David Joseyounen of Hatchet Lake, Saskatchewan performed during the BQCMB Caribou Workshop's opening ceremony

1. Background: Beverly and Qamanirjuaq Caribou Herds

Status of the Caribou Herds

Like most barren-ground caribou herds around the world today, the Beverly herd of northern Canada is decreasing, and possibly the neighbouring Qamanirjuaq herd is, too. Nobody knows why the herds have declined, but a combination of natural and human-caused factors is the likely cause.

Courtesy of the Department of Environment and Natural Resources, GNWT

A caribou cow and calf on the Beverly range

The **"traditional calving ground"** is all areas known to be used for calving by that herd over many years; **"traditional range"** includes all areas used throughout the year by that herd over many years. Each year a herd may use only part of its traditional range and traditional calving ground

The NWT government conducted reconnaissance surveys on the Beverly traditional calving ground each June from 2007 to 2010, and each time it has found fewer and fewer caribou there during the calving period – to the point where almost no caribou were seen on the calving ground in 2010. They decided that this means the herd has undergone a drastic decline, a major shift, or a combination of the two, and may be greatly reduced in size. However, nobody knows what size the herd currently is, since reconnaissance surveys aren't meant to estimate population sizes, or count every caribou – instead, they map the location of annual calving areas and give a snapshot of the number of caribou in those areas during the calving period. A population estimate of the herd is not possible because of the large amount of overlap between the Beverly herd's range and ranges of neighbouring herds. The last successful population survey of the Beverly herd was in 1994, when its size stood at around 276,000. In the past, the Beverly herd was normally hunted by residents of up to 10 communities in Saskatchewan, NWT, Nunavut and Alberta.

Although the neighbouring Qamanirjuaq herd is still plentiful, results from a 2008 Nunavut government population survey show that this herd may also be shrinking. In 2008 it numbered around 348,000 caribou, possibly down by about one-third from its last population estimate of 496,000 in 1994. (Statistical issues mean the decline is not certain.) Qamanirjuaq caribou have usually been hunted by about 13 communities in Nunavut, Manitoba and Saskatchewan. Some communities have always hunted caribou from both the Qamanirjuaq and Beverly herds. But increasingly, as fewer Beverly caribou are seen on the caribou range in northwestern Saskatchewan and southeastern NWT, people from communities that have relied on the Beverly herd in past

years are now travelling further east in order to hunt Qamanirjuaq caribou instead.

Regardless of what interpretation people choose, the BQCMB is concerned about these trends in population and movements, and what they mean for the communities traditionally dependent on caribou. Additional pressures from a number of sources on both the Beverly and Qamanirjuaq herds is also a concern.

The Caribou Ranges

Each year, Beverly and Qamanirjuaq caribou roam across a variety of land, water and habitats – from the forests of northern Saskatchewan and Manitoba north to the taiga and tundra of the NWT and Nunavut. The map on the next page shows the historical ranges and calving grounds of the herds up until 1995, based on government surveys.

Beverly caribou historically migrated from winter range in northern Saskatchewan and south-eastern NWT, up through the NWT to the calving ground in Nunavut, which is on the northeastern edge of the Thelon Wildlife Sanctuary. Most Qamanirjuaq caribou migrate from winter range in northern Manitoba and northeastern Saskatchewan, up through southern Nunavut to the calving ground near the coast of Hudson Bay. Some Qamanirjuaq animals winter on the tundra along the coast.

More than 20 communities normally harvested from the Beverly and Qamanirjuaq caribou herds. Most residents from these communities are Aboriginal, and have hunted caribou in order to feed, clothe and provide shelter for families. These communities include Baker Lake, Rankin Inlet, Chesterfield Inlet, Whale Cove and Arviat in Nunavut; Lac Brochet, Brochet, Tadoule Lake, South Indian Lake, Split Lake, Nelson House and Churchill in Manitoba; Black Lake, Uranium City, Camsell Portage, Stony Rapids, Fond du Lac and Wollaston in Saskatchewan; Lutsel K'e, Fort Smith and Fort Resolution in NWT; and Fort Chipewyan in Alberta.

Value of the Caribou Herds to Communities

The BQCMB estimated that about 14,000 caribou were harvested from the Beverly and Qamanirjuaq herds in 2005–2006. (This harvest may also include caribou from other herds, since the ranges of neighbouring herds overlap.) According to a 2008 report contracted by the BQCMB and prepared by InterGroup Consultants of Winnipeg called *Economic Valuation and Socio-Cultural Perspectives of the Estimated Harvest of the Beverly and Qamanirjuaq Caribou Herds*:

- The total net economic value of the Beverly and Qamanirjuaq harvest was at least $20 million for 2005–2006. Nunavut relied on these caribou the most, by far; its share of the annual harvest was almost $12 million. Manitoba's share of the harvest was about $4 million, Saskatchewan's share was over $3 million and NWT's share was less than $1 million. This includes the economic value of all types of harvest (Aboriginal, licensed,

Historical ranges of the Beverly and Qamanirjuaq barren-ground caribou herds, based on government surveys, 1940-1995. Approximate size of the combined year-round range of both herds is 918,330 km²

Sheila Cavanagh

From left to right: Tassie Lockhart, Sweetgrass Casaway, Alayna Catholique and Kathy Almond learn how to make dry meat with the elders during a BQCMB-sponsored caribou hunt at Artillery Lake near Lutsel K'e, NWT. Caribou are the main source of food for many communities on or near the Beverly and Qamanirjuaq caribou ranges

non-resident outfitted, commercial).

- It would cost communities on or near the Beverly or Qamanirjuaq caribou ranges about $15 million every year to buy meat for their families if there were no caribou to hunt.
- Commercial and outfitting harvests worth another $5 million each year would be lost if there was not enough caribou to harvest.
- The social and cultural importance of the caribou harvest is priceless. People view hunting caribou as key to preserving their culture and, where necessary, revitalizing their culture. Important activities like passing on traditional knowledge (known among Inuit as *Inuit Qaujimajatuqangit*) and learning outdoor wilderness survival skills take place while hunting caribou.

2. Why the BQCMB Organized This Workshop

The BQCMB: History and Role in Caribou Management

The BQCMB is an Aboriginal-led co-management board of hunters, biologists, and land and wildlife managers. It has advised governments, communities and others since 1982 on ways to safeguard the Beverly and Qamanirjuaq caribou herds. When it was created 28 years ago, it became North America's first caribou management board. The BQCMB was established due to caribou herd declines that took place between 30 and 40 years ago. The Board worked to help improve the situation for caribou and people who depend on caribou by improving communications between government managers and hunters from caribou-range communities, and by creating a more positive atmosphere between managers and the Dene, Inuit and Métis. The Board was, and still is, a way to get people who care about caribou to talk to each other.

It is the BQCMB's job to make recommendations to safeguard the Beverly and Qamanirjuaq caribou herds for traditional users of caribou, and for other Canadians. The Board's current management agreement, the *Beverly and Qamanirjuaq Barren Ground Caribou Management Agreement*, will expire on March 31, 2012, and the Board is proposing to governments that its mandate be renewed until 2022. The Board's goal is to make sure that there are healthy caribou populations for present and future generations. The BQCMB's most recent caribou management plan is the *Beverly and Qamanirjuaq Caribou Management Plan 2005–2012*. It provides guidelines for managing the Beverly and Qamanirjuaq herds.

The BQCMB Caribou Workshop: Purpose, Objectives and Structure

The purpose of the BQCMB's Caribou Workshop was to bring elders, hunters, government staff, scientists and others who value the Beverly and Qamanirjuaq caribou herds together, in a spirit of co-operation, so that they could provide input on ways to conserve the herds.

Doug Urquhart

Talking about choices that could help conserve the caribou

Early in 2009, the BQCMB decided it should work more closely with communities that have depended on the Beverly herd to figure out how everyone can work together to take pressure off the herd, both right away and over many years, to help the herd rebuild and become accessible to communities across the traditional range once again. The BQCMB needed to identify management actions that were realistic and likely to be supported by communities. The Board also wanted to try to prevent the Qamanirjuaq population from going through a major decline and to make sure it will be able to recover if it does decline as part of the natural caribou cycle.

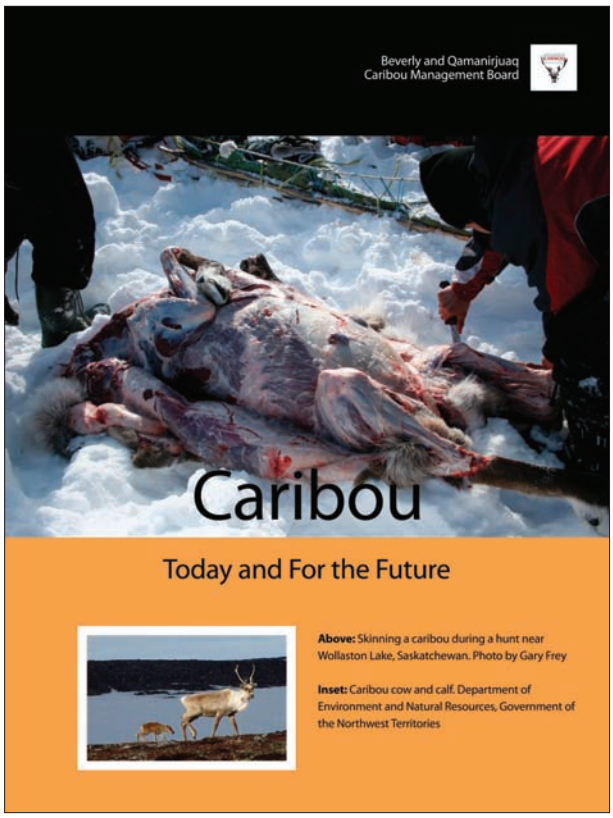
As a result, the BQCMB organized a Caribou Workshop, which was held in Saskatoon from February 23 to 25, 2010. More than 75 participants from Saskatchewan, NWT, Manitoba, Nunavut, Alberta, Yukon, British Columbia and Ontario came because of their concern for caribou, and their desire to make sure that the Beverly and Qamanirjuaq herds are strong and healthy in the future. A list of workshop participants is provided in Appendix A.

David Vetra

People travelled from eight provinces and territories to take part in the February 2010 BQCMB Caribou Workshop in Saskatoon

The three-day workshop began by giving participants information about the status and management of the Beverly and Qamanirjuaq caribou herds and their ranges, and the economic value of the herds to communities. Several invited speakers gave verbal presentations describing different perspectives on caribou cycles and declining herds to all workshop participants, and a poster session was also held on the evening of the first day. These presentations are summarized in "3. Presentations." Then, over a period of two days, participants broke into small groups for a more intimate exchange of ideas, reporting back to the whole group after each discussion period. The results of small group discussions are summarized in "4. Group Discussions."

The BQCMB produced a series of posters for the Caribou Workshop, like this one, that show the importance of caribou in daily life for Northerners



3. Presentations

Opening Ceremony and Remarks

The BQCMB Caribou Workshop opened with drumming by Fond du Lac's Matthew Mercredi and Hatchet Lake's David Joseyounen, and a welcome by Willie John Laurent of Fond du Lac, who spoke on behalf of Saskatchewan Denesuline communities. BQCMB chair Albert Thorassie welcomed participants to the workshop, too, as did Saskatchewan Ministry of Environment Assistant Deputy Minister Lin Gallagher, who extended greetings on behalf of her minister, Nancy Heppner. Presentations began shortly after and at the close of the first day, Vice Chief Don Deranger of the Prince Albert Grand Council gave closing remarks.

Verbal Presentations

Verbal presentations were provided by BQCMB members on the purpose of the workshop, the role of the BQCMB, and the status of the Beverly and Qamanirjuaq caribou herds. Other presentations examined the decline of barren-ground caribou herds worldwide, traditional knowledge about caribou declines, and strategies for managing declining herds.

Welcome and Purpose of Workshop

David Vetra

BQCMB Chairman Albert Thorassie

Presenter: Albert Thorassie, BQCMB Chairman

Albert Thorassie has been a member of the BQCMB since 1991, representing communities of northern Manitoba, and was elected Chair in 2009. He served as a councillor with the Sayisi Dene First Nation band in Tadoule Lake from 1985 until 1996, currently works as an elder advisor in land claims negotiations, and enjoys hunting, fishing, and spending time with his five grandchildren.

People have come here this week to work together in a spirit of co-operation. Caribou populations are getting smaller these days, and the Beverly herd has decreased the most, to very low levels. Another problem is that some hunters who depended on the Beverly herd in the past now have to hunt other herds nearby, like the Qamanirjuaq and Ahiak herds. But those other herds may also be declining, so that puts more pressure on them.

At this workshop, participants will be given information about different caribou herds, and asked for their knowledge about the herds. Participants will talk about different things that affect the caribou, and what everyone can do to deal with these factors. The BQCMB has discussed what Board members believe are the top priorities for helping the herds. The Board wants to find out what everyone thinks about these ideas, and to get other ideas from people, especially those who depend on caribou. The BQCMB will then make recommendations about ways that everybody – governments, communities, companies and individuals – can help. The Beverly herd will need the most favourable conditions over many years to rebuild, and everyone must do everything they can to take pressure off these caribou right away.

Introduction to the BQCMB

Presenter: Albert Thorassie, BQCMB Chairman

The BQCMB was created in 1982 to make recommendations to governments, communities and others on the management of Beverly and Qamanirjuaq caribou herds. The BQCMB came about as a result of people and governments agreeing to work together. It is Canada's first co-management advisory board. The BQCMB is not a decision-making board, nor was it set up through a land claim. The BQCMB is a co-operative partnership between more than 20 communities and five governments. It includes Dene, Métis, Inuit and non-Aboriginal members. Eight Board members represent communities and caribou harvesters, while the other five Board members represent governments. Community and government board members all live in the North – in northern Saskatchewan, NWT, Nunavut and northern Manitoba.

The BQCMB's chairman is a community representative, elected by community members, and the vice-chairs are government representatives. Currently, Albert Thorassie is the Chair, representing communities of northern Manitoba, while Daryll Hedman of Manitoba Conservation and Tim Trottier of the Saskatchewan Ministry of Environment are Vice-Chairs. The BQCMB has only one part-time employee: Secretary-Treasurer Ross Thompson, based near Winnipeg, Manitoba. Leslie Wakelyn is the Board's contract biologist for technical and administrative support, based in Yellowknife NWT, and Marion Soublière is the Board's contractor for communications work, including its website and newsletter, and is based in Ottawa, Ontario.

Status of Beverly and Qamanirjuaq Herds

David Vetra

BQCMB Member Earl Evans

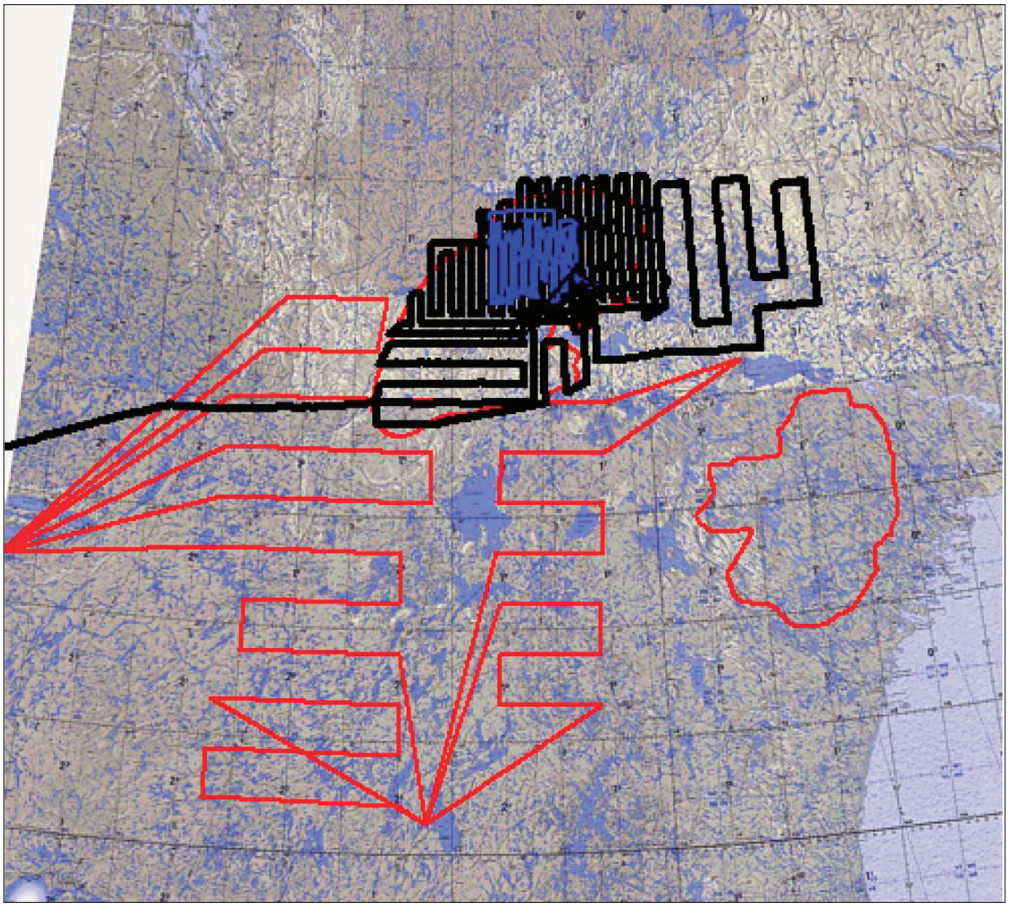
Presenter: Earl Evans, BQCMB Member

Earl Evans is a long-time member of the BQCMB, representing the Northwest Territory Metis Nation. He has hunted and trapped in the southern NWT all his life, and has done wildlife monitoring and sampling on caribou since the 1970s. He currently works for the NWT government and teaches caribou traditional harvesting and butchering techniques at Aurora College in Fort Smith, NWT.

This presentation included information on the status of the Beverly and Qamanirjuaq herds, similar to that provided in "1. Background: Beverly and Qamanirjuaq Herds." The presentation also examined surveys conducted and the results. The key results are summarized as follows.

June 2009 Beverly Systematic Reconnaissance Survey

The black and blue lines show where one aircraft flew between June 4 and 11, 2009 to survey the caribou on the Beverly traditional calving ground and areas farther east. The straight red lines show where a second aircraft flew during the same period, looking for caribou on the Beverly herd's migration route from the Saskatchewan-NWT border north to the calving ground. (The circular red outline on the right, southeast of Baker Lake, is the boundary of the Qamanirjuaq herd's traditional calving ground.) More information on these surveys is provided on pages 22 to 25



Beverly calving ground survey results

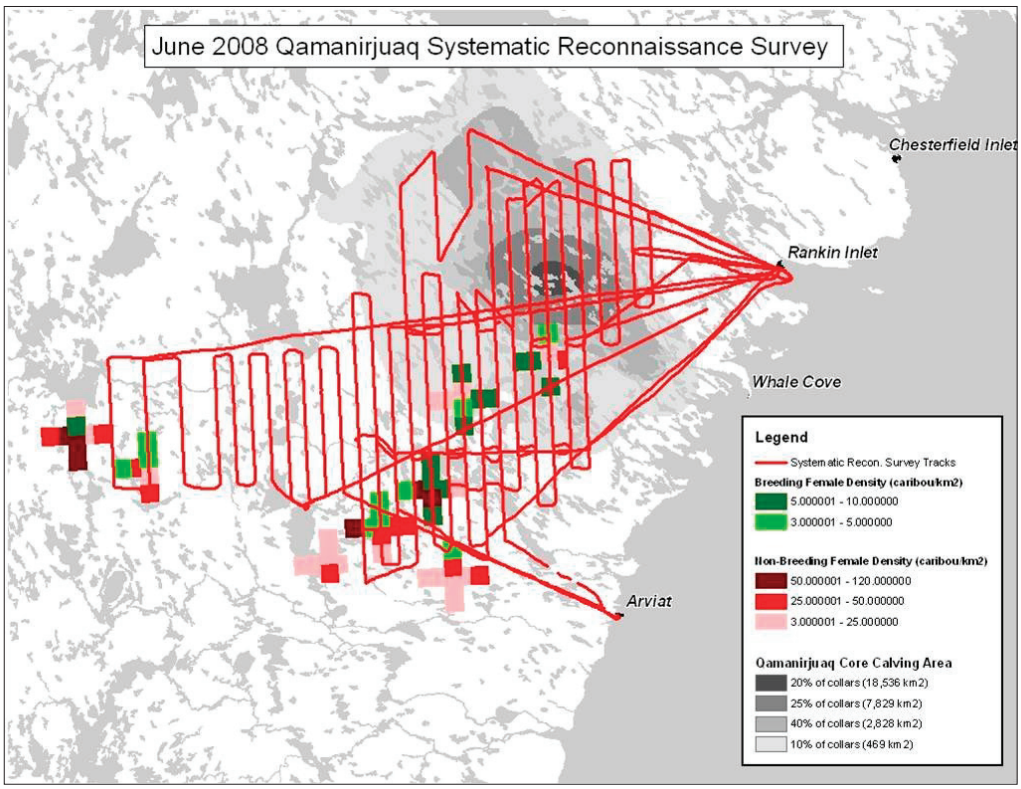
Year of survey	Number of adult caribou*
1994	5,737
2002	2,629
2007	189
2008	148
2009	78

* number of caribou counted on survey transects

Beverly herd: In 2007, 2008 and 2009, the Government of the NWT (GNWT) conducted reconnaissance surveys of the Beverly traditional calving ground during the June calving period. Between 2002 and 2009, there was a 97 percent drop in the number of adult caribou counted on the Beverly calving ground: from about 2,600 caribou to less than 100. Fewer and fewer calves were spotted as well.

Two main points summarize the Beverly caribou situation. First, survey data suggest that the Beverly caribou herd has declined to very low numbers, or most of the herd may have calved oustide the traditional calving ground. Second, everyone needs to work together to help the herd recover. We all need to take action to make sure we can see lots of caribou cows and calves on the Beverly calving ground again in the future.

Qamanirjuaq herd: In 2008, in response to monitoring indicators that suggested that the Qamanirjuaq herd might be declining, the Government of Nunavut conducted various surveys required for calculating the population size of the herd, including a photo survey of caribou on the calving ground during the June calving period. Survey results showed that the herd may have dropped about 30 percent, from 496,000 in 1994 to 348,000 in 2008. The results don't decisively



The red lines show where planes flew in June 2008 to verify the location of the Qamanirjuaq calving ground, a necessary step before doing the population survey. Survey results showed that the Qamanirjuaq herd may have dropped about 30 percent, from 496,000 in 1994 to 348,000 in 2008

show a decreasing trend in population size of the Qamanirjuaq herd, but it's still enough to cause concern that the herd may be starting to decline. This raises questions about how much harvest the Qamanirjuaq herd can support. Many communities in Nunavut, Manitoba and northeastern Saskatchewan could be affected by reduced availability of Qamanirjuaq caribou.

The BQCMB doesn't want the Qamanirjuaq herd or communities that normally hunt it to suffer the same fate as the Beverly herd and communities that depended on it in the past. Therefore, this workshop was planned to primarily focus on two things:

- Providing information related to status and management of the Beverly and Qamanirjuaq caribou herds;
- Getting input from hunters, especially from communities who traditionally harvest Beverly caribou.

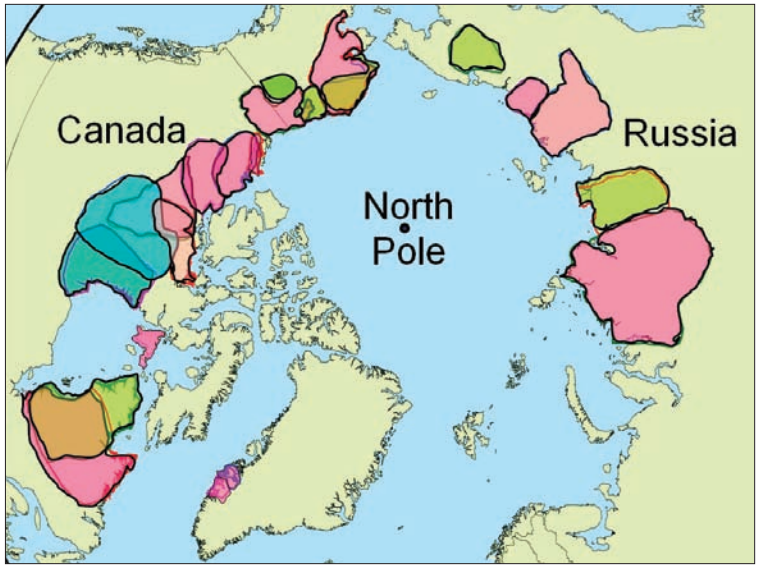
Everybody needs to work together on conservation and management of the caribou herds.

Status of Caribou Herds around the World

Presenter: Anne Gunn, CircumArctic *Rangifer* Monitoring and Assessment (CARMA) Network

Anne Gunn has worked with caribou herds and caribou people since the late 1970s, and started working with the Beverly herd in the early 1980s. She recently retired from the NWT government, and now works with co-management boards and international efforts to share information about caribou.

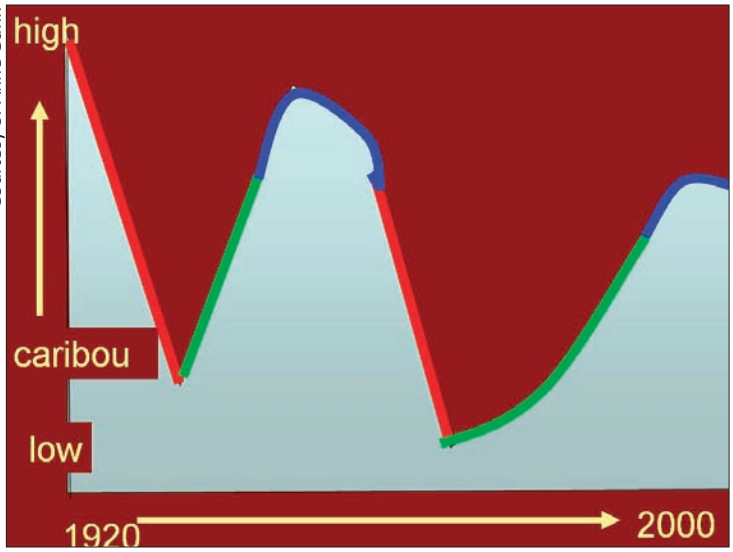
At least 14 of the 19 major herds of barren-ground caribou in Russia, Canada, Alaska and Greenland have declined since peaks in the 1990s. All but one of Canada's nine major migratory tundra caribou herds have decreased in the last decade. At least two Canadian herds (Beverly and Bathurst) have fallen in size to new record lows. People from Arctic countries have shared information about caribou herds, which help us to understand what happens when herds decline and recover. Migratory tundra caribou herds usually increase and decrease on a regular basis, but human influences modify those ups and downs.



Courtesy of Anne Gunn

The map shows 19 major herds of barren-ground caribou in Russia, Canada, Alaska, and Greenland. Most herds (whose ranges appear in pink here) have declined since peaks in the 1990s. The five herds with green-coloured ranges are increasing or their status is unknown

Courtesy of Anne Gunn



Anne Gunn of the CARMA Network (right) explained that migratory tundra caribou herds regularly increase and decrease, but human influences modify that pattern. Often, there is initially a slow rate of decline from peak herd size (left, shown in blue), then a period of faster decline (in red), then recovery (in green). Caribou herds can decline to the low thousands and recover, but recovery takes decades

Leslie Wakelyn

Herds usually decline slowly from peak herd size as the effects of summer range conditions and occasional years with severe weather start to accumulate. Caribou may not get enough to eat on the summer range if weather is hot and dry. (Note that since temperatures started being recorded in 1946, nine of the 10 hottest Julys at Baker Lake – near the Beverly calving ground – were since 1994). Cows may not have enough milk for their calves, and may not be fat enough to become pregnant later.

As survival of caribou calves and adults becomes more variable between years and then gets worse, herd size begins to decline. Wolves and bears are still numerous, though. Hunting and predation have a greater impact at this point. Although caribou may be harder to find, the time lag between decreasing herd size and reduced harvesting and predation can hasten the decline. In the past when herds were in decline, caribou stayed further north on their winter ranges and farther from people and wolves. This reduced exposure of caribou to hunting and predation. Today, snow machines, aircraft and other technology let hunters reach caribou more easily.

A decline can accelerate and numbers collapse when herds reach extremely low numbers. This is partly because caribou, like many species, stick close together to avoid predators more easily, and to find a mate. Caribou return to their traditional calving ground so that cows can be together during calving, and therefore outnumber predators. On the Beverly calving ground between 2007 and 2009, very few calves even relative to the few cows were seen. The numbers of cows may have been too low to provide safety in numbers for the calves. Some Beverly cows may have joined the pre-calving migration of the Ahiak herd and moved north of the Beverly calving ground to obtain safety provided by the larger numbers of Ahiak cows.

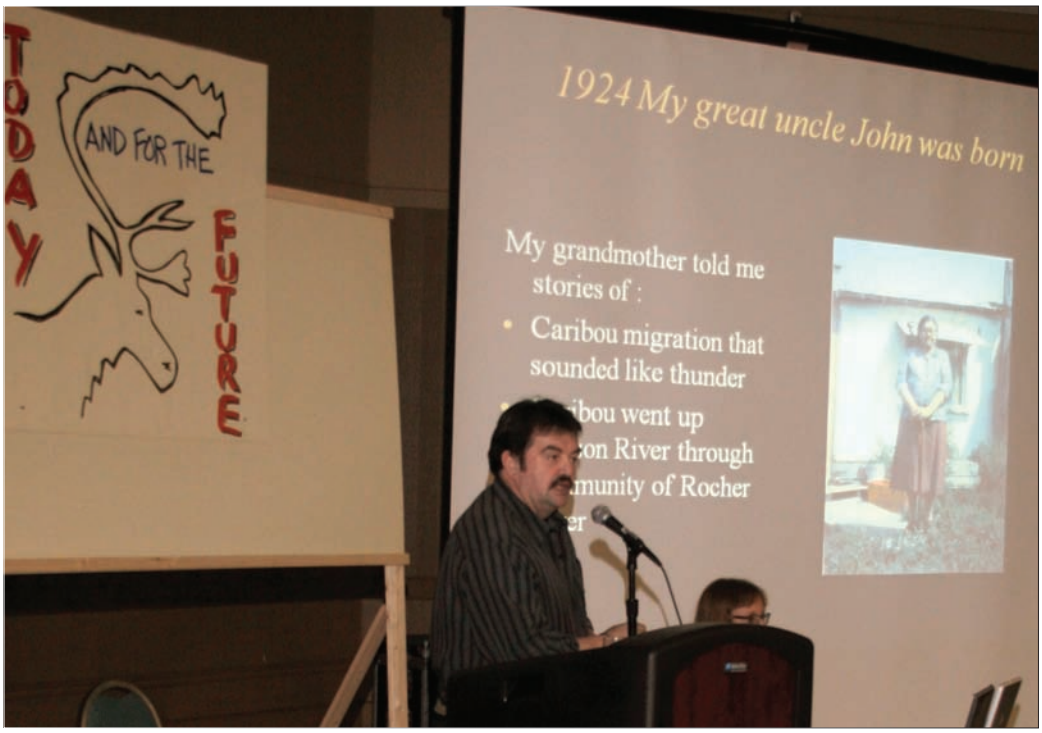
People must work together for herds to recover. Temporarily reducing harvest and enacting wolf control are effective short-term measures to halt declines and accelerate herd recovery. Longer-term measures include land management (including protecting calving grounds) and education.

Traditional Knowledge of Caribou Cycles

Presenter: Danny Beaulieu, Environment and Natural Resources, GNWT

Danny Beaulieu was born at Rocher River in the southern NWT. He was brought up on the land as a hunter and trapper, and trapped for 25 years in the Rocher area. He has lived in Yellowknife for the last 10 years, working for the NWT government as a wildlife officer.

David Vetra



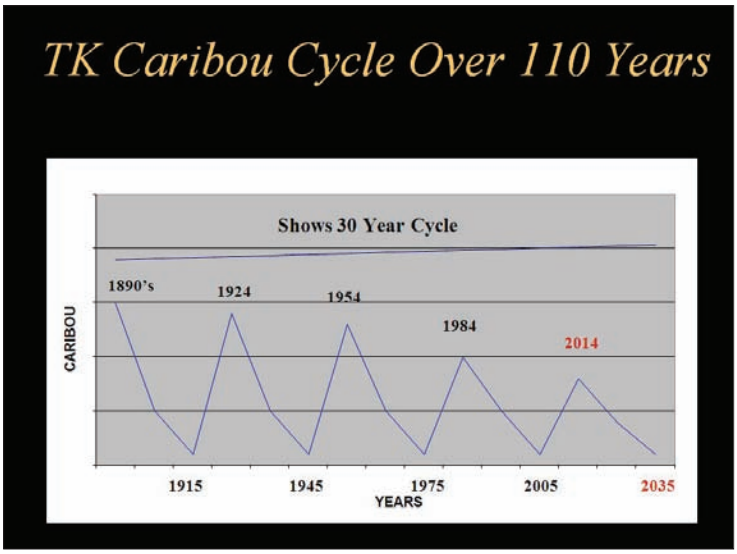
Danny Beaulieu described generations of traditional knowledge about caribou cycles based on his family's experiences in the area of Rocher River, NWT

Danny Beaulieu has documented caribou population cycles that date back to the 1890s, using traditional knowledge from Chipewyan elders and several generations of his family to identify times when caribou were abundant and when they were scarce. The Bathurst caribou herd has been increasing and decreasing in size on a cycle of about 30 years. However, it seems that the population peaks reached by the herd are gradually decreasing.

This presentation examined the role of new technologies in the decline of the Bathurst herd. In the past, when the caribou population decreased, it was difficult for hunters to find the herd. Hunters walked or travelled by dog team. Communities used alternative sources of meat and the caribou herd was given time to recover from low numbers. Today, hunters can more easily find the herd because they have the ability to travel long distances via snowmobiles, trucks and airplanes, and have access to caribou along winter roads. There are also more hunters now. As a result, harvest pressure on the Bathurst herd has increased in recent years and is likely a factor causing its steep decline.

Based on the traditional knowledge cycle, the next peak in the size of the herd would occur around 2014. The subsequent population low would occur around 2035. If harvest is not decreased, the next peak may be very low. It is important to help the herd by reducing hunting, controlling the pace of development across the herd's range, and developing a management plan in preparation for the next low.

The presentation concluded by urging people to focus on helping caribou and the right of present-day and future children to a world with caribou, rather than focusing on hunting rights. People need to make serious choices now in order to leave a strong herd for the future.



Courtesy of Danny Beaulieu

According to traditional knowledge, caribou herds increase and decline over a 30-year period in a regular cycle. The peaks in the cycle have been getting lower over time

Porcupine Caribou Management Board's Approach for Managing a Declining Herd

Presenter: Joe Tetlichi, Porcupine Caribou Management Board (PCMB) Chairman

Joe Tetlichi has been Chair of the PCMB since 1995. He was born and raised in Fort McPherson, NWT, and spent 20 years out on the land, living the traditional subsistence way of life, followed by 13 years with his family in Old Crow, Yukon. He currently lives and works in Whitehorse for the Council of Yukon First Nations as a support worker to residential school clients.

A harvest management plan for the Porcupine caribou herd in Canada is being finalized. Eight communities in Canada depend on Porcupine caribou: Dawson, Mayo and Old Crow in Yukon; and Fort McPherson, Tsiigehtchic, Aklavik, Inuvik and Tuktoyaktuk in the NWT. Herd numbers reached a high in 1989 at 178,000 caribou and then started to decline, reaching 123,000 animals in 2001.

The final Plan was agreed to by the eight Parties responsible for the Canadian ***Porcupine Caribou Management Agreement*** in spring/ summer 2010. (The Plan is online at www.taiga.net/ pcmb/harvest.html)

People asked if harvest was contributing to the decline. In 2002, a PCMB workshop found that: 1) harvest always affects the herd, 2) the greater the decline, the more management actions are needed to reverse the trend, 3) the survival of adult cows is the most important factor in determining herd trend, and 4) we need to think and make decisions before this becomes a crisis. There are many things affecting declining caribou herds, but most of them we cannot control. We do have control over harvest, though.

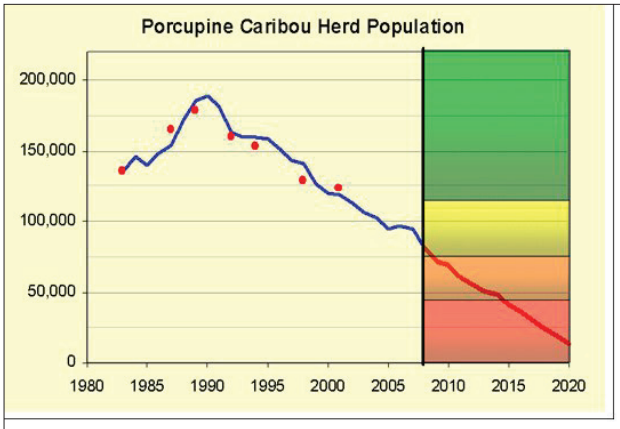
One important change people can make now is to harvest bulls only. Some people already do. If a hunter takes a bull instead of a cow, there could be 23 more caribou in the population in 10 years. To see what might happen to the Porcupine herd if people changed their harvesting practices, a "caribou calculator" was created. It's a computer model that uses all available caribou monitoring

The PCMB's Caribou Calculator

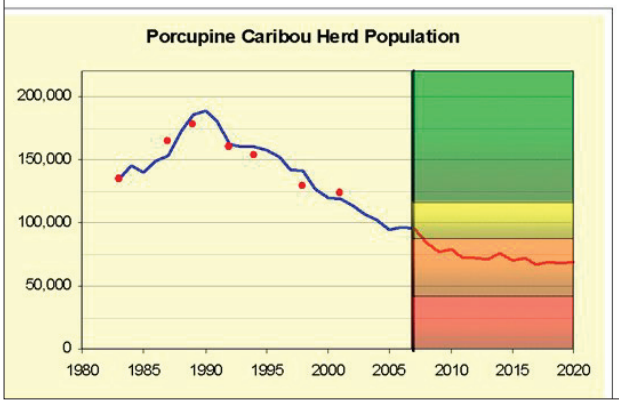
Changing hunting practices can help. The top two slides compare harvesting 60% cows versus hunting all bulls, with a total harvest of 4,000 caribou in each instance. While the model predicts that the population will continue to decline in both cases, the choice to harvest all bulls may allow the herd to stabilize in the orange zone by 2020 or sooner.

Now, in the two bottom slides, compare the expected results when two hunting practices change – to harvesting all bulls and reducing the number of caribou taken. A harvest of 4,000 caribou that takes 60% cows results in an expected continuing serious decline (in the red zone by 2015). But by reducing the harvest to 2,000 animals and harvesting only bulls, the outcome is the best of all four scenarios here, resulting in the least expected decline and earliest stabilization (in the yellow zone), with recovery possibly beginning by 2020.

The caribou calculator does not "predict the future," but it gives us an idea of how caribou numbers might change when harvesting practices change

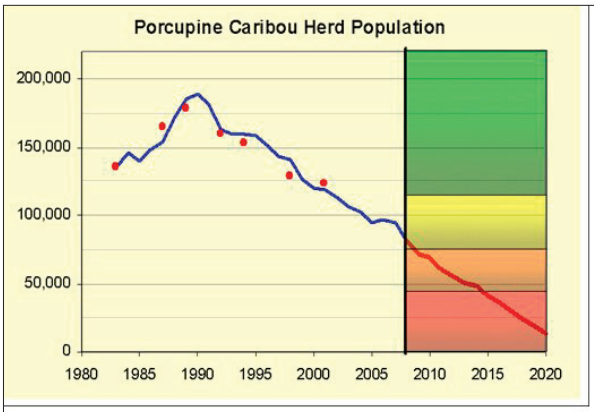


Harvest 4000 Caribou/Year - 60% Cows

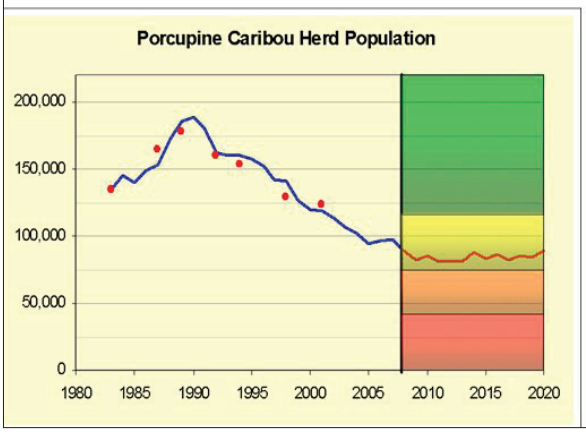


Harvest 4000 Caribou/Year – All Bulls

Courtesy of Joe Tetlichi



Harvest 4000 Caribou/Year - 60% Cows



Harvest 2000 Caribou/Year - All Bulls

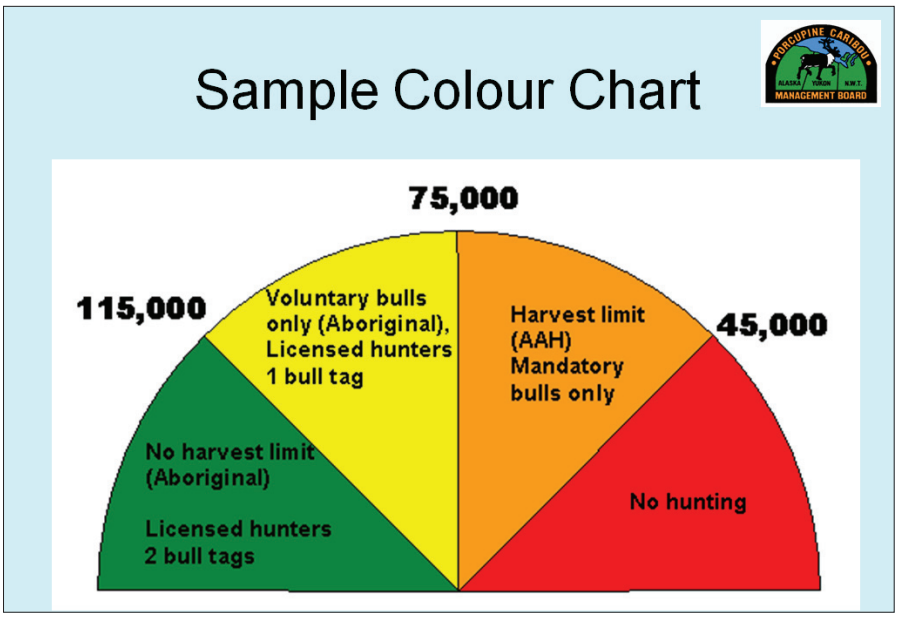
information and estimates herd size between census results. Then it predicts what might happen if harvesting practices change. Different scenarios were shown for the future of the Porcupine herd according to the "caribou calculator," giving possible results from four different harvest levels. The caribou calculator does not "predict the future," but it gives us an idea of how caribou numbers might change when harvesting practices change.

1) If harvest stays the same and many cows are still harvested, the herd will likely continue to shrink.
2) If the harvest is reduced by 50 percent and many cows are still harvested, the herd's decline may start to level out.
3) If the harvest stays the same and only bulls (no cows) are harvested, the herd's decline may start to level out sooner.
4) If the harvest is reduced by 50 percent and only bulls (no cows) are harvested, the herd's decline may stop, and the numbers should start to go up again.

David Vetra

PCMB Chairman Joe Tetlichi of Whitehorse, Yukon spoke of the ways his board dealt with the Porcupine caribou herd's declining population

The Porcupine caribou harvest management plan recommends a four-zone approach that advises stricter harvest management actions as the herd's size declines. It also focuses hunting on bulls only, bringing parties and user groups together to decide management actions each year, proposing harvest allocation among user groups, and encouraging education and communication. The PCMB believes everyone needs to make as many hard decisions now as possible in order to help the herd recover. Communities are already working to reduce the total number of caribou taken, and encouraging a bulls-only harvest.



Courtesy of Joe Tetlichi

The Porcupine caribou harvest management plan recommends a four-zone approach that advises stricter harvest management actions as the herd's size declines. (AAH is Annual Allowable Harvest)

Poster Presentations

Numerous maps and posters were displayed for viewing at the BQCMB Caribou Workshop. The sample of posters profiled in the following pages were thought to be of greatest interest to readers of this report.

2009 Calving Ground Delineation Surveys

Presenter: Allicia Kelly, Environment and Natural Resources, GNWT-ENR

Calving ground delineation surveys are not designed to estimate population size. They are designed to outline the distribution of breeding females on the annual calving ground and to collect information on the relative density of caribou on the calving ground. Since these surveys have been conducted over multiple years using the same methods, it is possible to look at trends over time.

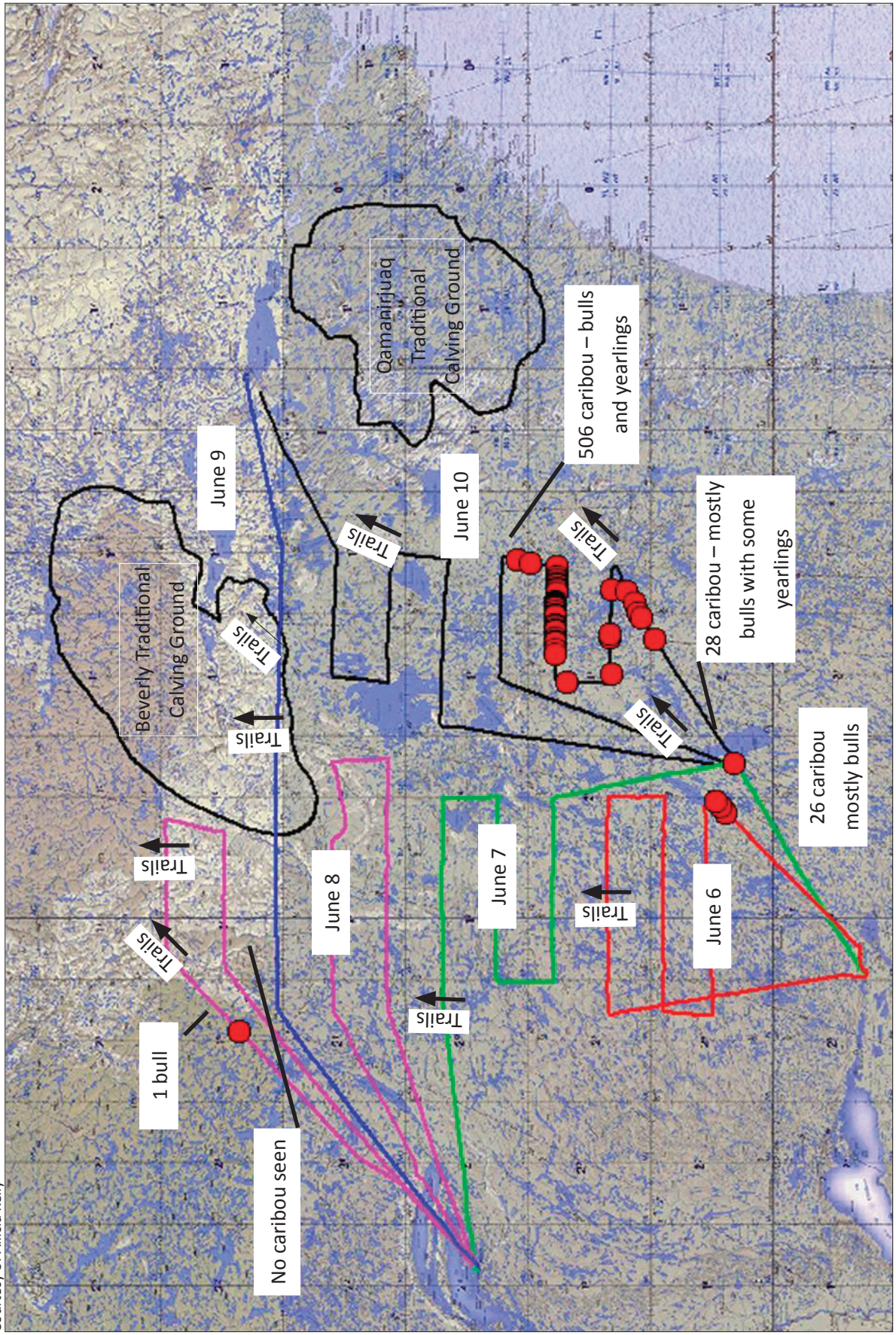
In June 2009, the GNWT conducted surveys of (1) the Beverly traditional calving ground (which includes all areas known to be used for calving from the 1950s to 1994), (2) the traditional Beverly spring migration route, and (3) the Queen Maud Gulf (Ahiak) calving area, where some collared caribou from the Beverly herd have calved in recent years. Additional flying was done south of Chantrey Inlet and on Boothia Peninsula to investigate other caribou cows that had been collared by the GNWT and Government of Nunavut.

(1) Survey of the traditional Beverly calving ground

A map of flight lines flown during the June 2009 surveys of the Beverly traditional calving ground and spring migration route is shown on page 14. One crew surveyed the traditional calving ground of the Beverly herd, plus additional areas to the east and north, at the same time that a second crew surveyed the traditional migration route. The results of the 2009 calving ground survey compared to four other similar surveys conducted since 1994 are also provided on page 14.

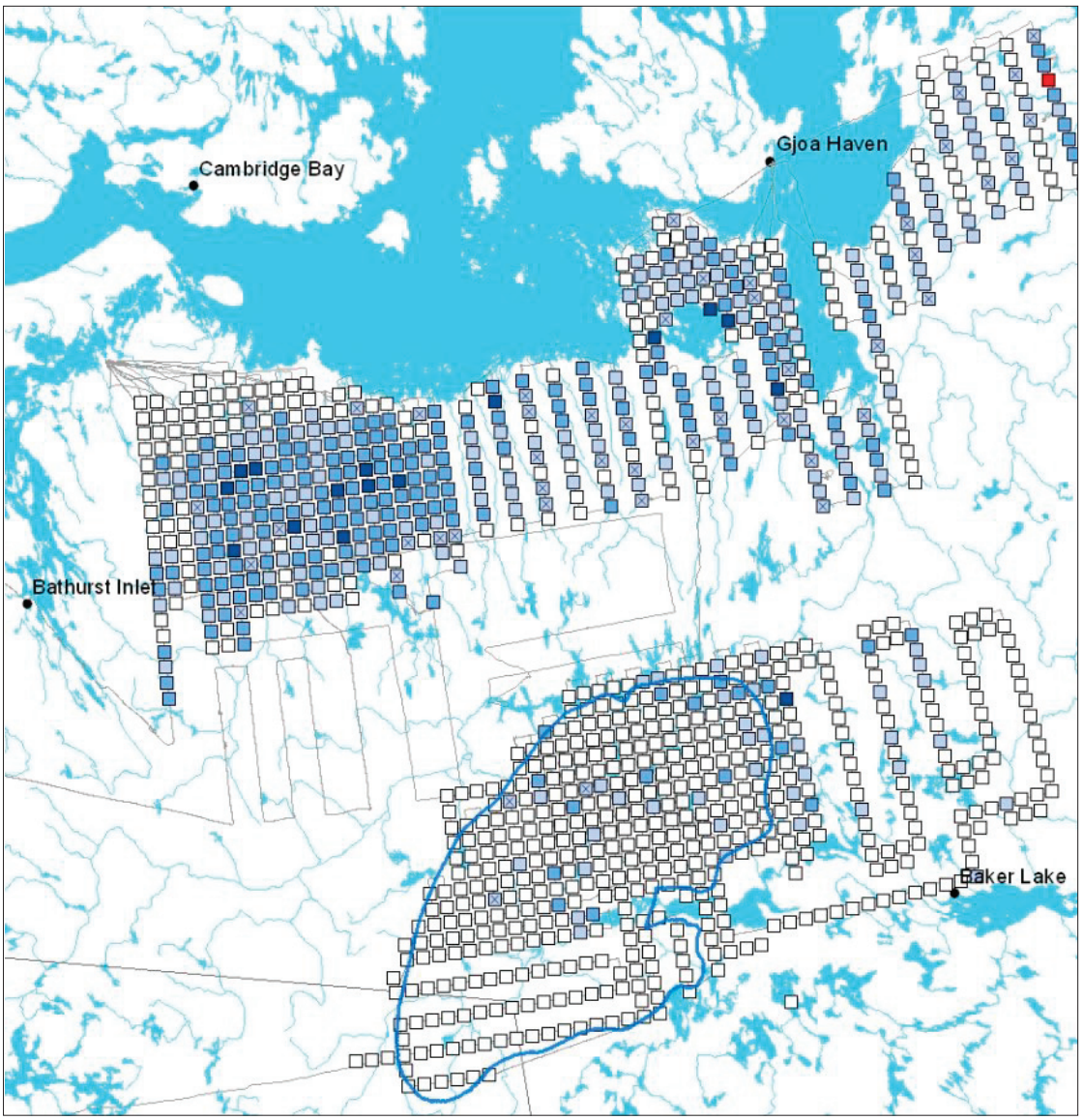
(2) Survey of the traditional Beverly spring migration route

The map on the following page shows the flights and observations of the crew that surveyed the Beverly herd's traditional migratory route from the Saskatchewan-NWT border north to the calving ground from June 6 to 10, 2009. Mapped information includes flight lines, caribou tracks and caribou observed during the survey, and the location of the Beverly and Qamanirjuaq traditional calving grounds. The bulls and yearlings seen southwest of the Qamanirjuaq traditional calving ground (south of Dubawnt Lake) were likely heading toward that calving ground. No breeding cows or cows with calves were seen along the migratory route to the Beverly traditional calving ground.



Courtesy of Allicia Kelly

Survey of the Queen Maud Gulf calving area – June 11 to 19, 2009



Courtesy of Allicia Kelly

LEGEND

Density:

White *=*
Segment surveyed but no caribou seen

Light blue *=*
0.1 – 0.99 caribou/km²

Medium blue *=*
1.0 – 4.9 caribou/km²

Dark blue *=*
5.0 – 9.9 caribou/km²

(3) Survey of the Queen Maud Gulf calving area

The Queen Maud Gulf calving area, which has been used for calving by Beverly cows in recent years, was surveyed from June 11 to 19, 2009. This calving area – from Bathurst Inlet in the west to Chantrey Inlet in the east – has been surveyed annually since 2006. Fewer caribou were observed during the 2009 survey than during surveys in 2006 and 2007. Given the coastal location of this calving ground, snow cover and weather were reasonable for this survey.

The map above shows the density of caribou observed on transect during 2009 surveys of the traditional Beverly and Queen Maud Gulf calving areas.

Each square represents a 10-kilometres segment along the flight path. The colour indicates the number of caribou observed on transect in that 10-kilometres segment along the flight path. One caribou on a segment is considered VERY LOW density, 2-7 caribou is LOW density, 8-39 caribou is MEDIUM density.

Karl Cox, GNWT

Above: 2009 Beverly traditional migration route survey crew and Cessna Caravan aircraft. Left to right: Karl Cox, Steve Macquisten (pilot), Tina Giroux, Dennis Larocque, Pierre Robillard and Sam Boucher

Below right: Pierre Robillard working as a survey observer, aboard an aircraft

Below left (left to right): Survey observers Pierre Robillard, Dennis Larocque and Tina Giroux

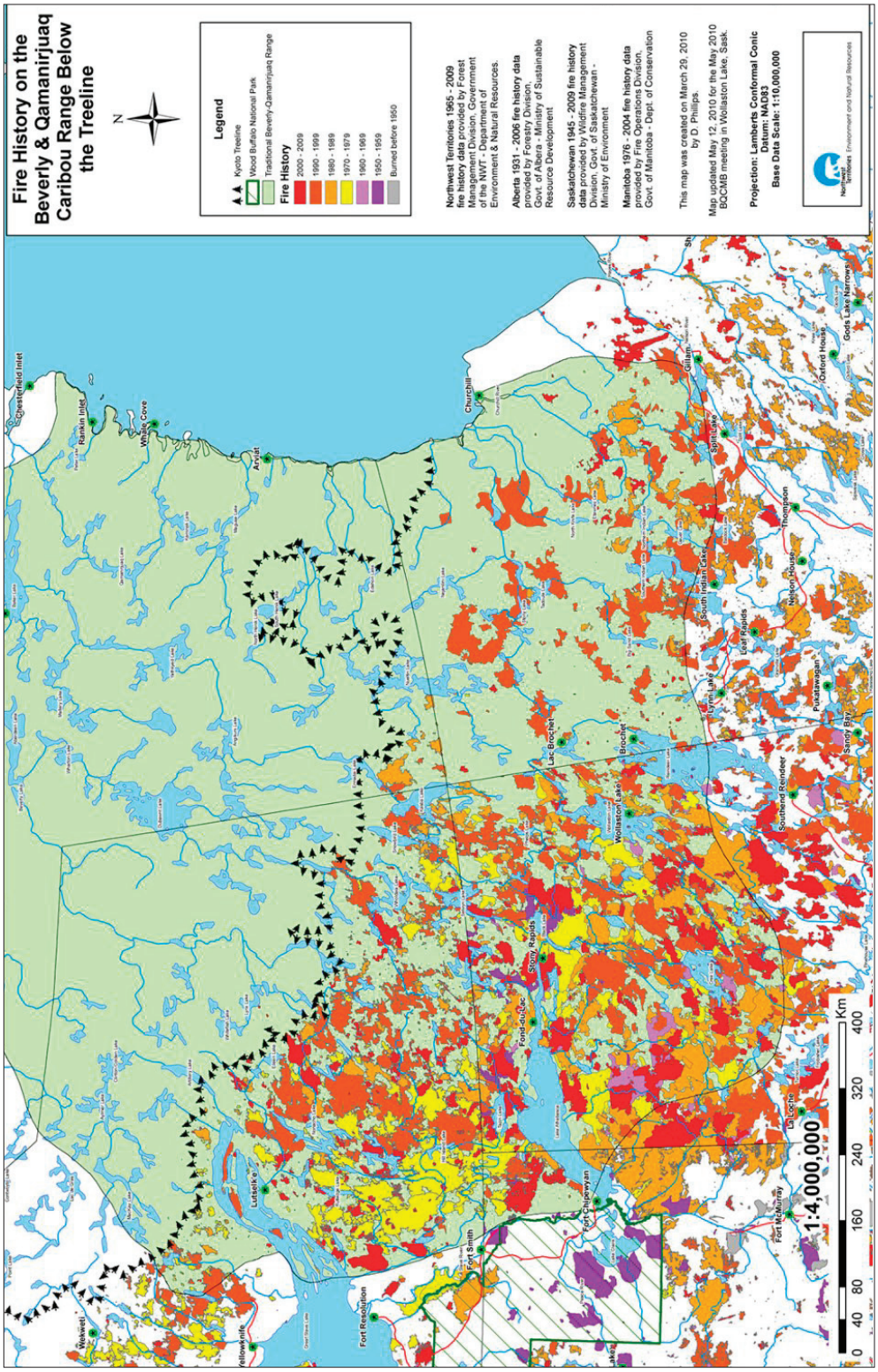
Karl Cox, GNWT

Karl Cox, GNWT

Fire History on the Beverly and Qamanirjuaq Caribou Winter Range

Presenter: Allicia Kelly, GNWT-ENR

Forest fires have damaged much of the Beverly caribou winter range in recent years. This map shows the fire history of the Beverly and Qamanirjuaq caribou winter range below the treeline.



Areas of Beverly and Qamanirjuaq caribou winter range are shown that were burned during seven time periods: 2000-2009, 1990-1999, 1980-1989, 1970-1979, 1960-1969, 1950-1959, and before 1950

The Rangifer Anatomy Project: Developing Tools for Communicating Scientific and Community Approaches to Caribou Structure and Function

Presenter: Ryan Brook, University of Saskatchewan

Communication about caribou among communities, and between communities, scientists and resource managers, is key to effective management. Currently, caribou users and researchers often use different terms when speaking about caribou. Even researchers don't always share common terms or methods. To help people share their knowledge, a research team of southern anatomists, parasitologists, social scientists and biologists is working with other biologists, veterinarians and communities across the North to produce anatomy resources. The team consists of Ryan Brook and Peter Flood of the University of Saskatchewan and Susan Kutz, Christoph Mülling and Jason Anderson of the University of Calgary. Several books, posters and digital resources are being created to aid discussions among elders, youth, hunters, managers and scientists. These products should lead to novel ways for sharing traditional and scientific knowledge on caribou, and provide tools for discussing caribou health. One of the books being produced, an anatomical atlas for caribou and reindeer, will bring different perspectives and knowledge together to create a greater understanding of caribou.

To help develop the atlas, high school students have been meeting with elders in their community who tell stories of their experiences with caribou and how the different parts of the animal are used and named. The students then label the pictures, in English and in local language terms, and learn about all the uses of the animal. This project has also given southern scientists the opportunity to interact with Northerners in the field.

The project is supported by the Faculty of Veterinary Medicine, the Nasivvik Centre for Inuit Health and Changing Environments, Natural Sciences and Engineering Research Council of Canada's PromoScience program, an International Polar Year grant to the CARMA Network, and the governments of Nunavut and NWT. The research team was to continue to work with northern communities in 2010. The project's first book, geared toward Nunavut youth, was expected to be published in the summer of 2010.

For more information, contact:
Ryan Brook, Indigenous Land Management Institute and Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan
Phone: 306-966-4120
Email: ryan.brook@usask.ca
Skype: ryankbrook

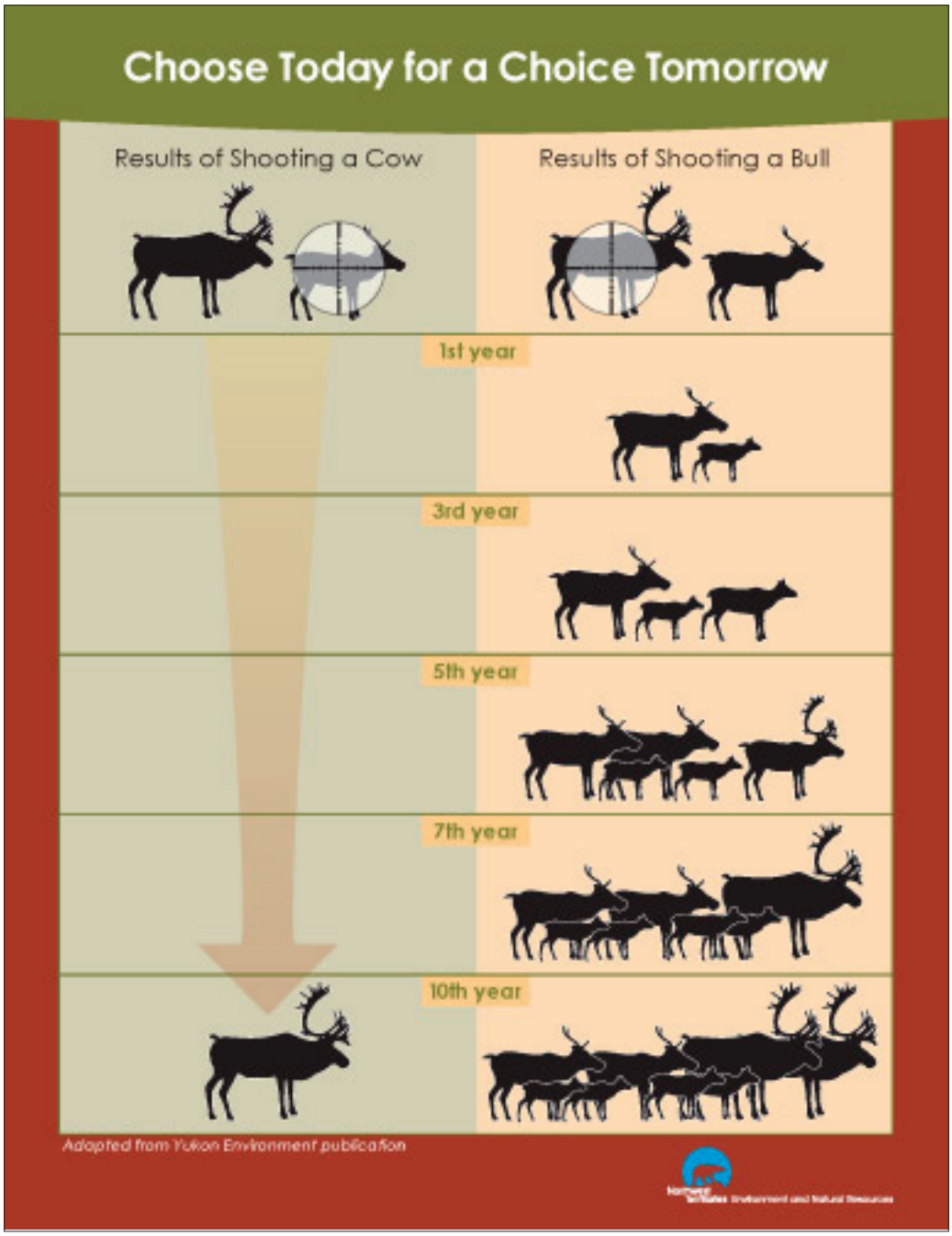
Courtesy of Ryan Brook

Students relayed knowledge from elders about caribou and how different parts of the animal are used, labelling pictures of caribou in local language terms as well as in English (below)

"Choose Today for a Choice Tomorrow"

Presenter: GNWT-ENR/BQCMB

This poster illustrates how a herd can grow to become much larger when hunters choose to harvest caribou bulls rather than cows. The BQCMB produced t-shirts for Caribou Workshop participants based on this poster. An example of the t-shirt can be seen on page 44.



Courtesy of the Department of Environment and Natural Resources, GNWT

4. Group Discussions

Workshop participants worked in smaller groups for about two days, reporting back to the whole group after each discussion period. Groups ranged in size from six to about 25 people. The largest group included Dene-speaking participants and their interpreters. Each group had a discussion leader/facilitator and a note-taker.

What's Happening?

Many workshop participants agreed that the caribou herds are decreasing in size, even though actual population numbers are sometimes not known. They also said that this decline is due to **multiple factors**, not one single factor, and that the cumulative effects of these factors are of great concern. (**Cumulative effects** are the combined environmental effects from a series of similar or related activities that accumulate over time and space.) Everyone must work together to reverse this situation, and more consultation by governments and the BQCMB with communities has to be part of this.

Participants said fewer calves were being born and that survival rates were low. Some participants thought the caribou were going through a natural decline, and that the age-old cycle of caribou populations increasing and decreasing was still in effect. Diseases, including chronic wasting, may be a factor, too, some people said, with new diseases being introduced to the North by climate change fostering the spread of diseases. Even the existence of other species, such as muskoxen or buffalo, could impact caribou.

Other participants, though, felt that caribou populations will increase again in a few years. Others mentioned seeing an abundance of calves, or hundreds of caribou at a time walking on thin ice. Still others asserted that there are no diseased animals.

Another worry voiced by participants was the change in genetics among male caribou. Outfitting prizes trophy males and once they have been killed, breeding is left to less prime males.

Doug Urquhart

Sharing knowledge in group discussions. Many workshop participants agreed that the caribou herds are getting smaller, and that this decline is due to a number of factors, not just one factor

What are the Main Factors?

After discussion, workshop participants identified five factors as among the main issues affecting Beverly and Qamanirjuaq caribou today:

Doug Urquhart

Many factors affect caribou – and that's worrisome

1. Climate change
2. Loss of habitat due to forest fires on the winter range
3. Disturbance from human land use activities
4. Harvesting
5. Predators (especially on the calving grounds).

Climate change has taken a toll on caribou, predators and habitat, participants said. It is warmer now than in the past across the Beverly and Qamanirjuaq caribou ranges, with more flooding and freezing rain. This unusual weather may be altering caribou movements, encouraging disease and resulting in more drownings at river crossings.

Forest fires have damaged much of the Beverly caribou winter range in recent years. This loss of habitat has meant less food available to caribou, and less chance that vulnerable calves can survive. Some people felt that today's fires are more extreme because forests were overprotected in the past. Participants said that because of fires, caribou are changing their migration routes, which ultimately affects their body condition.

Caribou are moving to different areas because of poor water quality as well as human-caused and natural **disturbances**, people said. Some of the main human-caused disturbances for Beverly and Qamanirjuaq caribou are increasing mineral exploration and mining (especially uranium exploration), new roads being built, more motor vehicles and snow machines, blasting (and resulting dust on vegetation), utility corridors and aerial surveys. It has led to too much activity on calving grounds, some participants said, with numerous low-flying aircraft over the calving grounds. Disturbing pregnant cows during migration or on calving grounds harms caribou herds the most when population numbers are low.

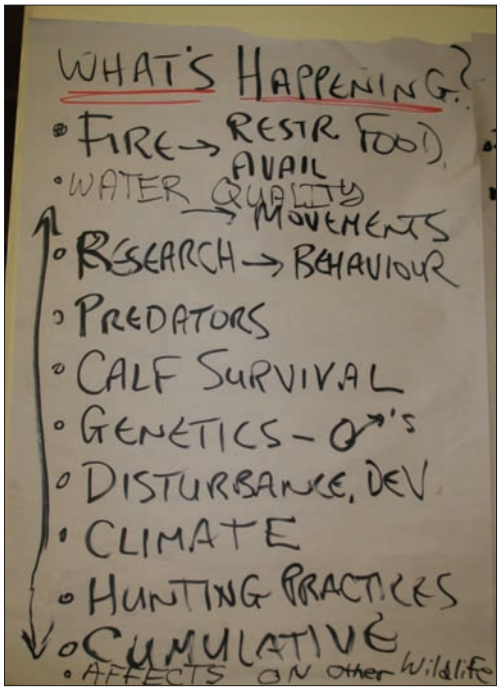
Key habitat – especially the calving grounds – must be protected, with a ban on all exploration and mining activity there. One participant said that people should think of the calving ground as being like a fragile bird's nest, and treated with great care.

There is concern about the cumulative effects of development. Others wondered if scientific research such as satellite/radio collaring and the handling of caribou affect the animals' movements and behaviour. All sorts of disturbance caused by humans, participants said, cause more problems for caribou than predators or insects.

Many workshop participants were concerned about managing **harvesting**, because hunting affects caribou herds the most when their populations are low. It was commonly agreed that youth need to be taught good hunting practices and values, learning from elders. In general, more hunting is taking place because there are more roads leading to the caribou ranges, giving southern hunters (including Aboriginal hunters from outside the caribou range) and outfitters greater access. Overhunting and wastage are more commonplace these days because new technology – like hunting by plane and with fast snow machines – makes it easier. Hunters are not following wounded animals as they should. Lots of cows are being taken as a traditional practice. As well, growing communities may increase hunting pressure on caribou, although workshop participants acknowledged that people in communities rely more on the wage economy these days and less on harvesting caribou.

Predators are another threat. (Wolves, grizzly bears, black bears, wolverine, coyotes, bobcats, cougars, eagles and foxes were among the predators discussed, with most talk focusing on wolves and bears.) Some people felt that caribou kills by predators occurred largely in post-calving areas. The behaviour of some predators seemed odd to people who observed predation on caribou when they did not appear to be killing for food.

Workshop participants stressed repeatedly that everybody needs to work together, recognizing the importance of caribou to communities. This is vital because a hunting ban can destroy goodwill – especially in communities that depend on caribou. The Beverly and Qamanirjuaq herds range across four provinces and territories, and these jurisdictions all need to co-ordinate and collaborate. More and better research is needed, people said. There should be more information about caribou range use and movements. More satellite collars on caribou may be required to obtain this information. Participants said that caribou monitoring should be assessed to see if it is affecting certain factors that have negative effects on caribou and resulting in changes for caribou. Another way for people to work together is to really use traditional knowledge together with science – and not just talk about doing it. This way, everyone gains more knowledge in order to understand what is happening with caribou and to make good management decisions.



David Vetra

After talking in small groups, participants reported back to everyone on their discussions

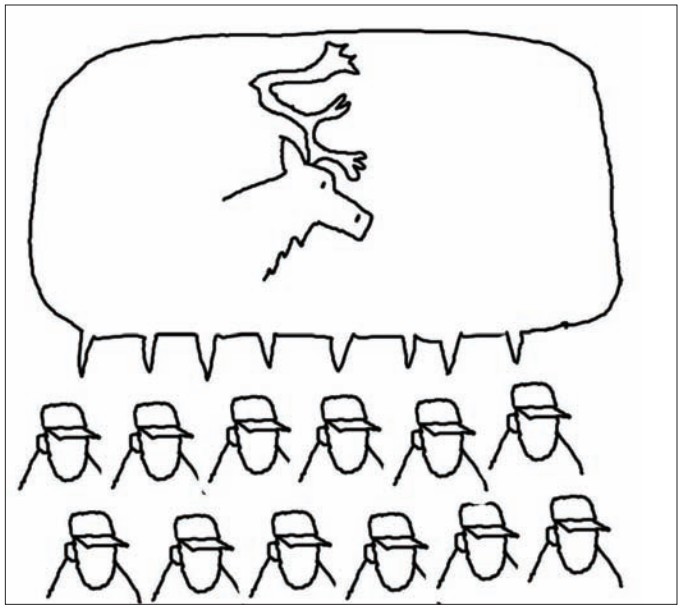
Examining the Issues – What Can We Do?

Each small group was asked to examine two of the five main issues affecting Beverly and Qamanirjuaq caribou, focusing on what can be done and how soon these things can be done.

Issue #1: Climate change

When fossil fuels like oil, gas and diesel are burned, they create greenhouse gases that become trapped in the atmosphere and increase the sun's heat. This leads to climate change, which results in warming in some areas and cooling in others. It also means that, everywhere, weather is more variable and harder to predict. Warming on the caribou ranges and decreasing precipitation (rainfall and snowfall) may result in drier conditions that, in turn, may increase the number of fires on the winter ranges as well as the amount of ash and dust deposited. These changes to habitat reduce the availability of important winter foods such as lichen for many years, and force caribou to change their migration routes as they search for food in unburned areas of land. Climate change may also allow some species, like white-tailed deer and muskoxen, to move onto the caribou herds' ranges, where they may compete for dwindling sources of food. These and other "invasive species" can bring parasites and unfamiliar diseases as well, both of which adapt to their new environment. (Invasive species are plants or animals that come from somewhere else and harm species that were originally in the area by taking over their habitat.)

These climate change effects, and others, may increase the number and amount of stresses acting on caribou. These could be important factors for herds dealing with many other pressures – particularly for declining herds at low numbers. It is crucial that strategies be developed to reduce greenhouse gas emissions, to reduce the extent to which the climate will change and affect caribou in future. It is also important that people monitor caribou habitat and movements, in order to predict future impacts of climate change and prepare for them.



Doug Urquhart

Finding strength in numbers and shared knowledge. Each small group discussed two of the five main issues affecting Beverly and Qamanirjuaq caribou, focusing on what can be done and how soon these things can be done

What Can We Do?

Each Person

People need to set a good example and reduce the amount of energy they use, participants said, making lifestyle changes to get back to the 'old ways' when people were less wasteful. Every individual commitment to conserve energy and reduce use of fossil fuels helps to decrease greenhouse gas emissions and the increasing global carbon levels that are causing global warming. And everyone has to own up to the fact that as human beings, we have been responsible for changing the caribou's world. It's also important to promote workshops like the BQCMB Caribou Workshop in order to protect caribou, and to tell stories about changes to the land that Northerners have been observing. Northerners need to let the rest of the world know what challenges caribou are facing.

To ensure the best possible survival for caribou, participants recommended that the calving grounds be protected to help offset the extra pressures on caribou that are resulting from climate change. People should monitor changes they see in habitat and wildlife, and pass that information along to biologists and wildlife officers.

Communities

Leaders should also set a good example and commit to meaningful actions that reduce use of fossil fuels and greenhouse gas emissions. Promoting the use of alternative sources of energy (other than fossil fuels) is one way to do this. Leaders should meet, discuss and develop plans to show how they will conserve energy. It would also be good to have more Aboriginal people as politicians to represent their constituencies. Community leaders should meet to discuss observations reported by residents in changes to habitat and wildlife. They should also consider harvesting new species (like the white-tailed deer) that have recently arrived and are hurting caribou by taking over their habitat.

Governments

Governments must commit to long-term actions to reduce use of fossil fuels and greenhouse gas emissions, workshop participants said. That can be achieved in part by promoting the use of alternative sources of energy. Governments also need to share information with communities, stakeholders and the world at large, co-ordinating with communities and involving them in research. Residents need to be advised how to stay safe as a result of changing weather patterns, and they need to be informed about diseases that may be introduced or increased by climate change. Governments must work with communities and individuals to conduct long-term monitoring of changes to habitat and wildlife, and to predict the arrival of new species, diseases and parasites. As well, governments should control invasive species like the white-tailed deer.

Industry

Like governments, communities and individuals, industry must pledge to undertake long-term actions to reduce use of fossil fuels and greenhouse gas emissions, workshop participants said. They should meet with community members to create joint plans, share information with communities and governments, and create partnership arrangements for monitoring changes to habitat and wildlife. They should also use alternative energy sources. Companies must also look far ahead to consider how communities will be affected, for example, after their mining operations wrap up. When companies design plans to clean up a site after mining operations have ended, they should account for future changes. They should put aside money in advance through reclamation bonds to deal with unexpected results of climate change.

Issue #2: Loss of habitat due to forest fires on the winter range

Forest fires have damaged much of the Beverly caribou winter range in recent years. This loss of high quality habitat has meant less food available to caribou, and less chance that vulnerable calves can survive their first winter. Because habitat has been damaged by fire, caribou are changing their migration routes to skirt around these areas with less desirable habitat. Trekking extra distances ultimately affects caribou body condition. Climate change may have ramped up the number and intensity of forest fires but some workshop participants also felt that the policy, in some jurisdictions, of fighting all fires in the past has meant the forests were overprotected and have developed conditions that result in more extreme fires. Still, the policies of some governments to allow fires to burn in zones that are not high priority because they are not considered valuable (not close to communities or other infrastructure, for instance) has resulted in the loss of precious caribou habitat.

Scott Hale. Reprinted from *Caribou News in Brief*, July 2006

Forest fires have damaged much of the Beverly herd winter range in recent years. Here, a fire edges dangerously close to Stony Rapids in June 2006

What Can We Do?

Each Person

Everyone needs to work together on this problem, participants said, although they also emphasized that fire is just one of a number of factors harming caribou populations. Care must be taken not to focus only on fires. Participants said that individuals can help battle fires by building fire guards around their cabins and other buildings. Just as important is becoming more aware of threats caused by fires, making others aware of such threats, and participating in ways to diminish forest fires.

Communities

Communities can build protective fire guards around community-owned buildings, said participants. They should also be involved in land use planning. In fact, people familiar with caribou issues from across the caribou range should be involved in planning. This extends to fire management, too – one person from each community should be part of a planning team for fire management and land use planning.

BQCMB

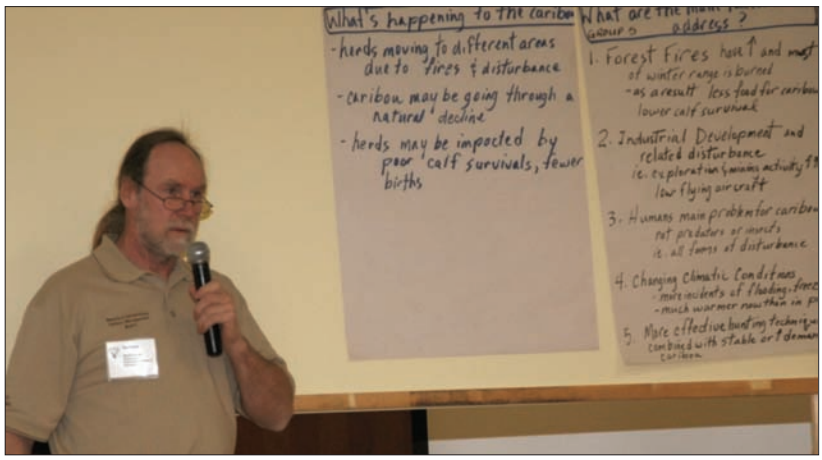
Through communication efforts, the BQCMB could make the public more aware of the severe impact of forest fires – that they have already damaged vast stretches of valuable feeding grounds and other important caribou habitats. The BQCMB should write to governments about these concerns as well, urging them to re-consider fire management strategies and to join in discussions about disturbance in general, including disturbance caused by fire. Lastly, participants suggested that the BQCMB host a workshop on forest fire management.

Small group discussions about the loss of habitat caused by forest fires also outlined tasks that could be taken on by the BQCMB, as well as governments working in tandem with communities

Governments

Governments can take huge steps to combat the effects of forest fires by making sensitive caribou habitat top priority in firefighting policies, and by communicating better with Northerners and other governments.

Governments need to review fire policies in order to better protect caribou habitat and Northerners who depend on caribou, said workshop participants. Some people thought governments should put out all fires. Some participants said caribou range that hasn't been damaged recently by fire should be protected, as those areas provide important winter habitat. Others urged the creation of more fire protection



David Vetra

BQCMB member Tim Trottier relays thoughts and suggestions from a small group session

districts. Another suggestion was the occasional use of controlled burns, although there is concern that these burns can get out of control. As well, a simple but highly effective improvement that could be made right away is streamlining the time-consuming chain of command for fire-fighting approvals.

Governments also need to do a better job of sharing information with people on the caribou ranges. As well, provincial and territorial governments should work together because multi-jurisdictional plans and bilateral/multilateral agreements are necessary to deal with forest fire management. This pertains to Nunavut, too, even though the territory has no forests. Because caribou are a shared resource, the people of Nunavut have a vested interest in winter range. Workshop participants said that regulatory agencies and other organizations that issue permits should be involved in forest fire management – not only for their own education, but to hold them accountable for permit decisions made, and to steer them towards better informed decisions. There may be instances when permits should not be issued due to the risk of fire resulting from land use activities in key caribou habitats. Aboriginal organizations, said workshop participants, should also be part of the permitting process. Finally, governments need to review firefighting budgets because funds have been dwindling in recent years, yet the cost to fight fires has been rising. A solution may be to apply for money from wildlife conservation programs, since fighting fires in key caribou corridors ultimately aids both caribou and fire management. Climate change programs, too, may have funds available for fire management efforts since the changing climate and increasing numbers of fires may go hand in hand.

Governments and communities

Governments should include communities in decision-making when it comes to forest fire management, and always include elders. Governments should also consult communities in a review of fire policies and zones, turning to their assistance to identify priorities for land use planning, such as caribou migration routes and key habitat for zoning purposes, and when to fight fires.

Industry

Companies should get involved in fire management discussions and solutions. One suggestion was that companies provide funding for fire guards to be built around communities. They should also build them around exploration camps and developments. However, industry alone should be responsible for fires that they cause, not government.

Issue #3: Disturbance

Causes of disturbances examined included roads, aircraft, mining/exploration, visits by tourists (especially to the calving area), snow machines, all-terrain vehicles, power lines, harvesting, collaring, and fires.

David Vetra

Elder Martin Broussie of Black Lake, Saskatchewan shares his views on caribou

What Can We Do?

Each Person

Respect caribou and teach people to use proper hunting techniques – especially youth, who could benefit from structured training programs. Chasing caribou with snowmobiles or all-terrain vehicles is harassment, participants stressed, as is bothering pregnant cows when they are migrating to the calving grounds. Hunters should keep a respectful distance from the animals, taking their time before shooting and then moving away as soon as possible. Using traditional hunting methods is a good option, and a number of participants recommended talking to elders when they returned to their communities. When people see hunters not using good hunting practices or breaking wildlife regulations, they should report them to conservation officers or other authorities.

Communities

Community representatives need to take part in meetings with governments, regulatory agencies and resource management boards in order to be involved with the development of land use plans and mapping of areas that they want to see protected, said participants. They need decision-making power through land claims agreements, and more control over lands as a result. Elders need to speak out, and traditional knowledge must be provided and used in developing management options. People, including residents, are needed to monitor disturbance. That requires funding. Money should be streamed to community committees for that purpose. Several people also urged that a special caribou forum be staged, similar in design to the Keepers of the Water forum that has been held almost annually since 2006 to create an all-stakeholders grassroots watershed plan for the Arctic Ocean Drainage Basin. A caribou forum, however, should be hosted over a longer period of time. Some Dene workshop participants called for the creation of hunting and trapping organizations (these currently exist in NWT and Nunavut). It's important to monitor and discuss caribou migration patterns, and it's also important to "let the leaders pass" – to discourage killing of caribou that lead groups during migration. Teaching people to use proper hunting techniques for community hunts is also vital. Education programs could include placing stickers/notices inside planes as reminders not to harass wildlife. Communities should partner with mining companies and other firms to exert influence over activities like drilling and the use of aircraft, to help create rules of conduct, and to pressure companies to use best practices.

Small group discussions about disturbance caused by human land use activities also outlined tasks that could be taken on by the BQCMB

BQCMB

The BQCMB needs to speak out strongly about industrial developments such as the Taltson power line project in NWT, workshop participants said. In fact, the BQCMB should revisit recommendations from the Board's 1999 report, *Protecting Beverly and Qamanirjuaq Caribou and Caribou Range*, and 2004 position paper, *Protecting Calving Grounds, Post-Calving Areas and Other Important Habitats for Beverly and Qamanirjuaq Caribo*u, and send the revised papers to the governments of Canada, NWT, Nunavut, Saskatchewan and Manitoba for their action. Workshop participants urged the BQCMB to meet with communities and ask residents for suggestions to aid the Beverly and Qamanirjuaq herds, since people living on the caribou ranges know first-hand what is affecting caribou. Some participants said the BQCMB Caribou Workshop was too short for such an important issue as caribou, pointing out that government meetings tend to be equally short.

Governments

Governments must create stronger land use regulations that have effective and well-resourced enforcement programs, protect important habitat, ban permits in calving grounds, and do a better job of telling the public what is happening with resource developments in their area, said workshop participants.

Workshop participants said the most sensitive caribou habitat should be given top protection – and that means full protection for calving grounds, with no permits issued in the calving grounds and no flights allowed over calving grounds during the calving season. Caribou, after all, are a resource shared by different jurisdictions. Protecting a caribou herd's calving ground is more important in efforts to safeguard a herd than anything else. Some people said that permits are being issued without consultation. Participants from Saskatchewan and Manitoba felt that letters sent by communities to regulatory agencies during review processes carried little influence because the regulatory agencies did not respond to communities, or communicate to them in general. Participants said tougher restrictions for protecting caribou and their important habitats should be imposed when issuing land use permits, and that government officials should do inspections more frequently to make sure companies are following the conditions outlined in their land use permits. Otherwise, the companies should be fined or charged!

David Vetra

Richard Aksawnee of Baker Lake, Nunavut (in cap) makes a point during a small group session

Disturbance also includes pollution on the caribou ranges. This needs to be closely monitored as well, and contaminated sites must be cleaned up. Participants also urged governments

to consult with communities for their insights on the activities of fishing camps and industrial developments taking place near water. Protecting calving grounds and the Thelon region should be mandatory since uranium and other mineral exploration and activities affect caribou and habitat. Participants from Saskatchewan and Manitoba emphasized that governments, regulatory agencies and industry are not giving Northerners information. When communities write letters to governments, they don't get responses. When governments collect caribou samples, there is rarely feedback on test results. And generally, information gathered is not dealt with right away. Workshop participants said that governments, regulatory agencies and industry must be accountable to stakeholders. They must publicize best practices, informing the public **who** is working on caribou ranges, **when** they will be there, **where** they will be working, **what** they are doing there, and **why** there are doing it. Consultation with communities must be meaningful. Residents must have a say in land use activities.

Disturbance on the caribou ranges should be kept to sustainable levels. Permitting should be integrated into conservation and land use planning. People said it is important to balance development with conservation – weighing land use against good land use plans. The BQCMB has long urged governments and regulatory agencies not to issue permits on the calving ground. Yet mineral tenures have been issued, with uranium exploration firm Uravan Minerals Incorporated owning more than half of almost 600 active mineral claims held by six companies on the Beverly calving ground in 2009-2010. Participants said that permit issuers such as Indian and Northern Affairs Canada and the Kivalliq Inuit Association owe the BQCMB an explanation as to why mineral tenures continue to be issued on calving grounds. In addition to calving and post-calving areas, water crossings should be protected, too.

"Permits" includes land use permits and prospecting permits. "Mineral tenures" includes prospecting permits, mineral claims and mineral leases. As well, with reference to Uravan's application for a land use permit to operate on the calving ground, it should be noted that the Nunavut Impact Review Board initiated an environmental review for the proposal, in part because of input provided by the BQCMB

Governments are responsible for collaring caribou, a practice that some workshop participants felt disturbs wildlife. A biologist at the workshop explained that the numbers of animals collared was small – perhaps 20 caribou – compared to the overall size of the herd and the caribou that are wasted by hunters who don't follow good hunting practices. Collaring is the only monitoring tool currently available that can track caribou movements across the ranges throughout the year. It should be compared to the alternative of constantly flying over caribou to monitor them. It is also important to consider the good information gleaned from monitoring caribou movements, compared to the drawbacks of collaring. Nonetheless, the biologist explained that government is trying hard to find other monitoring methods to replace collaring that would cause less disturbance to caribou. Efforts are also being made to improve collars by reducing their size and weight, and using only collars that drop off the animal once their battery dies. Workshop participants responded by saying there have been times when they have not been consulted before caribou are collared. They said research needs better planning. It is critical to get information out to the public via meetings to explain why it is important for governments to collar caribou, and what data it provides about their seasonal movements and important habitats. Governments must also be

respectful of community wishes, and recognize that older people may have different views about collaring than younger people. It is important to incorporate traditional knowledge into collaring programs.

Industry

Mineral exploration and mining dominate the Beverly and Qamanirjuaq caribou ranges today, with explosive levels of growth in recent years. While the industry provides Northerners with income, hunting and trapping is an important way of life for many people – so it is imperative that mining find ways to co-exist with subsistence hunting in the North. In the past, one of the few disturbances to wildlife was the barking of dogs from dog teams. Today, wildlife are bothered by a regular stream of aircraft overhead and snow machines on the ground. Industry is creating disturbances in various ways, workshop participants pointed out. Planes fly over migrating caribou, sometimes as part of surveys that companies conduct. Participants also emphasized that a lot of drilling and blasting is taking place. Participants were also worried about the clear-cutting of trees, and with equipment being left behind after work camps have been vacated. What's more, industrial operations emit greenhouse gases, so are contributing to climate change.

People urged companies to be role models and use best practices in their operations. They recommended that low-level flights by aircraft not be allowed over caribou range, that roads not be built to areas important to caribou, and that company employees comply with hunting regulations, including no hunting around exploration camps. Industry could also work with government to find methods of monitoring caribou that cause less disturbance, as an alternative to satellite/radio collaring. Participants said that tourism industries should be carefully managed because higher numbers of tourists visiting the caribou ranges could result in harassment of the animals, if tourist traffic (such as tours by aircraft) is not regulated.

Companies also need to better communicate information to communities, and tell communities how developments will affect caribou. Industry must hold meaningful consultations with communities. An example was given of a company that had established a uranium exploration camp but had not provided a community nearby with any details. At the same time, companies need to use information that community members can provide about the land and wildlife.

Courtesy of Cameco Corp.

Rabbit Lake Mine in northern Saskatchewan. Workshop participants urged companies to be role models and use best practices in their operations

Issue #4: Harvesting

People spoke passionately about caribou and their reliance on the animals, including the traditional practice of bringing caribou meat back from hunts to share with extended family and others, including those living in urban centres. The words of the elders are important, participants underlined, and they urged each other not to give up, not to be scared and to help one another. Efforts being made through this workshop would benefit future generations. The wisdom of the people, they said, can help governments.

David Vetra

Participants spoke passionately about their reliance on caribou, and the traditional practice of bringing caribou meat back from hunts to share with extended family and others

Participants also talked about the importance of treaties in protecting their means of survival – hunting and trapping. They spoke about changes to trapping and hunting, too, such as the requirement to have a federal Possession and Acquisition Licence in order to legally own a firearm. Without guns, participants said they couldn't survive. They depend on caribou for food, and are part of the caribou. Hunting grounds should never be closed down, said participants, as hunting makes caribou populations strong. Some participants expressed despair, saying that they felt like they were being blamed for killing caribou while populations are in decline. Participants urged that hasty decisions not be made now; instead, similar workshops should be held in caribou-range communities.

Caribou are sacred, participants said, and according to custom, people were not even supposed to talk about the animal. Other traditions exist to this day as well, such as women not being allowed to be around during a hunt. One participant described the legend of the trickster (the raven and the wolverine): although the trickster is driving caribou away now, caribou will return to feed the community again.

What Can We Do?

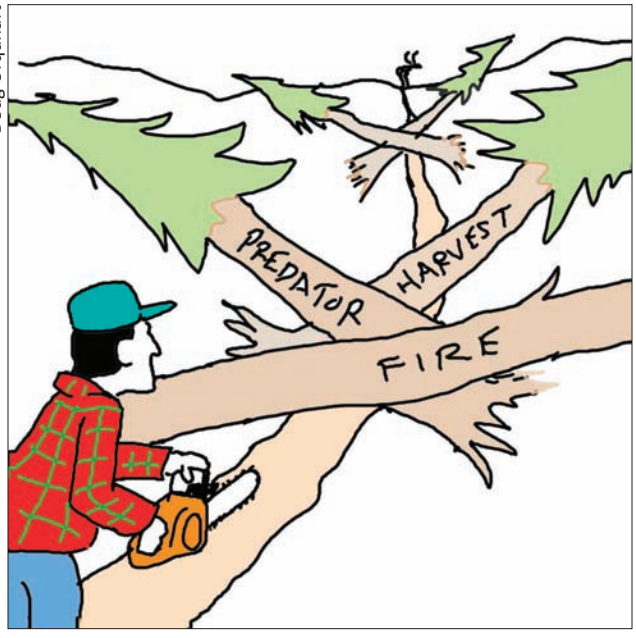
Each Person

By hunting fewer caribou, avoiding wastage and reporting sightings of wastage, and shooting bulls whenever possible, each individual can make a difference, workshop participants said. Every hunter has a responsibility to help safeguard caribou.

The first thing everyone can do is to hunt fewer caribou, and avoid wastage. People have reduced caribou harvests in the past, and this step alone will help to reduce wastage. One workshop participant mentioned seeing evidence of caribou wastage in a local dump. Others felt that while some wastage occurs, it is not extensive. People should promote the full use of caribou harvested, and report instances of caribou wastage and poor hunting practices to authorities such as conservation (renewable resources) officers. They should not risk being shunned by their community for doing so. In fact, reports could be confidential.

Some participants felt hunters should try to shoot bulls rather than cows whenever possible – a message that appeared on t-shirts produced by the BQCMB for the Caribou Workshop. Not all participants supported the idea, though, asking how cows would reproduce if only bulls are harvested. Some pointed out that caribou are only accessible to them at certain times of the year, and limiting their ability to hunt cows would be a hardship. Others said that during the fall rut, the meat from caribou bulls tastes bad. Other suggestions made were that hunting be stopped for a six-week period during the breeding season, and that people consider sources of food other than caribou.

Doug Urquhart



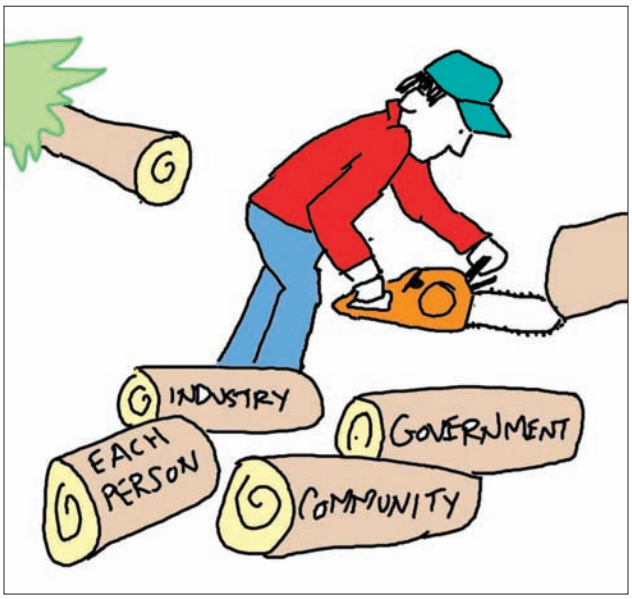
Moving forward on the various challenges facing caribou is a bit like trying to clear a path of fallen trees

Others asked if hunting rights were affected, what would the alternative be – to buy meat from stores? Would welfare subsidies be increased to cover the additional cost of food and fuel? How would dependents such as elders survive? Some pointed out that all-weather roads would be necessary to make the cost of imported foods affordable. These types of concerns would have to be voiced to authorities.

Communities

Communities can play a powerful role by spearheading efforts to create hunter education programs to describe and promote best hunting practices, establishing local boards or committees to address caribou problems, setting up community facilities such as freezers and target practice venues, and drafting rules for visiting hunters.

Hunters and trappers organizations, band councils and conservation (renewable resources) officers can all help to create hunter education programs for young or inexperienced hunters, and for hunters from other regions not knowledgeable about hunting caribou. Programs could also examine environmental protection in general – not just caribou. Teaching best hunting practices, such as taking only what you need, not leaving meat on the land and generally avoiding wastage, is critical. Such programs could be taught at schools along with "on the land" programs. One teaching strategy could be to explore a particular topic, such as wastage, and ask students to create artwork about how to avoid wastage, getting parents involved by talking to them about this assignment. Additional funding would be needed for school programs.



Doug Urquhart

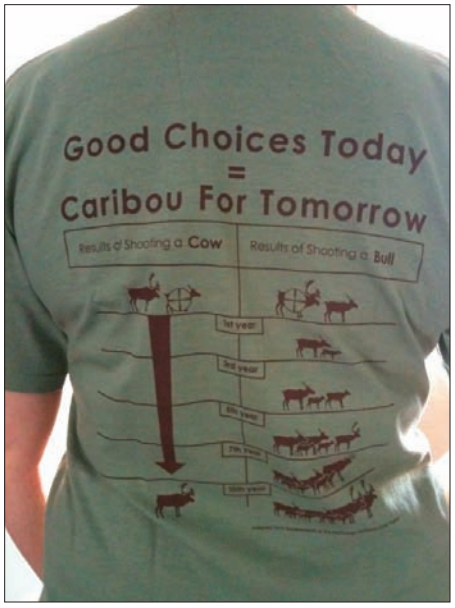
By chopping up challenges into tasks that everybody can do – government, industry, communities and individuals – it's easier to make progress towards safeguarding caribou

Another best practice is to promote the hunting of caribou bulls rather than cows, although not all participants agreed with this sentiment. Other best practices suggested included counting harvest numbers according to communities, having communities impose their own quotas that would change with each season, and discouraging the sale of caribou meat – unwise when caribou populations are declining. Participants strongly agreed that harvesting rights must be protected.

Communities can also tackle harvesting issues by establishing local boards or committees, in which local residents work together to gather information and solve problems on their own. As one workshop participant pointed out, the brunt of the impact from declining caribou populations will be shouldered by people living in caribou-range communities, so local people need to develop action plans to reverse the problem of declining caribou populations. Hunters from larger settlements like Southend and La Ronge who come to communities to hunt should sit on local boards as well to create awareness about caribou issues in their home towns, too. Local boards should also work with governments and schools – participants stressed that young people and school representatives should attend meetings about caribou, since the preservation of caribou is in the best interest of future generations. Local boards from different communities should also share their knowledge. Again, funding will be required to cover operating and other costs, such as travel to meetings.

During discussions about creating local boards, participants stated that current community leaders should be involved in meetings such as the BQCMB Caribou Workshop. Another pivotal way to counter harvesting problems like wastage is to establish facilities such as shooting ranges and gun clubs to improve shooting skills. Hunters must use the right guns. Workshop participants

Dominique Soublière



The BQCMB gave workshop participants t-shirts with a chart showing how hunting bulls rather than cows leads to many more calves being born. Chart is provided on page 28

also urged better hunting regulations (an example of poor harvesting practices is shooting from airplanes). Another beneficial project is to set up community freezers and equipment where none exist in communities, in order to butcher, process and store caribou meat, organs and other parts of the animal.

Lastly, communities must address the issue of visiting hunters, all of whom should communicate with local band councils and/or hunters and trappers organizations before arriving in communities to hunt.

Hunters from the South have easier access to the caribou ranges these days and some may be inexperienced hunters who are unaware of best hunting practices. Southern hunters also need to be taught the importance of avoiding wastage. Some workshop participants said they had seen cases where only certain parts of caribou were being taken. They recommended that visiting hunters shoot only one caribou and bring all the meat back. It was also suggested that non-treaty residents not be permitted to hunt caribou or moose while populations are in decline. Hunting caribou is not a game, workshop participants stressed – if people are going to waste caribou, then they shouldn't go hunting in the first place. Community members should go out on the land with southern hunters to guide them, and make sure other communities do the same. Harvest data should be collected from southern hunters, too. Communities should also draft plans to be followed when hunters from nearby communities arrive, so that everyone is aware of who is hunting where and when.

Small group discussions about harvesting also outlined tasks that could be accomplished by communities working in tandem with government

<u>Communities and Governments</u>

Given that some caribou herds have very low populations at the moment, one workshop participant suggested that hunters may need to reduce the number of caribou they take to combat over-hunting.

Voluntary cutbacks should be considered, with communities part of the decision-making process. What are the alternatives to restricting hunting, some participants asked? Others stressed that treaty rights must be respected.

<u>Governments</u>

Better communications and hunter education should be top priorities for governments, workshop participants said. Governments need to consult with First Nations and other Aboriginal residents to determine how to solve the problem of caribou declines, and relay information to communities, bringing a number of community representatives together for discussions. Workshop participants also urged conservation officers to look out for the best interests of residents when it comes to caribou. Traditional laws should also be incorporated into wildlife legislation. Some members

David Vetra

Several media outlets covered the BQCMB Caribou Workshop, including the Aboriginal Peoples Television Network (APTN), shown here interviewing BQCMB Chair Albert Thorassie

said governments should encourage the harvest of bulls instead of cows, although not everybody at the BQCMB Caribou Workshop agreed with this. A key improvement that governments could enact is to make a hunting skills test mandatory as part of applying for hunting licenses.

Participants also urged governments to conduct a needs assessment to learn how many caribou are needed to support each household. Another concern voiced was that communities with few caribou nearby are shifting their hunting to other areas. This could create more problems, as with the case of additional hunting pressure on the Beverly range due to caribou hunting bans on part of the Bathurst range. And when caribou populations are decreasing, provincial/territorial governments should not continue to issue permits to outfitters, people said. Workshop participants called for funding for a long-term action plan to be developed.

Industry

A number of workshop participants were concerned by outfitters' practice of hunting prime bulls that lead groups of caribou, and felt this should be stopped. Even the existence of sports hunting at a time when caribou populations are dropping worsens the overall problem of harvesting caribou, some participants said. Others stated they had seen sports hunting groups waste caribou meat. Outfitters can play a positive role, though, by offering training on good hunting practices – training not just for their own clients but for local inexperienced hunters, such as young people. Outfitters and other industries, such as mineral exploration and mining companies, can help by providing money to support initiatives such as hunter education programs. It was also suggested that airlines be required to report GPS co-ordinates of the locations where charters have landed with hunting parties. This would allow conservation (renewable resources) officers to check later for wastage. If people know in advance that authorities will be checking for signs of wastage, it's more likely they will take care to leave their sites clean.

Issue #5: Predators (especially on the calving grounds)

The predators referred to here are wolves, grizzly bears, black bears, wolverine, coyotes, bobcats, cougars, eagles and foxes. Most of the discussion was about wolves and bears, which have been reported recently as being observed more often than in the past around communities and near roads on the caribou ranges.

Environment and Natural Resources, GNWT

Wolves and bears were the main predators discussed at the workshop. They've been spotted near communities and roads on the caribou ranges more often than in the past

Workshop participants felt that wolves, the caribou's main predator, must be increasing. Many wolves have been spotted lately around Wollaston, Saskatchewan. People thought that few wolves are being successfully hunted now because the wolves have become too smart to trap, and poisoning is not a practical option. Some participants stated that they did not believe the killing of caribou by wolves was a major issue. Meanwhile, coyotes have been moving north into the caribou range. Lots had appeared around Thompson, Manitoba. Some have been spotted near Yellowknife, NWT and at least one had been seen near Stony Rapids, Saskatchewan. The presence of bears could become a major issue along ice roads in the spring. Grizzlies are currently a huge problem along the Dempster Highway in Yukon/NWT. Black bears are a problem around Arviat, Nunavut now. Lastly, workshop participants singled out deer, geese, muskoxen and buffalo as other species that could support predators on the caribou range even when caribou numbers are low.

What Can We Do?

Each Person

Workshop participants said individuals should track predators and kill more of them while they are out hunting – especially on the calving grounds. Encourage the hunting of predators through word of mouth and radio announcements/programs, and encourage traditional uses of predators for food and clothing. That will help thin out their numbers. Conservation education for communities is critical, so individuals must share their knowledge. Schools should arrange to have experienced hunters and trappers speak to students, because their knowledge is very valuable. Everybody needs to continue monitoring the presence of predators, both through traditional knowledge and scientific methods. More information needs to be collected and acted upon.

Communities

Community leaders, like individuals, should promote the hunting of predators by providing incentives, and encourage traditional uses of predators, workshop participants agreed. This can be done by distributing posters that outline important facts about predators, and through community talk shows and TV ads. Communities should ensure that the number of predators harvested is reported, as well as the numbers of predators observed. And leaders must ensure that communities receive conservation education through the shared knowledge of individuals, especially experienced hunters and trappers. Predators must continue to be monitored, both through traditional knowledge and scientific methods, to gain more information that leads to actions. Studies about the impacts of predators on caribou are essential.

David Vetra

Translator Rosanna Good (left) and small group facilitator Tina Giroux, both staff of PAGC, assisted the largest break-out group, which consisted primarily of Dene-speaking participants

Governments

Governments, in particular, can do a lot to tackle the problem of predation, workshop participants pointed out – if they seriously want to address the problem. Participants urged that governments provide families with incentives for the traditional harvest of predators, increase existing incentives, and generally promote the hunting of predators. This can be done by creating and distributing posters and other communications tools. Governments should also relax regulations to allow resident hunters to hunt wolves as well as other big game species. Right now in Manitoba, they're required to first have a big game license and tag. In Manitoba, north of 57 degrees, the government has allowed open season on hunting coyotes. When issuing permits for development projects, governments and regulatory agencies should ensure permits include conditions that monitor and discourage the presence of predators: report all wildlife sightings, don't feed wildlife, manage garbage properly and develop predator safety plans.

Governments should also monitor compliance by companies with permit conditions and enforce best practices for reducing predator issues around exploration camps and developments. It would be helpful, too, if governments assist in marketing fur products linked with well-known international suppliers to increase fur prices, and add value to the entire fur-trapping industry by arranging for hides to be sent to a tannery for processing and then returned to communities so that residents could create products.

Like communities and individuals, governments must ensure that people receive conservation education through the shared knowledge of individuals, especially experienced hunters and trappers who could be asked to speak to students at school. Predators must continue to be monitored, both through traditional knowledge and scientific methods, to gain more information

David Vetra

After each small group discussion, participants all gathered together to summarize their talks and exchange views

that leads to actions to combat predation. Studies about the impacts of predators on caribou are essential, and it is equally important to draw on and compile existing information.

Industry

Industry can take significant steps to battle predation as well, workshop participants pointed out. For example, they should exercise best practices in terms of predator control by cleaning up sites and scaring problem animals away. Exploration permit conditions must be followed that have relevance for predators. These include important rules such as not feeding wildlife and following good garbage disposal practices. When companies feed predators (directly or with access to garbage), they support them to remain in areas until caribou return, which increases predation on caribou. This is especially damaging on the calving grounds.

Companies should report all wildlife sightings during environmental monitoring. Inspections of industry camps (such as mining camps) should include predator safety plans and detailed contingency plans. Companies could provide residents with incentives and fund predator studies, working with communities on the studies. Finally, everyone – individuals, communities, governments and industry alike – should support the sharing of knowledge to promote conservation education, as well as the continuous monitoring of predators.

Small group discussions about predation also outlined tasks that could be accomplished by governments working in tandem with industry

Government and Industry

Workshop participants urged government and industry to work together to further investigate the wolf-caribou relationship, and to research changes resulting from climate change and industrial developments, as well as the effects of predators on calving caribou, especially if migration is delayed and cows are calving farther south. For example, does this lead to more predation and lower calf survival?

5. Recommendations

As BQCMB Chair Albert Thorassie explained at the start of the Caribou Workshop, the BQCMB had previously discussed what it felt are the top priorities for helping the Beverly and Qamanirjuaq herds. Those ideas were presented to workshop participants for their reaction and as a result of their feedback, the original five ideas grew to include a sixth recommendation about harvesting predators, and the second recommendation was expanded to include disturbance and habitat loss from wildfires. Here are the BQCMB's recommendations for ways that governments, regulatory agencies, communities, hunters and others can help declining caribou herds:

1. Governments and others should protect areas that are very important to caribou, starting with the calving grounds.
2. Governments and regulatory agencies should do more to help protect caribou from disturbance and habitat loss resulting from mineral exploration and development, and from wildfires.
3. Hunters should take only what they need.
4. Hunters should prevent wastage.
5. Hunters should harvest bulls instead of cows whenever possible.
6. Communities and governments should encourage traditional harvest of predators.

Participants at the BQCMB Caribou Workshop made the following recommendations as a result of group discussions over two days.

Issue # 1: Climate Change

Actions recommended:

1) Conserve energy.
2) Establish an adaptation plan.
3) Monitor habitat and species changes.
4) Conduct studies.
5) Remove or harvest plants and animals that have come from somewhere else so that they do not harm caribou or their habitat.
6) Educate: share information with communities, stakeholders, the world.
7) Make predictions about new species, diseases and parasites that will arrive.

Issue #2: Loss of habitat due to fires

Actions recommended:

1) Streamline chain-of-command for firefighting approvals.
2) Build fire guards.
3) Conduct fire awareness/education.
4) Get people (including elders) involved in land use planning / fire management planning.
5) Publicize destruction of caribou feeding grounds by fires (BQCMB).

Doug Urquhart

Discussing many issues, and deciding on recommendations

6) Pressure governments and regulatory agencies on fire management strategies (BQCMB).
7) Communicate better on firefighting policies.
8) Do occasional controlled burns.
9) Have industry provide money for fire guards, get involved in fire management talks.
10) Stage workshop on fire (BQCMB).
11) Make caribou habitats top priority in firefighting policies.
12) Get regulatory agencies/departments that issue permits and Aboriginal organizations involved in fire management.
13) Review firefighting budgets, seek funds from climate change / wildlife conservation programs.
14) Create bilateral / multilateral firefighting agreements across caribou ranges.

Issue # 3: Disturbance

Actions recommended:

1) Revisit existing BQCMB reports with recommendations on ways to protect the Beverly and Qamanirjuaq herds and habitat, and send revised papers to governments.
2) Compile permit conditions already issued to reduce disturbance.
3) Patrol roads.
4) Gate roads to control and reduce access.
5) Pressure for protection of important habitat, including calving and post-calving areas (BQCMB). This includes a ban on permitting activities in these areas.
6) Increase enforcement with more conservation (renewable resources) officers.
7) Create more education campaigns (pamphlets/posters) and programs.
8) Develop a more effective caribou management plan with action plans (BQCMB).
9) Develop strong contemporary protective measures in advance of development.
10) Establish an initiation/orientation period for aircraft, tourism, winter road companies.
11) Pressure for no disturbance on migration routes.
12) Create partnerships between communities and mining companies.
13) Report infractions of wildlife legislation to conservation (renewable resources) officers.
14) Ensure community representatives are involved in land use planning with governments, regulatory agencies, and resource management boards.
15) Have residents monitor disturbance.
16) Develop an alternative to collaring in order to monitor caribou.

Issue # 4: Harvesting

Actions recommended:

1) Reduce harvest.
2) Avoid wastage, and report sightings of wastage to authorities.
3) Shoot bulls instead of cows when possible.
4) Create hunter education programs and have outfitters assist with hunter training.
5) Draft rules for visiting hunters.
6) Collect harvest data from communities and southern hunters.
7) Have communities self-regulate seasonal quotas, and discourage caribou meat sales.
8) Communicate better about caribou declines.
9) Pressure for ban on outfitter permits while caribou populations are low.
10) Ask industry to financially support hunter education programs.
11) Have airlines report landing locations of charter flights with hunting parties (to allow officers to monitor wastage).
12) Set up local boards to help resolve caribou problems.
13) Set up community freezers with processing equipment.
14) Establish gun clubs / target shooting ranges.
15) Incorporate traditional knowledge into wildlife legislation.
16) Survey families to find out how many caribou they need.
17) Create a long-term action plan.
18) Make hunting skills test mandatory to get hunting license.

Issue # 5: Predators

Actions recommended:

1) Ensure co-management boards publicize the predator control issue.
2) Ensure governments support efforts to combat predators, including supporting recommendations of co-management boards.
3) Encourage traditional uses of predators.
4) Report harvest of predators.
5) Collect more information on predators and compile existing information.
6) Establish hunting incentives.
7) Change regulations to increase wolf hunting.
8) Introduce plan to process good quality hides and return them to communities.
9) Ensure industry supports efforts to combat predators (for example, by cleaning up sites).
10) Have government and industry conduct joint research on predators and their role in caribou declines.

A formal letter with recommendations was also presented to the BQCMB by Mathew Yooya of the Fond du Lac First Nation, Saskatchewan. (Mathew Yooya is one of the founding members of the BQCMB.) The letter stated:

> "Having been a Board Member in the early stages of the formation of the Beverly Qamanirjuaq Caribou Management Board over 20 years ago, it is now time to focus on providing the impacted User Communities on what effective Management Plan is being considered based on concrete evidence that the Beverly Herd is declining in large numbers as reported in the Caribou News, Regional News and the News Media in General.
>
> We are aware that various mode of techniques has been used to gather population numbers using aerial counting (transects), Satellite Photography, and tracking of movements by Radio Collaring. Our observation is that the success of using these techniques has not always been favourable for one reason or another.
>
> Speaking as a User today, the Dene people in Northern Saskatchewan are still dependent on the caribou for their main traditional diet. It is now fair to say that the Economy and Environmental change affects the Caribou as well as the Users. Caribou over the last five years have changed their normal migratory patterns. This we believe has to do with ongoing major Forest Fires north of Fond du Lac, and "Let it Burn Policy" of two levels of Government whereby their wintering and feeding grounds have been depleted.
>
> For two years in the row, there is no Caribou in the Dunvegan Lake Area, right on the Sask/NWT Boundary. In prior years, they were always there.
>
> Secondly, the Economy has the impact on the ability for our Hunters to access the herds over long distances. The high cost of Fuel & Oil, Snowmobiles, Grubbing & Ammunition is very high in Northern Isolated Communities. It would cost a Hunter about $150.00-$200 to harvest 4 Caribou (Bulls). That is all you can take on a typical Sled pulled by a snowmobile. The days of using Dog teams & feeding them caribou meat is gone.
>
> Thirdly, I can say there is some minimum degree of wastage involved in harvesting of Caribou but there is always other predators that also dependent on the left over pieces of caribou meat for survival. In most cases, a good Hunter will take all the major parts of an animal taken, and why should he kill more, when he can only take no more than 4-6 animals home.
>
> At this early stage, I think we can use our Elders/Traditional Users to cover areas like Life Cycles, Caribou Range Overlaps, Other Predators like Wolves, mixing of Herds that impact

David Vetra

Mathew Yooya of the Fond du Lac First Nation in Fond du Lac, Saskatchewan (left) and Louis Angalik of the Arviat Hunters and Trappers Organization in Arviat, Nunavut both relayed caribou management recommendations from their communities

David Vetra

herd numbers.

At the Technical, Scientific and Biology point of view I (would) like to see the impact on the Herd size that is related to Disease, Drowning, Predators, Calving Mortality, Sport Hunting, Forest Fires, and Mixing of Herds, Environment & Mining Activities.

I see evidence of Schools Program, Information Sharing & Consultation taking place on ongoing basis and this is a good sign.

There is always room for Educational Process & Information Updates done by the Province, PAGC and the Caribou Management Board.

In closing, I want to see that both levels of Government continue to include all Aboriginal User Groups in all the decision making process that is the basis for an effective Caribou Monitoring Process & Long Term Management Plan that will benefit everyone on both sides of the NWT & Saskatchewan Borders, and of course Manitoba & Nunavut.

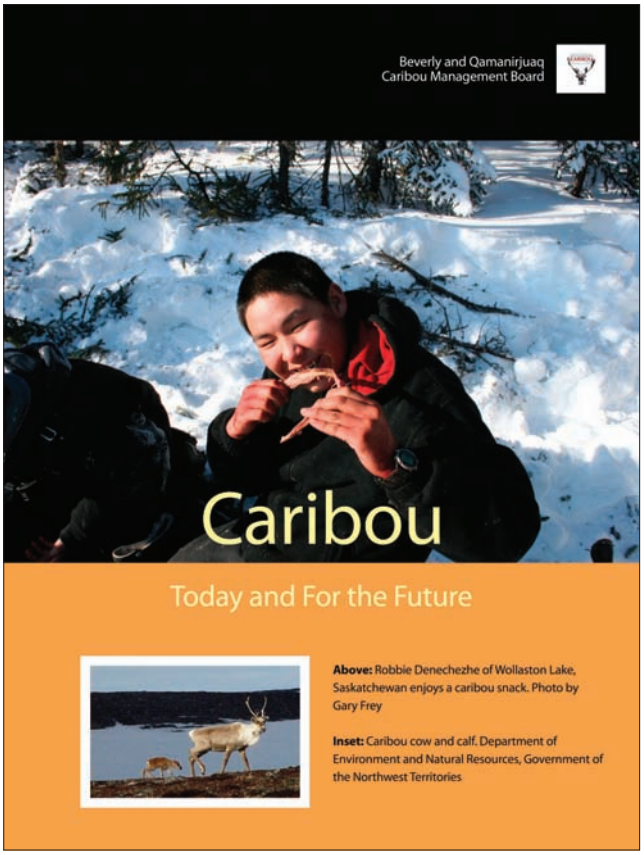
Merci Cho & Thank You.

Mathew Yooya – User – Fond du Lac First Nation
Feb. 23-24-25 2010"

As well, Louis Angalik of the Arviat Hunters and Trappers Organization, Nunavut provided the BQCMB with a copy of a document entitled "Inuit Elders perspectives on hunting and harvesting wild game." Its main recommendations urge the following:

- Do not disturb the caribou that is leading a group of migrating animals. If you let the leaders pass, the rest of the caribou in the group will follow the same path. If not, caribou will turn and take an alternate route further inland. It only takes one person to turn the whole herd, making it difficult for everyone else.

- Hunters should wait until caribou have passed a certain point along their migration route where they will not turn. This may mean hunters have to wait one, two or three days before they can start hunting.
- Know which caribou are healthy and the right ones to harvest according to the season.
- Do not waste. Don't leave caribou parts on the land where the herds will migrate.
- Promote the proper ways to hunt caribou, and respect elders' knowledge of good hunting practices (elders and Inuit leaders have always administered the timing of the caribou hunt).
- Pass the knowledge about hunting rules and Inuit laws on to youth to ensure the caribou are always there for future generations.
- Know and teach children about caribou and traditional uses of caribou, including: caribou behavior and life cycles; how to cook caribou; using all parts of caribou, what are the best parts and what parts not to eat; and proper methods for butchering, drying, treating skins, and storing meat and skins.



Caribou herds must be protected for the benefit of current and future generations, as shown here in a BQCMB poster that was part of a series illustrating how communities depend on caribou every day

6. Next Steps

A tremendous amount of valuable knowledge emerged during just three days of intensive and passionate discussions at the BQCMB Caribou Workshop. Participants repeatedly stated that they should work together to make sure caribou continue to be available for future generations. They also underlined that it's important to relay the messages from the BQCMB Caribou Workshop to their own communities, in part to educate youth. Working with media such as the APTN is also a good way to get messages out to the public. Workshop participants said that they wanted to take the lead in solving problems facing declining caribou herds, and didn't want to be told what to do. However, they also called on governments to conduct population surveys to determine the number of caribou.


News from the BQCMB Caribou Workshop, February 23 - 25, 2010

What is the BQCMB?

Most caribou herds around the world are shrinking

Workshop brought together elders, hunters and others

AND FOR THE FUTURE

This summary of the BQCMB Caribou Workshop was published shortly after the event

More gatherings like the BQCMB Caribou Workshop were needed, they added, urging that such workshops be held over a longer period of time – say, five to six days – and that translators be trained in technical terms regarding caribou management, resource development and so on. Participants also stressed that youth, trappers and officials who issue land use permits, especially on the calving grounds, should also be invited to future events. It's essential that young people have a voice in such gatherings because they are the ones whose lives will be most affected by the outcome of today's caribou dilemma.

Lastly, workshop participants pointed out that while companies and governments earn money from mining activity, Northerners are not reaping the benefits they should be getting. Much help is needed to set up training programs, develop programs for young people, and provide aid to trappers. Industry and governments responsible for management of the Beverly and

During the workshop's conclusion, facilitator Doug Urquhart (standing) passed the microphone around, encouraging everyone to say a few final words. Holding the microphone is Pierre Robillard of Black Lake, Saskatchewan

Qamanirjuaq herds should help by providing funding and/or resources to carry out such programs.

A concluding statement issued on Feb. 25, 2010 – the final day of the BQCMB Caribou Workshop – succinctly captured the essence of the workshop, discoveries made, and next steps. It said:

> *At the BQCMB Caribou Workshop, people were respectful, listened to each other, and shared their knowledge. And we agreed that we all have a big job to do.*
>
> *The next step is that the Board will come to communities to talk about the main issues discussed during the Caribou Workshop.*

These issues include climate, fire, disturbance, harvesting and predators. The concluding statement also explained that community meetings were going to take place because the BQCMB wants to work with communities to ensure that caribou survive for current and future generations.

The workshop then ended with closing comments by BQCMB Chair Albert Thorassie, who thanked all participants for the knowledge they had generously shared. Elder Martin Broussie of the Black Lake Denesuline First Nation offered a closing prayer, and then joined Hatchet Lake's David Joseyounen in a final drumming song.

A month later, in March 2010, the BQCMB produced a two-page summary of the Caribou Workshop and sent copies to all participants. The summary, which includes photos, can be downloaded from the Board's website at www.arctic-caribou.com.

The BQCMB plans to assist with community meetings to discuss the central issues affecting caribou. The BQCMB intends to visit many caribou-range communities as follow-up to the February 2010 Caribou Workshop, and expects that meetings will be completed by the end of 2011.

The BQCMB will provide information to communities and request input from residents, including traditional caribou harvesters, on what everyone can do to help the caribou herds. The BQCMB will ask people to provide their ideas during these community meetings, during other meetings, or by sending a letter or resolution through community governments or organizations. Once all input has been received, the BQCMB will publish a report in spring 2012 that summarizes the discussions from these community meetings, and makes recommendations to governments and others based on comments provided.

Everyone needs to work together for conservation of the Beverly and Qamanirjuaq caribou herds. Individuals, communities, companies and governments must all do what they can to take pressure off caribou so that declining herds can recover, and all herds can be healthy and productive.

To learn more about the BQCMB and **what you, your community, or your organization can do to help Beverly and Qamanirjuaq caribou,** visit the Board's website at www.arctic-caribou.com. To reach the BQCMB, contact:

Ross Thompson, Secretary-Treasurer
BQCMB Secretariat
P. O. Box 629
Stonewall MB R0C 2Z0
Phone: (204) 467-2438
E-mail: info@arctic-caribou.com

Thank you, mahsi cho, qujannamiik.

Doug Urquhart

Appendix A: Workshop Participants*

* Participants not representing communities, First Nations or governments are listed under "Others."

** Attendance by "community delegates" was sponsored by the BQCMB or their First Naion or community.

SASKATCHEWAN (34 PARTICIPANTS)		
Name	**Representing/Community**	**Role****
Dennis Larocque	Northern Saskatchewan communities	BQCMB member
Tim Trottier	Saskatchewan Ministry of Environment	BQCMB member
George Tsannie	Northern Saskatchewan communities	BQCMB member
Pierre Robillard	Black Lake	BQCMB alternate member
Joe Beavereye	Black Lake Denesuline First Nation	Community delegate
William Bouvier	Black Lake Denesuline First Nation	Community delegate
Martin Broussie	Black Lake Denesuline First Nation	Community delegate
Tommy Hansen	Stony Rapids (community representative)	Community delegate
William Hansen	Hatchet Lake Denesuline First Nation	Community delegate
David Joseyounen	Hatchet Lake Denesuline First Nation	Community delegate
Louis Josie	Hatchet Lake Denesuline First Nation	Community delegate
Willie John Laurent	Fond du Lac Denesuline First Nation	Community delegate
Joe Martin	Fond du Lac Denesuline First Nation	Community delegate
Louie R. Mercredi	Fond du Lac Denesuline First Nation	Community delegate
Louie Mercredi	Fond du Lac Denesuline First Nation	Community delegate
Victor Sayazie	Stony Rapids (community representative)	Community delegate
Angus Tsannie	Hatchet Lake Denesuline First Nation	Community delegate
Leon Cook	Black Lake Denesuline First Nation	Participant
Emily Jones	Fond du Lac	Participant
Billy Joe Mercredi	Black Lake Denesuline First Nation	Participant
Matthew Mercredi	Fond du Lac	Participant
Napoleon Pacquette	Fond du Lac	Participant
Celine Pearson	Fond du Lac	Participant
Mathew Yooya	Fond du Lac	Participant
Scott Andrew	Saskatchewan Ministry of Environment	Participant
Vice Chief Don Deranger	PAGC	Participant
Assistant Deputy Minister Lin Gallagher	Saskatchewan Ministry of Environment	Participant
Rosanna Good	PAGC	Translation and registration/ Participant
Elaine Hay	Prince Albert	Translation/Participant
Celine McIntyre	Saskatoon	Participant
Diane McDonald	PAGC	Participant
Yvonne Morin	Peter Ballantyne Cree Nation	Participant
Ron Robillard	PAGC	Participant
Brian Scribe	Federation of Saskatchewan Indian Nations	Participant
NWT (9 PARTICIPANTS)		
Name	**Representing/Community**	**Role**
Archie Catholique	Dene Nation	BQCMB member
Earl Evans	NWT Metis Nation	Presenter/BQCMB member
Allicia Kelly	Environment and Natural Resources, GNWT	Presenter (poster session)/ BQCMB member

Jan Adamczewski	Environment and Natural Resources, GNWT	BQCMB alternate member
Arthur Beck	NWT Metis Nation	Community delegate/ BQCMB alternate member
August Enzoe	Lutsel K'e Dene First Nation	Community delegate
Danny Beaulieu	Environment and Natural Resources, GNWT	Presenter/Participant
Fred Sangris	Dene Nation	Participant
Tony Vermillion	Environment and Natural Resources, GNWT	Presenter (poster session)/ Participant
NUNAVUT (8 PARTICIPANTS)		
Name	**Representing/Community**	**Role**
Peter Kusugak	Indian and Northern Affairs Canada	BQCMB member
David Vetra	Department of Environment, Government of Nunavut	BQCMB member
Richard Aksawnee	Baker Lake Hunters and Trappers Organization	Acting BQCMB member
Louis Angalik	Arviat Hunters and Trappers Organization	Acting BQCMB member
Mitch Campbell	Department of Environment, Government of Nunavut	BQCMB alternate member
Bert Dean	Nunavut Tunngavik Incorporated	Participant
David Lee	Nunavut Tunngavik Incorporated	Participant
Willie Nakoolak	Nunavut Wildlife Management Board	Participant
MANITOBA (5 PARTICIPANTS)		
Name	**Representing/Community**	**Role**
Jerome Denechezhe	Northern Manitoba communities	BQCMB member
Daryll Hedman	Manitoba Conservation	BQCMB member
Albert Thorassie	Northern Manitoba communities	BQCMB Chair/Presenter
Vicki Trim	Manitoba Conservation	BQCMB alternate member
Tom Nepetaypo	Manitoba Keewatinowi Okimakanak	Participant
ALBERTA (2 PARTICIPANTS)		
Name	**Representing/Community**	**Role**
Willie Courtoreille	Mikisew Cree First Nation	Community delegate
Anthony Ladouceur	Athabasca Chipewyan First Nation	Community delegate
OTHERS (14 PARTICIPANTS)		
Name	**Representing/Community**	**Role**
Ray Beamont	Great Canadian Wilderness Adventures	Participant
Brent Berg	Cameco	Participant
Ryan Brook	University of Saskatchewan	Presenter (poster session)/ Participant
Nathan Clements	Canadian Wildlife Federation	Participant
Anne Gunn	CARMA Network	Presenter/Participant
Monte Hummel	WWF-Canada	Participant
Rebecca Hunter	Cameco	Participant
Deana Lemke	PCMB	Participant

Diane Martens	AREVA	Participant
Arden Rosaasen	AREVA	Participant
Kim Saraurer	AREVA	Participant
Joe Tetlichi	PCMB	Presenter/Participant
Patricia Thomas	University of Saskatchewan	Participant
Sean Willy	Cameco	Participant
ORGANIZERS		
Name	**Representing/Community**	**Role**
Tina Giroux	PAGC	Organizer/Participant
Marion Soublière	BQCMB	Organizer/Participant
Ross Thompson	BQCMB	Organizer/Facilitator/ Participant
Doug Urquhart		Facilitator
Leslie Wakelyn	BQCMB	Organizer/Participant

Appendix B: Abbreviations

APTN: Aboriginal Peoples Television Network

BQCMB: Beverly and Qamanirjuaq Caribou Management Board

CARMA: CircumArctic *Rangifer* Monitoring & Assessment Network

GNWT: Government of the Northwest Territories

NWT: Northwest Territories

PAGC: Prince Albert Grand Council

PCMB: Porcupine Caribou Management Board